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Indian Point Unit 3
CHECWORKS SFA Model

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1. Introduction

Flow-Accelerated Corrosion (FAC) is a form of material degradation that results in thinning of the inside pipe wall in carbon steel piping and fittings under certain flow and chemistry conditions. Undetected FAC-induced wall thinning may cause a pipe to leak or rupture, potentially causing injury to plant personnel and/or plant shutdown. For these reasons, and in response to regulatory requirements, Indian Point 3 Nuclear Power Plant (IP3) has developed and implemented a program to monitor and mitigate FAC-induced wall thinning in high energy, large-bore piping systems [7.1].

This report uses plant design and operation information to document the CHECWORKS model for IP3. It documents the CHECWORKS Pass 1 analysis to generate a wear rate prediction for every piping component modeled in CHECWORKS. Component inspection data through the Refuel Outage 15 was imported to the model where available. A Pass 2 analysis was performed on all lines to provide wear predictions calibrated to the inspection data, as well as remaining life based upon measured wear rates for inspected components. The results of these analyses can be used to select components for inspection in order to mitigate pipe deterioration due to FAC.

This calculation replaces all previous CHECWORKS model calculations used to document the IP3 model. Previous CHECWORKS model calculations are listed in the References [7.2].

2. Purpose

The purpose of CHECWORKS SFA is to generate relative rankings by wear rate for piping components within the scope, to generate wear rate predictions calibrated to the inspection data, and to predict remaining life based upon predicted wear rate. The results of the CHECWORKS SFA model predictions can be used to select components for inspection in order to monitor pipe deterioration due to FAC.

The purpose of this calculation is to document the development of and updates to the CHECWORKS SFA model. Additionally, this calculation provides the results of the CHECWORKS SFA model Pass 1 and Pass 2 predictions and evaluates the accuracy of the predictions compared to actual measurements.

3. Scope

The large-bore FAC monitoring program has a clearly defined scope and has been in place for several years. The scope of the current FAC inspection program includes the following systems:

- Condensate
- Extraction Steam
- Feedwater
- Heater Drains
- Main Steam
- Moisture Preseparator Drains
- Moisture Separator Drains
- Reheater Drains

Selected lines from the above systems are modeled in the IP3 CHECWORKS Model. The scope of modelable lines was determined in the Indian Point Unit 3 System Susceptibility Evaluation Report [7.3]. The lines from these systems that are a part of the CHECWORKS Model scope are listed in Appendix D.

The CHECWORKS model reflects plant design and operation through Refuel Outage 15. All historical records (i.e. inspections, replacements, water chemistry, power levels, etc.) through Refuel Outage 15 were included in this analysis. Future updates to the FAC program (additional inspections, replacements, chemistry, power uprates, etc.) should be addressed in subsequent revisions of this document.

This analysis was performed using CHECWORKS SFA version 3.0 (build 150).

Assumptions and modeling decisions made during this analysis are documented in Section 4. The methodology employed during this analysis is detailed in Section 5. Results obtained are listed in Section 6 and in the Appendices. Finally, Section 7 includes a list of all references used in this analysis.

4. Assumptions and Modeling Decisions

The following assumptions and modeling decisions apply to the Indian Point Unit 3 CHECWORKS model. The assumptions and modeling decisions are categorized below based on the range of their influence. See Appendix A for all historical changes to the model.

4.1. Global Assumptions and Modeling Decisions

4.1.1. In general, when modeling decisions or matters of interpretation arise, the plant is modeled to reflect actual conditions as closely as possible. This information can be obtained from heat balance diagrams, PEPSE models, hydraulic analyses, sample data readings, input from system engineers, etc. This realistic approach results in the most accurate and realistic model possible, not necessarily one that results in a higher predicted wear rate for a particular component. Because the results of the model will be considered when deciding which components to inspect, and because only a finite number of the modeled components will actually be inspected, realistic and accurate modeling is imperative to the decision making process. For instance, entering an unrealistically high flow rate for a particular component will result in a high-predicted wear rate for that component. If the model consisted of only that one component, this could be considered a conservative approach. However, because the model consists of many components, artificially or unrealistically raising the predicted wear rate for one component may cause that component to be selected for inspection at the expense of another with a higher actual wear rate. Therefore, the plant was modeled as realistically as possible. If additional conservatism is needed, it can be built into the FAC program by increasing the size of the inspection sample.

4.1.2. All input information was assumed to be correct from the previously verified CHECMATE model. Where discrepancies were found, engineering judgment was used to model the system as realistically as possible.

4.1.3. Small taps and drains off the main piping that are <25% of the main outer diameter and <4” do not significantly affect the flow rate or cause a flow disturbance and were not modeled.

4.1.4. In multiple train systems, when one or more trains are in standby during normal operation, a duty factor is applied to the Wear Rate Analysis runs containing those lines. When one of these trains flow into or out of a header, a duty factor cannot be applied if the time of operation for portions of the header varies, which will usually be the case. Instead of applying a duty factor, the flow rate was scaled back, and the component was modeled to operate 100% of the time. For each component (or portion of

component in the case of tees), the average flow over time is calculated and entered. In this way, if a particular component experiences a flow of 1.2 Mlb/hr for one-third of the time, and no flow for the other two-thirds, the flow for that component is entered as 0.4 Mlb/hr. This process is the best possible option and is equivalent to the recommendation presented in option 3 of the section entitled "Cyclic Usage of Lines" of the EPRI Advanced CHECWORKS Training Manual [7.5].

4.1.5. Water Treatment for future operating cycles was assumed to match the most recent completed operating cycle. The current water treatment will be updated when the data becomes available.

4.1.6. Parallel trains of equal pipe diameter were assumed to have equal flow unless otherwise indicated.

4.1.7. For a number of lines on the Heat Balance Diagrams [7.6], thermodynamic and flow values (pressure, enthalpy, and flow rate) were listed separately for the steam phase and the water phase or for each train in a parallel train configuration. The overall flow rate, pressure, and enthalpy of these lines were calculated and entered in the CHECWORKS Steam Cycle (see Section 5.1.3). The combined flow rate was calculated as the sum of the liquid and steam flow rates (or the sum of multiple trains), the combined pressure was calculated as the average of all pressures, and the enthalpy was calculated as the weighted average of liquid and steam enthalpy (or the weighted average of multiple trains). These calculations were performed based on EPRI's "Guidelines for Plant Modeling and Evaluation of Component Inspection Data" [7.7].

4.1.8. When hydrazine data was not available at the Steam Generator Outlet and MSR Drain, the "rules of thumb" [7.7] for a Recirculating Steam Generator were applied to all chemistry cycles. Based on the "rules of thumb", the concentration of hydrazine at the Steam Generator Outlet was assumed to be 60% of the final feedwater concentration, while the concentration of hydrazine at the MSR Drain was assumed to be 120% of the final feedwater concentration.

4.1.9. The CHECWORKS Heat Balance Diagram (HBD) in the input model had the Boiler Feed Pump modeled as an electric pump instead of a steam driven pump. The CHECWORKS HBD was corrected to portray the Boiler Feed Pump as a steam driven pump.

4.1.10. Because the Boiler Feed Pump was remodeled as a steam driven pump, Steam Cycle Data was input for the original power level in addition to the Appendix K [7.6.2] and SPU [7.6.3] power levels for this location. Flow rate was obtained from the original HBD [7.6.1]. Feed Pump Turbine drain pressure and enthalpy was not shown on the original HBD; therefore, the

original pressure and enthalpy was assumed to be equivalent to the SPU pressure and enthalpy as shown on the SPU HBD [7.6.3]. Note that this assumption has little impact on the model as no components in the Feed Pump Turbine drain are modeled.

4.1.11. The flow rate in the Feedwater Pump Recirculation lines was shown as zero on the SPU Heat Balance [7.6.3] and Appendix K Heat Balance [7.6.2]. In general flow through such lines is not zero under normal operation, so a heat balance is not a good source for determining this flow. Therefore, an assumption was made that the flow rate under SPU and Appendix K conditions was equivalent to the flow rate under original pre-uprate conditions as defined in the input CHECWORKS model (the as-received model) [7.8]. Note that all components in these lines are constructed with FAC-resistant material, so this assumption has little to no impact on wear rate predictions.

4.1.12. Wear in valves and orifices with negative times to Tcrit was assumed to be documented and well-understood if the downstream extension of the component was inspected.

4.2. Component Assumptions and Modeling Decisions

4.2.1. General

4.2.1.1. Replaced components were added to the model with materials and schedule according to Addendum A to Spec. No. 6604-104-248-4 [7.3]. Replacement dates were input as the first day of the outage in which the replacement was made. As an exception, replacements made in 1994 was given a replacement date of 1/1/94.

4.2.2. Nozzles

4.2.2.1. In some cases, the imported CHECMATE data listed nozzle material as A234 WPB. When this occurred, the nozzle material was changed in CHECWORKS to A106 Grade B. The change was made because nozzles are generally fabricated from A106 Grade B, a piping material, rather than A234 Grade WPB, a fitting material. When the imported CHECMATE data listed nozzle material as other than carbon steel, the material code was left as-imported.

4.2.2.2. Nozzle materials SA508 CL3 and A240 TP321 were added to the material table.

4.2.2.3. When necessary for the calculation of the length of adjoining pipe, nozzles were assumed to have a length of 1/2 times the nominal pipe size. This has no effect on the predicted wear rate of the nozzle.

4.2.3. **Straight Pipes**

4.2.3.1. Pipe lengths were imported from the previously verified CHECMATE model when available. Pipe lengths were rounded to the nearest inch.

4.2.4. **Valves**

4.2.4.1. Valves were modeled with the material, thickness and diameter from the CHECMATE model.

4.2.4.2. When necessary for the calculation of the length of adjoining pipe, valves were assumed to have a length of 1.5 times the nominal pipe size. This has no effect on the predicted wear rate of the valve.

4.2.5. **Orifices, Flanges, and Expansion Joints**

4.2.5.1. Flow elements were assigned Geometry Code 6 with an orifice diameter equal to 90% of the inside diameter of the nominal pipe size. The downstream pipe was assigned Geometry Code 56.

4.2.6. **Elbows**

4.2.6.1. Elbows were assumed to be standard radius unless otherwise indicated.

4.2.6.2. Per EPRI recommendations [7.7], elbows cut to an angle between 0° and 45° were modeled as 45° elbows.

4.2.6.3. Per EPRI recommendations [7.7], elbows cut to an angle between 46° and 90° were modeled as 90° elbows.

4.2.6.4. Per EPRI recommendations [7.7], elbows cut to an angle between 91° and 180° were modeled as 180° returns.

4.2.7. **Tees, Crosses, and Headers**

4.2.7.1. All tees were left with the material that is associated to them from the CHECMATE model.

4.2.7.2. In cases where tees were modeled twice in CHECMATE, the branch component was deleted in this model and the associated information entered to the main component.

4.2.7.3. Per EPRI recommendations [7.7], crosses were modeled as type 11 tees with one main and one branch.

4.2.7.4. All tees were assumed to be fabricated when determining pipe material and schedule.

4.2.8. **Piping Material and Schedule**

4.2.8.1. Materials A217-C5 and A155 EFW Grade C55 Class 2 were added to the material library.

4.2.9. **Design and Operating Conditions**

4.2.9.1. The design pressures and temperatures were imported from the previously verified CHECMATE model.

4.3. UT Inspection Assumptions and Modeling Decisions

4.3.1. In cases where there was insufficient information regarding the direction the inspection was taken, it was assumed that the numbers were axial, parallel to flow, and letters were clockwise radial, perpendicular to flow.

4.3.2. Version 1.0F of CHECWORKS did not recognize UT data imported as the downstream extension of nozzles. To compensate for this, the calculated wear was entered as user-specified wear, at that time. This bug was corrected in Version 1.0G of CHECWORKS, and the calculated wear for the downstream extension of nozzles does not have to be user-specified.

4.3.3. Prior to 3RO13, inspections performed online during the final days of an operating cycle were imported to the first day of the following refueling outage. Note that this has a minimal effect on predicted wear rates and service life as the operating hours are off by a small margin.

4.3.4. A number of inspections were performed over a month prior to 3RO13. Because this was an extended period of time, these inspections were imported to Cycle 13, not to the upcoming outage. The operating hours were adjusted accordingly to account for any difference in predicted wear.

4.3.5. In cases where a counterbore was present, the counterbore was excluded from the calculation of lifetime wear. However, the lowest reading from the counterbore area was used for the calculation of time to Tcrit.

4.3.6. See Appendix F for any changes (excluding points, excluding counterbore rows, etc.) made to the UT data after importation.

4.3.7. For Outage RO14, any measured wear that was found to be less than 0.030” or 5% of Tnom was excluded in the calculation of the LCF. This check was performed automatically when the data was imported from

FAC Manager [7.9] to CHECWORKS SFA. In cases where this occurred, the wear was set to zero in SFA but the wear measurement was maintained in FAC Manager.

4.3.8. For Outage RO14, all inspection dates were set at the first day of the outage (March 7, 2007). This will have no impact on the time remaining to Tcrit since SFA uses in service hours to calculate remaining life.

4.3.9. For Outage RO14, only components that were found in CHECWORKS SFA were imported from FAC Manager. The other inspections that did not fit these criteria were assumed to not be in the official CHECWORKS model.

4.3.10. Subcomponents with the suffix “BR-DSX” in FAC Manager were imported to the branch extension in SFA.

5. Methodology

The development of the CHECWORKS model included inputting the Plant Global Data, Line Data, Component Data, and UT Inspection data.

5.1. Plant Global Data

CHECWORKS Plant Global Data pertains to the entire model, and includes the Heat Balance Diagram, Plant Power Level Data, Plant Steam Cycle Data, Plant Water Treatment Data, and Plant Period Data.

5.1.1. Heat Balance Diagram

The Indian Point 3 Heat Balance Diagrams were used to create the CHECWORKS HBD [7.8]. Represented on the HBD are all elements necessary to allow Water Chemistry Analysis to accurately calculate hydrazine and other constituent concentrations around the steam cycle. Also, the association of lines to the HBD allows the correct operating conditions to be applied to each line. Note that the CHECWORKS HBD numbering of the Feedwater Heaters, Reheaters, and Extraction Steam Lines proceeds from highest pressure item to lowest pressure item. However, IP3 uses the reverse order of the CHECWORKS HBD for the Feedwater Heaters. Therefore, IP3 items are not the same number as the CHECWORKS items. For example, IP3 #21 Feedwater Heater is the CHECWORKS #6 Feedwater Heater, IP3 #22 Feedwater Heater is the CHECWORKS #5 Feedwater Heater, and so on.

5.1.2. Plant Power Level Data

A Power Level was defined for each power level at which the plant has operated for a significant period of time or for a proposed level of operation. The power level corresponds to main generator output. A brief description of the fields in the CHECWORKS SFA Power Level form follows. The values input to the model and the reference from which the value was obtained is listed in Appendix C.

- **Power Level:** The Power Level can be defined as a percent between 0 and 200. The initial power level that the plant operated at was labeled as 100%. Later power levels were named as a percentage of power output relative to the initial power level. Table 5.1 lists the power levels and the operating cycles they apply to.

Table 5.1 CHECWORKS Power Levels

Power Level (%)	Power (MWt)	Operating Cycles	Notes
100.00	3045.3	Cycles 1-12A	Original Power Level
101.12	3079.0	Cycles12B-13	Appendix K Uprate
104.95	3196.0 Cycle 14 to End of Life	Cycle 14 to End of Life	Stretch Power Uprate SPU

Data was entered for the new power levels on the Power Level Form in accordance with the CHECWORKS User's Guide [7.2].

- **Steam Rate**: The steam mass flow rate out of the Steam Generator was taken from the Heat Balance Diagrams [7.6].
- **Steam Generator/Reactor Vessel Pressure**: The pressure at the outlet of the Steam Generator was taken from the Heat Balance Diagrams [7.6].
- **Steam Generator/Reactor Vessel Temperature**: The temperature at the outlet of the Steam Generator was taken from the Heat Balance Diagrams [7.6].
- **Steam Generator Blowdown Rate**: The blowdown rate was taken from the Heat Balance Diagrams [7.6].
- **Carryover**: The carryover percentage was obtained from the Heat Balance Diagrams [7.6].
- **Feedwater Vent Rate:** This field is not used for a PWR plant.
- **Reheater Vent Rate**: This field is not used for a PWR plant.
- **Moisture Separator Carryunder:** This field is not used for a PWR plant.

5.1.3. Plant Steam Cycle Data

The following Steam Cycle Data is used by CHECWORKS to calculate dissolved oxygen concentrations during wear rate analysis. Steam Cycle Data was entered for each Heat Balance Item at each Plant Power Level. The values input to the model and the reference from which the value was obtained is listed in Appendix C.

- **Power Level:** A Power Level is selected from the pull down menu, which includes all of the power levels entered into the Plant Power Level data discussed in Section 5.1.2.

- **Flow Rate:** This is the flow rate taken from the HBD [7.6] in Mlb/hr. Flow rates were entered for the HBD Items when required.
- **Vent Rate:** Vent rates are not entered for PWR plants.
- **Quality:** The steam quality, from the HBD [7.6], was entered in this location as necessary.
- **Enthalpy:** The enthalpy, from the HBD [7.6], is required for the two-phase lines and was entered as necessary in this field in Btu/lb.
- **Temperature:** The temperature, from the HBD [7.6] was entered in this field as necessary in °F.
- **Pressure:** The pressure, from the HBD [7.6], was entered in this field as necessary in psia.
- **FWH Drain Temperature:** This field specifies the temperature for the drain line of the Feedwater Heater.

5.1.4. Plant Water Treatment Data

Water Treatment Data in CHECWORKS consists of name & title, cold pH, dissolved oxygen concentration, single amine, complex constituents, boron injection rate, hydrazine, and ammonia. The values input to the model and the reference from which the value was obtained is listed in Appendix C. Data is entered into the following Water Treatment Data fields:

- **Name & Title**: These two fields contain a descriptive name or title that allows the user to identify the chemistry period.
- **Cold pH:** The cold pH of the condensate is entered into this field if simple water chemistry is used.
- **Dissolved Oxygen**: The dissolved oxygen concentration in the condensate is entered into this field.
- **Single Amine:** If a single amine, rather than a combination of amines, is used, the amine type is entered here.
- **Complex Constituents:** If multiple amines are used, the amine type, their sampling locations, and their concentrations are entered here.
- **Boron Injection Rate:** If boron is injected, the injection rate, sampling location, and the concentration are entered here.
- **Hydrazine Treatment:** Separate sampling location and measured concentration data is entered for ammonia and hydrazine. In addition, hydrazine concentrations at the Steam Generator Outlet

and MSR Drain are entered (see Section 4.1.8).

5.1.5. Plant Period Data

CHECWORKS divides plant history into two types of periods: operating and maintenance. Whenever a significant change occurs in the power level or water chemistry for the unit, a new operating period should be defined. For any significant period of plant down time, a maintenance period can be created. The values input to the model and the reference from which the value was obtained is listed in Appendix C. For each period, data was entered to the following fields:

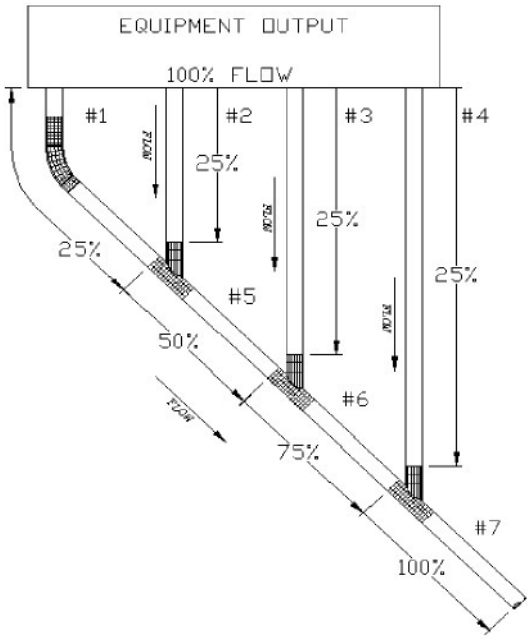
- **Period Name**: A user designated name for a Plant Period was entered in this field.
- **Period Begin Date**: The begin date of the Plant Period was entered in this field.
- **Period End Date:** The end date of the Plant Period was entered in this field.
- **Operating Hours:** The calculated operating hours per period were entered here.
- **Water Treatment:** The appropriate water treatment was selected for each period from a list of all water treatments in the CHECWORKS model.
- **Power Level:** The appropriate power level was selected for each period from a list of all power levels in the CHECWORKS model.
- **Period Type:** The appropriate period type, operating or maintenance was selected for each period.

5.2. Line Data

All components in the CHECWORKS model were grouped into lines. Lines containing components with identical thermodynamic and chemistry conditions are linked to the same CHECWORKS Heat Balance Diagram Line. A listing of all lines that appear in the CHECWORKS model can be found in Appendix D.

For full use of the Advanced Run Definition lines were divided where flow rates change. For conservatism, the tee where flow rate changed was associated to the line having the greatest flow rate (see Figure 5-1). Note that this will over predict the wear for some sections of tees.

Figure 5-1 Diagram of Line Grouping Convention



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Components were grouped into lines by comparing the input CHECWORKS model [7.8] with FAC isometrics [7.10] and flow diagrams [7.11]. Lines were named according to the naming convention, below.

AA-BB.CC D

AA = System Abbreviation
BB.CC = Multi-digit code to identify a plant line or location
D = Brief line description

Note that the AA-BB.CC portion of the line name corresponds to the plant line name and component name prefix as taken from the flow diagrams [7.11] and FAC isometrics [7.10]. New line names were created as required by CHECWORKS, not where plant line names changed. Therefore, some lines contain components with different component name prefixes, but in general the component prefix and line name agree. Note that if the AA-BB.CC portion of the line name was not unique for CHECWORKS purposes, an underscore followed by a 1, 2, 3 etc. was added to this portion of the line name.

For example, line name "CD-01.1A FWH 31A to FWH 32A" is plant line name CD-01.1A in the Unit 3 Condensate system from Feedwater Heater 31A to Feedwater Heater 32A.

In addition to the line name, the following information was entered in the Line Data From.

- **System:** The name of the system in which the line belongs was entered in this field. This field is optional.
- **Phase:** This is a pull-down menu with three choices: All Water, All

Steam, or Wet Steam. This field is optional.

- **Line Group:** This field is used to sort and display the lines. This field is optional.
- **Notes:** A full description of the line and the P&ID that the line is on is entered in this field.
- **Heat Balance Association:** Each modeled line was linked to the appropriate Heat Balance Diagram line, except Z-type lines (see Section 5.8.7). This allows the calculated chemistry, thermodynamic data, and flow rate to be correctly associated to the lines of the model. Please note that this association is not shown on the Line Data Form. Instead, Heat Balance Association appears on the CHECWORKS HBD (see Section 5.1.1).

5.3. Component Data

Component data within CHECWORKS was entered in the Component Data Form, which contained two tabs: the Main Tab, and the Optional Tab. All component input data is presented in Appendix E.

5.3.1. Component Data Form, Main Tab

The Component Data Form, Main Tab contains key information about the component, including its name, geometry, size, material, operating conditions, and design conditions.

- **Component Name**: Component names are based upon the unique identification system employed at Indian Point 3. The component naming convention includes the system, a numerical identifier, and a letter representing geometry type ("P" for pipe, "T" for tee, "N" for nozzle, etc.). Components in the IP3 model were named according to the convention below:

AA-BB.CC-DDE

AA	Abbreviation of the system (ex: CD = Condensate, EX = Extraction Steam, etc.)
BB	Subsystem Number
CC	Segment Number
DD	Component Number within Segment
E	Component Type Code

- **Geometry**: The geometry was selected from a pull-down menu with a description of the component type (e.g., "STRAIGHT PIPE"). The component type was obtained from isometric drawings [7.10].
- **Geometry Code**: The component type was obtained from the isometric drawings [7.10]. The component geometry code was entered in accordance with the CHECWORKS SFA User's Guide [7.2].

- **Pipe Size**: A pull-down menu contains outside pipe diameter, nominal wall thickness, and schedule. These were determined from piping specifications [7.3].
- **Material**: The material is selected from a pull-down menu containing material choices. Material was determined from piping specifications [7.3]. The material of replacements was taken from the FAC isometrics [7.10] and documentation from IP3 personnel [7.12].
- **Wear Rate Analysis (WRA) Options**: The option selection determines whether or not inspections on the component will be used to calibrate the model. There are four options. "Use Measured Wear for LCF" allows CHECWORKS SFA to use inspection data for the component in the Pass 2 Wear Rate Analysis. "Do Not Use Measured Wear" eliminates the inspection data for the component from the Pass 2 Wear Rate Analysis. "Exclude From Analysis" eliminates the component itself from Wear Rate Analysis. The option "Use Measured Wear for LCF" is the default option and was selected for the majority of components. Based on the interpretation of inspection data, the option "Do Not Use Measured Wear" was selected if appropriate (see Appendix F). The option "Exclude From Analysis" was generally not used. Selection of the fourth option "Use D/S Ext. from Prev. Comp" is discussed in Section 5.5.2.2.
- **Operating Data** Pressure, enthalpy, quality, and temperature can be entered for the component (only two of four required). These values were entered on the component form for cases where operating conditions did not change due to power level changes. See Appendix D for the lines that use the Component Form as the source of operating conditions. The HBDs were used as a first priority [7.6]. When data was not available on the HBD, the flow diagrams were used [7.11].
- **Design Data:** Design pressure and temperature were obtained from the flow diagrams [7.11].
- **Flow Rate:** Flow rate was entered on the component form for cases where operating conditions did not change due to power level changes. See Appendix D for the lines that use the Component Form as the source of operating conditions. The HBDs were used as a first priority [7.6]. When data was not available on the HBD, the flow diagrams were used [7.11].
- **Orientation Angle**: Component orientation angle was determined from the isometrics [7.10] in accordance with the CHECWORKS SFA User's Guide [7.2].
- **Orifice Size**: Orifice size is the inside diameter of the orifice and is entered for all orifices, components modeled as orifices, and for all piping immediately downstream of an orifice. Orifice size was

obtained from drawings [7.10] or an assumption was made (see Section 4.2.5).

- **Valve Size and Valve Coefficient**: The valve opening size (Valve Size) and valve flow capacity (Valve Coefficient) is entered in these fields. These fields may be used for lines utilizing Network Flow Analysis (see Section 5.6).
- **Pipe Roughness**: This field specifies the absolute internal roughness for the component. Only lines utilizing NFA use this field (see Section 5.6).
- **Branch or Small End Diameter (Br./S.E. OD)**: Entered in this field is the outside branch diameter for tees, or the small end diameter for reducers, expanders, reducing elbows, or expanding elbows. This data was obtained from the isometrics [7.11].
- **Branch or Small End Nominal Thickness (Br./S.E. T_{nom})**: Entered in this field is the nominal pipe thickness for the branch of tees, or the small end of reducers, expanders, reducing elbows, or expanding elbows. This data was obtained from piping specifications [7.3].
- **Branch/Bend Angle**: The Branch/Bend Angle may be used to specify the angle between the main run and the branch in the case of a lateral. This data is not used in calculating wear rates and was not entered.

  Elbow R/D: : For elbows, the radius to diameter ratio was entered in this field. This data was obtained from the isometrics [7.10] where available. If the Elbow R/D could not be determined from the isometrics, an assumption was made (see Section 4.2.6.1).
- **User Defined Field (1)**: This field was not used.

5.3.2. Component Data Form, Optional Tab

The Optional Tab of the Component Data Form contains information on component size, critical thickness, insulation, location, installation, adjacent equipment, and notes.

- **Length**: The pipe length can be entered in this field. This field is optional for all lines that do not utilize Network Flow Analysis (NFA). For lines utilizing NFA, only the length of straight piping is needed. This data was obtained from the isometrics [7.10].
- **Nominal Thickness**: The nominal thickness of extensions was entered if appropriate. The extension thickness was set equal to the appropriate main component thickness (upstream main, downstream main, or branch). This data is used during UT Analysis wear calculation.

- **Initial Thickness**: The initial thickness was set equal to the nominal thickness.
- **Screening Thickness**: This field can be used to determine color-setting thresholds in the UT Analysis displays. Since this is not used in the prediction of corrosion rate no value was entered.
- **Critical Thickness:** CHECWORKS SFA allows the user to define the Component Critical Thickness (T_{crit}). The T_{crit} field is used to establish the critical thickness criteria for calculating all components' remaining life.

  Since a true engineering calculated T_{crit} value is not available for all components in the CHECWORKS SFA model, generally only for inspected components, engineering calculated values of T_{crit} were not entered into the CHECWORKS SFA model. Instead a uniform method for estimating T_{crit} was established, which would account for both inspected and non-inspected components. This was done to level the field when ranking components by remaining life to T_{crit}, so that the ranking of inspected components was not skewed compared to the ranking of non-inspected components.

  In this model, T_{crit} was set equal to the greatest of T_{long}, an assumed minimum thickness for longitudinal stresses, T_{hoop}, the pipe wall thickness determined from hoop stress allowables, or an administrative limit of 0.100".

  T_{hoop} was calculated using the following equations:

  $$T_{hoop} = \frac{(D_O \cdot P_D)}{2[S_A + (P_D \cdot Y)]} \qquad [7.13]$$

  where:
  D_O = Outside Diameter
  P_D = Design Pressure
  S_A = Allowable Stress
  Y = (0.4) constant

  T_{long} was an assumed value for the longitudinal stresses. For safety related components it was assumed that T_{long} was equal to 87.5% of the nominal thickness. For non-safety related components, it was assumed that T_{long} was equal to 70% of the nominal thickness.
- **Drawing Name**: This field lists the isometric that the component appears on.
- **Insulation**: The insulation type and insulation thickness fields can be entered for lines utilizing NFA (see Section 5.6).

- **Installation and Replacement Dates:** The dates components are installed or replaced are entered in these fields. When the install date field is empty, the install date is set equal to the plant start date. When the replacement date field is empty, the component is currently in operation.
- **Location and Adjacent Equipment:** Information on component location, and adjacent equipment can be entered in these fields. This information is not required in order to calculate predicted wear rate and was not entered.
- **User Defined Field (2)**: This field was not used.
- **User Defined Field (3)**: This field was not used.
- **Notes**: Comments and notes were entered into this field as appropriate.

5.3.3. Replacement records (outage and material) were obtained from the information submitted to CSI from personnel at Indian Point Unit 3 [7.12]. Where replacement material or replacement date was unknown, an assumption was made (see Section 4.2.1.1).

5.4. Component Connectivity

The component connectivity feature tells the CHECWORKS SFA code what the modeled component is connected to. To define component connectivity, components were assigned to flow segments; similar to the way they were assigned to lines. Components were assigned to flow segments in flow order starting where flow began, such as the outlet nozzle of a heater, and terminating where flow ended, such as the inlet nozzle of a heater. Flow segments were further divided where flow changed or could potentially change, such as the upstream main, downstream main, or branch of tee.

Component connectivity is used in Network Flow Analysis run definitions, in the Advanced Run Definition, and in reporting results.

Component connectivity consists of one form, the Flow Segment form. Data was entered on the Flow Segment form as described below.

- **Flow Segment Name**: Flow segments are essentially a further breakdown of CHECWORKS SFA lines. Therefore, flow segments were named by taking the line name, followed by the letters “SEG”, and then a sequential numbering 01, 02, 03, etc. For example, line “EX-01.3 HP EXT FWH 36 HEADER” was broken down into flow segments named “EX-01.3 HP EXT FWH 36 HEADER SEG01”, “EX-01.3 HP EXT FWH 36 HEADER SEG02”, etc.
- **Component Name**: Entered in this column is the component name. Components were assigned to flow segments in flow order starting

where flow began and terminating where flow ended, changed, or could potentially change, such as at a nozzle or tee.

- **Line Name:** The CHECWORKS SFA line that the component is grouped in appears in this column.
- **Section Code:** Entered in this field is the section of the component (upstream main, downstream main, or branch) that lies on the flow segment. If the last component or first component in a flow segment is a tee, this field is used to specify how the tee is connected to the other components in the flow segment.

  For example, a type 10 tee with flow from the branch to the upstream main and downstream main should appear in three flow segments, one for each section. The branch of the tee will be the last component in one segment, while the upstream main and downstream main will be the first component in the remaining two flow segments.

5.5. UT Inspection Data

UT inspection files may contain grid readings for a main component and extensions. Inspection files for tees may be present in the following subcomponents: main, branch, main downstream extension, main upstream extension, and branch extension. Inspection files for reducers and expanders may be present in the following subcomponents: large end of main, small end of main, main downstream extension, and main upstream extension. For all others, inspection files may be present in the following subcomponents: main, main downstream extension, and main upstream extension.

Once imported to CHECWORKS, the inspection files for the main runs of tees were partitioned into upstream main and downstream main portions. The inspection files for the large end and small end for any reducer or expander are partitioned into large end and small end. All importation was done in accordance with the CHECWORKS User Guide [7.2].

Appendix F contains a listing of all UT inspection data that has been imported. UT inspection data was received as UT examination reports [7.14] and electronic UT grid files [7.15]. For each inspection the following data is listed:

- Line Name
- Component Name
- Period inspection was taken
- Inspection Report Number
- Section of the component that was analyzed

- Wear Method used in analysis
- Tinit value, or Tnom when Tinit was not defined in CHECWORKS
- Measured Wear
- Whether or not the inspection was used in the calculation of the LCF, and the reason it was not used

Note that in cases where a component or subcomponent has UT data from multiple outages, only one wear value for that component or subcomponent (if any) is used in the calculation of the LCF. The wear data used comes from the most recent inspection available. For example, consider an elbow that was inspected in RFO8 and RFO9, and both inspections were available for use in the LCF. In this case, only the wear from RFO9 would be used. Since the RFO8 inspection is technically still "available" for use in the calculation of the LCF, the decision was made to label the table in Appendix F with "Yes" in the Used in the LCF column for both inspections.

5.5.1. CHECMATE Measured Wear Data

CHECWORKS stores measured data as a grid of wall thickness measurements. However, CHECMATE stores only the initial thickness (T_{init}) and the minimum measured wall thickness (T_{DAT}). During the CHECMATE conversion process, values of measured thickness (T_{DAT}) and initial thickness (T_{init}) were transferred to CHECWORKS. Where CHECMATE had a single field, "T_{nom}", to account for both the initial thickness and the nominal thickness, CHECWORKS has separate fields for both. Therefore, for components with T_{init} in CHECMATE, the values were imported to the T_{init} field in CHECWORKS, and the nominal wall thickness was entered to the T_{nom} field. T_{DAT} was converted to measured wear by subtracting T_{DAT} from T_{init}, the resulting value was automatically imported to the "Measured Wear" field in CHECWORKS during importation, and manually checked to ensure accuracy. Inspected components with imported T_{DAT} values are listed in Appendix F.

A potential bug exists in CHECWORKS, for each component where the main component is partitioned into upstream and downstream main portions (i.e., reducers and tees). If user-specified wear (TDAT) is imported to one main portion and not the other for a reducer, or to only 1 out of 3 (U/S main, D/S main, or branch) subcomponents for a tee, CHECWORKS does not recognize this wear in the calculation of the LCF. On the other hand, if user-specified wear (TDAT) is entered to both main portions, or a main and a branch, both values are recognized by CHECWORKS.

5.5.2. UT Inspection Data

UT inspections in the CHECWORKS database were reviewed for correct importation. The grid data manipulation options of transpose, reverse rows, partition, offset, and clockwise/counterclockwise were used to manipulate the CHECWORKS UT grid to match the hardcopy packets as needed. All grid data manipulation techniques were used in accordance with EPRI guidelines [7.7].

5.5.2.1. Upstream and Branch Extensions

In some cases, UT data was taken on an upstream extension or branch extension. Inspection data was imported to the appropriate component section. However, since CHECWORKS FAC does not use these subcomponents in the calculation of an LCF, the "Do Not Use MW" option is not required to be selected for these subcomponents and the data is stored for archival purposes only.

5.5.2.2. Downstream Extensions

Downstream extensions are used in the calculation of an LCF. The fourth WRA option on the Component Data Form, "Use D/S Ext. from Prev. Comp" was selected for instances where both of the following were true:

- Wear calculation data was available for the downstream pipe extension of a particular main component; and
- The downstream pipe extension is represented in the CHECWORKS FAC model by a piping component immediately following the main component.

This option is selected for the pipe component downstream of the main component containing the UT data.

5.5.3. Single Outage Wear Calculation

Single outage wear is used for components with only one outage of inspection data, for the first outage of components with multiple outage inspection files but no baseline file, for components with multiple outage inspection files without the same grid structure, or based on engineering judgment. The CHECWORKS Wear Calculation Module is accessible from the UT Analysis Form and allows single outage wear to be calculated by three different methods. In the model, single outage wear is calculated by all three available single outage methods. Note, however, that the result of only one of the methods, if any, is used to calculate the LCF during WRA.

5.5.3.1. Band Method

The Band Method calculates the wear for each circumferential band of a component in the range specified. The wear for the entire component is set equal to the maximum value calculated in the range. By default, the range is equal to the entire component, but the range may be altered if regions of the grid are seen to contain questionable or inaccurate readings. For a particular band, wear is calculated as the difference between the minimum thickness and either the maximum thickness or the initial thickness, whichever is larger. If initial thickness is not entered, the greater of maximum thickness or nominal thickness (Tnom) is used.

5.5.3.2. Area Method

The Area Method calculates the wear for a rectangular range specified for a component. The wear for the entire component is set equal to the wear calculated for the area. By default, the area is equal to the entire component, but the range may be altered if regions of the grid are seen to contain questionable or inaccurate readings. For the area, wear is calculated as the difference between the minimum thickness and either the maximum thickness or the initial thickness, whichever was larger. If initial thickness is not entered, the greater of maximum thickness or nominal thickness (Tnom) is used.

5.5.3.3. Moving Blanket Method

The Blanket Method repeatedly calculates the wear for a rectangular region, called a blanket. The blanket is first located at the “upper left” corner of the grid. The blanket is then moved one grid step at a time down the grid. Having reached the bottom of the grid, the blanket returns to the top, one grid step to the right. This motion continues until the entire grid has been blanketed. At each position of the blanket, wear is calculated as the difference between the greater of the average of the two highest readings or Tinit and the average of the two lowest readings. By default, the blanket size is three grid steps in the longitudinal direction and one third of the component diameter in the circumferential direction. Calculated wear for the component is determined by the greatest blanket wear.

5.5.4. Multiple Outage Wear Calculation

Multiple outage wear, also known as Point-to-Point wear, can be calculated for a component between the inspections from two outages, or between baseline data and the first outage inspection. For components with multiple outage wear calculations, two methods are available in

CHECWORKS FAC for calculating the component's lifetime wear. "Max. Point to Point + Past Wear" combines the lifetime wear calculated upon the first selected outage and the maximum measured difference between the two selected outages. "Avg. Point to Point + Past Wear", on the other hand, combines the lifetime wear calculated upon the first selected outage and the average measured difference between the two selected outages. The "Max. Point to Point + Past Wear" method was generally used in multiple outage wear calculations.

The option "Treat Neg. Wear as Zero" was selected to eliminate calculated negative wear caused by variances in measurements.

5.5.5. Exclusion of Measured Wear

The option "Do Not Use MW" or "Do Not Use Measured Wear" was selected given any of the conditions in the list below. A complete list of reasons appears in Appendix F.

- The component was not an elbow, bend, reducer, expander, tee, nozzle, or pipe.
- Measured Wear was less than or equal to 0.030" or 5% of nominal thickness.
- Measured wear was not representative of actual FAC wear.
- The component material was not susceptible to FAC wear.
- Inspection removed based on engineering judgment.
- The component operated at non-susceptible conditions (no flow).
- The component was small bore.
- Inspection was performed on a nozzle or tee and there was not sufficient correlation between these data points and those of components with other geometry types.

Nozzles and tees were examined on a case-by-case basis to determine whether they should be included in the calculation of the LCF. If there is sufficient correlation between these data points and those of components with other geometry types, the measured wear was used. Otherwise, the "Do Not Use Any Measured Wear" option was selected on the Component Data Form.

5.5.6. Minimum Measured Thickness (T_{meas})

The Minimum Measured Thickness (Tmeas) value is involved in predicting thickness and remaining service life. A lower value results in a shorter remaining service life.

CHECWORKS SFA allows a number of options to determine the value of the minimum measured thickness (Tmeas) of an inspected component. "Min. Meas Thickness from Region of Max. Wear" (GW) uses the smallest thickness value from the region that has the highest wear. This option is selected by default if the wear calculation uses the band, blanket, or area methods. The second option used, "Minimum Measured Thickness" (MT), uses the smallest thickness value from any region. MT was chosen for subcomponents that had counterbore, for baseline inspections, when wear was calculated using the point-to-point method, and when the MT value was over 0.040" less than the GW value.

Since the MT method uses the minimum reading from the entire UT inspection grid and the GW method uses the minimum reading from the region where wear is maximum, the Tmeas value calculated by MT will be less than or equal to the value calculated by GW in all cases. Thus MT is the more conservative method. However, conservatism is not always the best option in the CHECWORKS model. Because the CHECWORKS model contains many components, using an overly conservative method to calculate the remaining life of one component may cause that component to be selected for inspection at the expense of another. Therefore, the method used was to model components as realistically as possible. See Section 4.1.1 for further discussion on conservatism in the CHECWORKS model.

For inspected components, the Tmeas value listed in the "Wear Rate Analysis: Wear Predictions Report" in the Pass 2 Analysis, Appendix I, may not match the measured minimum thickness from the UT readings. In all cases, the Tmeas values should not conflict by more than 0.040". Note that the "Wear Rate Analysis: Wear Predictions Report" in Appendix I lists the Tmeas method, MT or GW, that was used.

5.5.7. Pass 2 Wear Rate Analyses (WRA) and Line Correction Factor (LCF)

Pass 2 Wear Rate Analysis was performed on the Wear Rate Analysis Runs as defined with one change: the Analysis Option, "Do Not Use Measured Wear" was deselected. As in Pass 1 WRA, Pass 2 WRA will generate for each component a predicted wear rate, and a predicted remaining service life. During Pass 2 WRA, CHECWORKS also generates a Line Correction Factor (LCF) for each WRA Run in the following way. For each inspected component in the run where the option "Do Not Use for LCF" is not chosen, CHECWORKS generates a ratio of the calculated wear to the predicted wear. The LCF for a run is defined as the median value of these ratios. CHECWORKS multiplies the Pass 1 wear predictions by the LCF to generate the Pass 2 wear predictions.

The LCF indicates the degree to which CHECWORKS over or under-predicts wear. A reasonable LCF should be between 0.5 and 2.5 [7.7]. An

LCF outside this range may be the result of inaccuracies in the model (e.g., incomplete chemistry history) or non-representative inspection data.

5.6. Network Flow Analysis

Network Flow Analysis (NFA) is a module within CHECWORKS that can be used to calculate pressure, flow rate, enthalpy, and quality at each component. If used, the results of the analysis are available for access by CHECWORKS during the Wear Rate Analysis to predict corrosion rates.

NFA should be used where a thermodynamic quantity of interest is unknown or unavailable. For example, if flashing across a control valve or orifice is considered possible; NFA can be used to calculate the steam quality at each component. This is necessary for accurate prediction of the FAC wear rate. For lines where thermodynamic conditions are known and the potential for flashing is small, NFA is not needed because the results would not increase the accuracy of the Wear Rate Analysis.

The Indian Point Unit 3 model does not contain any Network Flow Analysis run definitions.

5.7. Water Chemistry Analysis

Water Chemistry Analysis uses the Plant Global Data (Heat Balance Diagram, Power Level Data, Steam Cycle Data, Water Chemistry Data, and Plant Period Data) to determine the pH levels and chemical concentrations at various locations around the steam cycle. These values strongly affect FAC rates.

The Water Chemistry Analysis calculates the pH levels and constituent concentrations, for each line on the Heat Balance Diagram. The appropriate values are then used in the calculation of predicted wear rates for each component through the association of its database line to the HBD.

Water Chemistry Analysis can also be performed independently from Wear Rate Analysis. The resulting chemistry levels around the HBD are the same as they are when calculated as part of the Wear Rate Analysis. However, when the Water Chemistry Analysis is run alone, CHECWORKS also generates a report displaying the water chemistry results, as well as critical global data. A Water Chemistry Analysis was performed on every Water Chemistry Period in order to review the results to ensure that they are reasonable; the reports are presented in Appendix G.

5.8. Wear Rate Analysis

Wear Rate Analysis (WRA) calculates a predicted wear rate for each component as well as the predicted time before the component wall thins to T_{crit}. WRA automatically takes into account all global input through the use of the Water Chemistry Analysis results.

5.8.1. Run Name and Title

Wear Rate Analysis Runs were given a Name and a Title as listed in Appendix B.

5.8.2. Ending Period

The ending period is used by CHECWORKS to calculate the current wear rates based on current conditions. The ending period selected was the current operating cycle, Cycle 16.

5.8.3. Lines to Analyze

Each run was composed of lines from the CHECWORKS model. Every line was included in a run. The runs and lines defined for this CHECWORKS model are presented in Appendix D.

5.8.4. Analysis Options

The CHECWORKS model allows the user to specify the source of component operating conditions. Component operating conditions can come from one of four locations: the CHECWORKS HBD, the Component form, an NFA, or the ARD. During wear rate analysis, CHECWORKS can use the operating conditions stored at the component level ("COMP"), determine the operating conditions based upon steam cycle data and Advanced Run Definition Flow Factors ("HBD"), use the operating conditions entered on the Advanced Run Definition form only ("ARD"), or to use the operating conditions calculated using an NFA ("NFA"). For all cases, the option "NFA->HBD->ARD->COMP" was selected. This directs CHECWORKS to preferentially use Network Flow Analysis first (if it exists for the line), followed by the ARD (for Z-type lines), the HBD (for all remaining lines), and finally the component.

The option "NFA->HBD->ARD->COMP" was selected for all lines since the model includes multiple power levels.

5.8.5. Duty Factor

The duty factor is used to specify the fraction of the total plant operating hours that a given line was in operation. For full-time lines, the duty factor is 1.0. For part-time lines, the duty factor is set to a value less than one based on operation. For example, if a line has full flow half of the time and zero flow half of the time, then the lines would be modeled with full flow and the duty factor would be set to 0.5. Use of the duty factor is in accordance with the recommendations of the EPRI Guidelines for Plant Modeling and Evaluation of Component Inspection Data [7.7].

Duty factors were taken from the input CHECWORKS model [7.8]. Duty factors for each line appear in Appendix D.

5.8.6. Advanced Run Definition

The Advanced Run Definition (ARD) function allows operating conditions to be entered at different times throughout plant history. Use of this function is necessary for plants operating with more than one power level (see Section 5.1.2). In addition, the ARD allows for entry of operating and chemistry conditions for lines not modeled on the heat balance diagram (COLA and Z-type lines), as well as part-time lines and parallel trains. The operating conditions listed below (flow factors, duty factors, pressure, temperature, enthalpy, quality, flow rate, and chemistry conditions) can change from cycle to cycle.

- **Flow Factor**: On the CHECWORKS SFA HBD level, flow rates are expressed in totals rather than for each train. For example, feedwater flow rate might be entered as 10 million pounds per hour, where each train of a three train system sees 3.33 million pounds per hour. As a result, flow multipliers had to be entered to the lines so that the actual flow rate is used to calculate wear rate at the component level. Thus for each flow segment a flow multiplier, or flow factor, was calculated. The flow factor is used to adjust the CHECWORKS SFA HBD calculated flow rate. The calculated flow factor for each flow segment was entered on the ARD form.

  There are some possible exceptions to the use of flow factors. The first is for lines and flow segments where NFA or the Component form would be used to calculate operating conditions and flow rate. For these the train flow is directly entered in the NFA definitions or the Component form. Therefore, for these lines the assigned flow factor is 1.0. Other exceptions are made for some lines and flow segments where the ARD form is used as the source of operating conditions. If the input source (PEPSE or HBD) already listed flow rate per train, then the flow factor is set to 1.0 and the train flow rate is entered.

  Flow factors were calculated by consulting the CHECWORKS SFA HBD, the plant heat balance diagrams [7.6], and the flow diagrams [7.11].

  If the ARD is not used, the flow factor is 1.0 by default.

- **Duty Factor**: The duty factor is used to specify the fraction of the total plant operating hours the lines in this run were in operation. For full-time lines, the duty factor is 1.0. For part-time lines, the duty factor is set to a value less than one based on operation. For example, if a line has full flow half of the time and zero flow half of the time, then the lines would be modeled with full flow and the duty factor would be set to 0.5. Use of the duty factor is in accordance with the recommendations of the EPRI Guidelines for Plant Modeling and Evaluation of Component Inspection Data [7.7].

If the ARD is not used, the Global Duty factor is used.

- **Thermodynamic Data**: Thermodynamic data (operating pressure, enthalpy, temperature, and quality) were entered on the ARD form for Z-type lines (see Section 5.8.7) and COLA lines (see Section 5.8.8) only. These fields were left blank for all other cases. Only two out of four values are needed to define the thermodynamic conditions (pressure and enthalpy preferred) [7.7]. Data entered in these fields is used as a priority over the CHECWORKS SFA HBD.
- **Flow**: Flow rate was entered on the ARD form for Z-type lines (see Section 5.8.7) and COLA lines (see Section 5.8.8) only. These fields were left blank for all other cases. Data entered in this field is used as a priority over the CHECWORKS SFA HBD.
- **Chemistry Data**: Chemistry data (cold pH, oxygen concentration, and hydrazine concentration) was entered for Z-type lines only. These fields were left blank for all other cases. Data entered in this field is used as a priority over chemistry conditions calculated during Water Chemistry Analysis.

5.8.7. Z-Type Lines

Lines not associated to the CHECWORKS SFA heat balance diagram are called Z-type lines. Because they are not associated to the HBD, CHECWORKS SFA cannot automatically calculate chemistry and operating conditions for these lines. Therefore, when using the ARD function, the user must input not only flow factors and duty factors but also thermodynamic conditions, flow rate, and chemistry conditions for each operating cycle.

Z-type lines are used when the site has chemistry data for a specific line that is more accurate than the chemistry data calculated by CHECWORKS SFA.

5.8.8. Chemistry Only Line Association (COLA)

Chemistry Only Line Association (COLA) lines were created due to limitations in the CHECWORKS SFA HBD. In these cases, the computer model does not obtain the data from the correct location on the HBD, or the CHECWORKS SFA program did not allow the correct data to be entered.

COLA lines are associated to the CHECWORKS SFA HBD, like all other non Z-type lines in the model, but this association is to obtain chemistry data only. The values of pressure, temperature, enthalpy, quality, and flow rate were entered on the ARD form directly.

6. Results

6.1. Water Chemistry Analysis Results

The results of the Water Chemistry Analysis are presented in Appendix G. A report was generated for each combination of power level and water treatment that the plant was operated. Water Chemistry Analysis results were input to Wear Rate Analysis.

6.2. Pass 1 Analysis Results

The results of the Pass 1 WRA are presented in Appendix H. For each WRA Run, the following reports are presented:

- Wear Rate Report (sorted by average wear rate)
- Wear Rate Report (sorted by flow order)
- Service Life Report (sorted by remaining service life)
- Service Life Report (sorted by flow order)

6.3. Pass 2 Analysis Results

A summary of the results of the Pass 2 WRA is presented in Appendix B. The Pass 2 reports appear in Appendix I with the exception of the Wear Plots which are located in Appendix J. For each WRA Run, the following reports are presented:

- Wear Rate Report (sorted by average wear rate)
- Wear Rate Report (sorted by flow order)
- Service Life Report (sorted by remaining service life)
- Service Life Report (sorted by flow order)
- Wear Report (sorted by flow order)
- Wear Plot (Comparison of Wear Predictions)

6.4. Discussion of Pass 2 Results

A CHECWORKS predictive model was developed. Input was performed in accordance with the CHECWORKS User Guide [7.7] and the latest EPRI recommendations. No error messages were encountered during the execution of the Wear Rate Analysis, and the output was reviewed and found to be reasonable.

The Pass 2 Wear Rate Analysis results of each WRA run were reviewed to determine the relationship between measured wear and predicted wear. Based on this relationship, a WRA run was classified as Calibrated or Not Calibrated. For

Calibrated WRA runs, the Pass 2 Wear Rate Analysis results of predicted wear rate and remaining service life can be used with reasonable confidence. For runs classified as Not Calibrated, Pass 2 Wear Rate Analysis results should not be used. Instead, Pass 1 Wear Rate Analysis results should be used to determine relative rankings only. In particular, remaining service life (Time to T_{crit}) should not be used as an estimate of remaining component life.

The criterion used to classify a WRA run as Calibrated or Not Calibrated is discussed in the sections below. No single criterion is definitive in classifying a WRA run as either Calibrated or Not Calibrated. Instead, engineering judgment was used to weigh each criterion to determine calibration status.

A summary of the Pass 2 evaluation for each WRA run appears in Appendix B.

- **Number of Inspection Locations**: EPRI recommends that at least three to five locations be included in a Pass 2 Analysis to provide reasonable confidence in the results [7.7 & 7.15]. In this context, a "location" is a CHECWORKS component and all of its component sections. Thus an inspection on an elbow and the downstream extension of the elbow would count as a single inspection location, even though two components were inspected. Note that this inspection location would be represented by two points on the Wear Plot, one per section.
- The more inspections used in calculating the LCF, the more likely that the run can be considered properly calibrated. For runs in which less than three locations have been included in the calculation of the LCF, the results should be considered preliminary and used with caution because there is insufficient UT data to provide high confidence in the Pass 2 results. Therefore, for all runs identified below as requiring additional inspections, the lines in the run should not be considered properly calibrated Pass 2 models, and the results should be used as relative rankings only. In particular, Time to Tcrit should not be used as an estimate of remaining life until properly calibrated Pass 2 analyses are complete.
- **Line Correction Factor (LCF) Value**: If perfect agreement between the CHECWORKS Pass 2 predictions and measured wall thickness existed, the analysis of each run would result in an LCF of 1. The range considered reasonable for LCFs is from 0.5 to 2.5 [7.7]. If the LCF is outside this range, additional attention should be paid to the results to understand why there is such a significant difference between predictions and measurements.
- **Wear Plot Correlation:** The plot scatter or the correlation between predicted and measured wear is generally the most important factor when determining calibration status. Good correlation will allow a run with a low number of inspection points and/or a poor LCF to be

considered properly calibrated. Generally, a run with a poor LCF should not be considered a properly calibrated Pass 2 analysis. However, a high number of inspection points, a good correlation, and a low percentage of outliers may allow the run to be considered calibrated.

Poor: The inspection data exhibits significant scatter that does not adhere to the 45° line or a significant number of outliers are present.

Moderate: The inspections points are within the ± 50% wear boundaries with few outliers, but the inspection points do not form tight clusters around the 45° LCF line.

Good: The inspection points adhere well to the 45° LCF line. There are very few outliers present.

- **Parallel Train Coverage**: EPRI's "Recommendations for an Effective Flow-Accelerated Corrosion Program" advises that inspections be performed on parallel trains [7.7]. As a consequence, there must be adequate train coverage to categorize a run as calibrated.
- **Inspections on Control Valves and Orifices**: NSAC-202L states that special consideration should be given to locations immediately downstream of orifices and control valves [7.15]. Thus for a line to be calibrated, an inspection must be performed immediately downstream of these locations.
- **Number of Outliers:** The number of outliers (points on the Wear Plot that fall outside the lines 50% above and below the central diagonal) is generally considered on a percentage basis in relation to the number of inspections. If a relatively large percentage of the inspections are outliers, then the CHECWORKS results should not be considered properly calibrated. In general, the number of outliers should not exceed 25%.
- **Geometry Coverage**: Finally, for a run to be considered calibrated, there should be a representative sample of the different geometries in the run. For example, a run that was calibrated with inspections on 90° elbows may correctly predict the wear for other elbows, but it may do a poor job of predicting the wear for a reducer.

The specific results obtained for each Wear Rate Analysis run are discussed in Appendix B. The results of the Pass 2 Analysis should be used to pick inspections for calibrated runs only. Runs not calibrated should use the results of the Pass 1 Analysis to pick inspections based on relative ranking.

6.5. Discussion of Negative Times to Tcrit

The Service Life Report for each run in Appendix I gives a calculated value for remaining service life for each component. This value is shown in the

"Component Time to Tcrit (hrs)" column. When this value is negative, it indicates that the calculated component wear is greater than the allowed wear. In some cases, this value is accurate, and the component should be inspected to ensure the component still meets industry standards. Other times, the wear can be understood in other ways. Often times, negative times to Tcrit occur on components that cannot be accurately inspected with UT methods, for example, valves and orifices. If UT cannot be taken on a component, CHECWORKS cannot use an inspection to adjust the calculated wear of a component. Wear in valves and orifices with a carbon steel downstream pipe, elbow, tee, or nozzle can be approximated by inspecting the downstream component. When this is not possible, inspections should be handled with alternate inspection methods as per plant procedure. In some cases, an inspected component will show a negative time to Tcrit because inspections on the component have been omitted from the Pass 2 calculation. This occurs for various reasons given in Appendix F. If an inspection exists on one of these components, the wear in that component is assumed to be understood, and reinspections should be driven through analysis of previous inspections.

Appendix K lists the components in the Indian Point Unit 3 CHECWORKS model that have a negative time to Tcrit. Components with an understood wear should be inspected based on analysis of previous inspections. Components where wear is not understood should be prioritized and inspected when possible using the appropriate methods.

7. References

7.1. "Erosion/Corrosion-Induced Pipe Wall Thinning", Generic Letter 89-08, U.S. Nuclear Regulatory Commission (NRC), May 2, 1989.

7.2. Indian Point 3 CHECWORKS Models Calculations

7.2.1. "Indian Point Unit 3 CHECWORKS Power Uprate Analysis", CSI Calculation 040711-01, Revision 0, 3/23/2005.

7.2.2. "Indian Point Unit 3 CHECWORKS Global Input", CSI Calculation 94-10.1-05, Revision 3, 5/7/2004.

7.2.3. "Indian Point Unit 3 Condensate CHECWORKS Model", CSI Calculation IP3-RPT-COND-00912, Revision 4, 5/7/2004.

7.2.4. "Indian Point Unit 3 Extraction Steam CHECWORKS Model", CSI Calculation IP3-RPT-EX-0091 1, Revision 4, 5/7/2004.

7.2.5. "Indian Point Unit 3 Feedwater CHECWORKS Model", CSI Calculation IP3-RPT-FW-00984, Revision 4, 5/7/2004.

7.2.6. "Indian Point Unit 3 Heater Drains CHECWORKS Model", Report No. IP3-RPT-HD-00979, Revision 4, 5/6/2004.

7.2.7. "Indian Point Unit 3 Moisture Preseparator Drains CHECWORKS Model", CSI Calculation IP3-RPT-HD-00913, Revision 4, 5/7/2004.

7.2.8. "Indian Point Unit 3 Moisture Separator Drains CHECWORKS Model", Report No. IP3-RPT-MSD-00979, Revision 5, 5/6/2004.

7.2.9. "Indian Point Unit 3 Reheater Drains CHECWORKS Model", CSI Calculation IP3-RPT-HD-01144, Revision 4, 5/7/2004.

7.3. Indian Point Energy Center System Susceptibility Evaluation (SSE), Report No. 0700.104-17 Rev. 1, dated 1/22/2010.

7.4. Specification for Material Supply and Fabrication of Piping Systems for Power Authority of the State of New York, Specification No.: 6604-104-248-4, 12/22/77.

7.5. EPRI Advanced CHECWORKS Training Manual, April 1995.

7.6. Indian Point 3 Heat Balance Diagrams

7.6.1. Original HBD, 3045.3 MWt: New York Power Authority Indian Point 3 Nuclear Power Plant Heat Balance "F", 5/29/90.

7.6.2. Appendix K HBD, 3079.4 MWt: Indian Point 3 Nuclear Power Plant "Benchmark tuned to 3-19-03 Plant Data", Sheets 1-6, Run date 1/10/2005.

7.6.3. Stretch Power Uprate HBD, 3196 MWt: Indian Point 3 Nuclear Power Plant "Uprate 3168 Core Power w/ 0.5% Margin", Sheets 1-6, S&W Calc 59379-HU(S)-001 Rev. 0, Attachment 8.15.

7.7. "CHECWORKS Steam/Feedwater Application Guidelines for Plant Modeling and Evaluation of Component Inspection Data". EPRI, Palo Alto, CA and CSI Technologies, Inc., Elgin, IL: 2009. 1019176.

7.8. Indian Point 3 CHECWORKS FAC model, the (as-transmitted) SPU update project model, the transmittal date of the model was March 23, 2005, Document No. 0507 14c02.

7.9. FAC Manager database transmitted by Harry Hartjen (IP3) to CSI Technologies, dated 9/7/2007.

7.10. Indian Point 3 FAC Isometrics and Plan/Section Drawings

Dwg No. EC-H-5000, Rev. 3	Dwg No. EC-H-50038, Rev. 2
Dwg No. EC-H-5001, Rev. 4	Dwg No. EC-H-50039, Rev. 3
Dwg No. EC-H-5002, Rev. 1	Dwg No. EC-H-50040, Rev. 3
Dwg No. EC-H-5004, Rev. 2	Dwg No. EC-H-50041, Rev. 3
Dwg No. EC-H-5005, Rev. 2	Dwg No. EC-H-50042, Rev. 2
Dwg No. EC-H-5006, Rev. 1	Dwg No. EC-H-50045, Rev. 1
Dwg No. EC-H-5007, Rev. 2	Dwg No. EC-H-50046, Rev. 2
Dwg No. EC-H-5008, Rev. 2	Dwg No. EC-H-50047, Rev. 2
Dwg No. EC-H-50061, Rev. 1	Dwg No. EC-H-50048, Rev. 2
Dwg No. EC-H-50062, Rev. 1	Dwg No. EC-H-50060, Rev. 1
Dwg No. EC-H-50064, Rev. 1	Dwg No. EC-H-50072, Rev. 1
Dwg No. EC-H-50071, Rev. 2	Dwg No. EC-H-50074, Rev. 1
Dwg No. EC-H-50081, Rev. 2	Dwg No. EC-H-50075, Rev. 1
Dwg No. EC-H-50082, Rev. 3	Dwg No. EC-H-50076, Rev. 1
Dwg No. EC-H-50082, Rev. 3	Dwg No. EC-H-50077, Rev. 1
Dwg No. EC-H-50009, Rev. 1	Dwg No. EC-F-50078, Rev. 1
Dwg No. EC-H-50010, Rev. 2	Dwg No. EC-H-50079, Rev. 2
Dwg No. EC-H-50011, Rev. 1	Dwg No. EC-H-50080, Rev. 2
Dwg No. EC-H-50012, Rev. 2	Dwg No. EC-H-50084, Rev. 3

Dwg No. EC-H-50014, Rev. 1	Dwg No. EC-H-50085, Rev. 1
Dwg No. EC-H-50015, Rev. 2	Dwg No. EC-H-50086, Rev. 1
Dwg No. EC-H-50016, Rev. 2	Dwg No. EC-H-50087, Rev. 1
Dwg No. EC-H-50017, Rev. 2	Dwg No. EC-H-50088, Rev. 1
Dwg No. EC-H-50018, Rev. 2	Dwg No. A-
Dwg No. EC-H-50020, Rev. 2	Dwg No. A-
Dwg No. EC-H-50021, Rev. 2	Dwg No. A-
Dwg No. EC-H-50022, Rev. 2	Dwg No. A-2021
Dwg No. EC-H-50029, Rev. 1	Dwg No. A-2021
Dwg No. EC-H-50030, Rev. 1	Dwg No. A-2021
Dwg No. EC-H-50031, Rev. 2	Dwg No. A-
Dwg No. EC-H-50035, Rev. 2	

7.11. Indian Point 3 Erosion Corrosion Inspection Flow Diagrams

Condensate & Boiler Feed Pump Suction, Dwg No. EC-F-20 183 Sh. 1, Rev. 1
Condensate & Boiler Feed Pump Suction, Dwg No. EC-F-20 183 Sh. 2, Rev. 2
Boiler Feedwater, Dwg No. EC-F-20193, Rev. 2
Extraction Steam, Dwg No. EC-F-20203 Sh. 1, Rev. 1
Extraction Steam, Dwg No. EC-F-20203 Sh. 2, Rev. 1
Heater Drains & Vents, Dwg No. EC-F-20223 Sh. 1, Rev. 1
Heater Drains & Vents, Dwg No. EC-F-20223 Sh. 2, Rev. 1
Moisture Separator and Reheater Drains & Vents, Dwg No. EC-F-20233 Sh. 1, Rev.
Moisture Separator and Reheater Drains & Vents, Dwg No. EC-F-20233 Sh. 2, Rev.

7.12. Referenced Correspondence and Communications (see Attachment A)

7.12.1. E-mail regarding Moisture Separator Drain Piping Replacement Modification, MMP 98-3-05 1, from James Sherman (NYPA) to Jeffrey Chow dated February 21, 2000, CSI E-mail 94-10.1-79.

7.12.2. Email from Harry Hartjen (IP3) to Daniel R. Poe (CSI Technologies), dated 10/12/2004, regarding SPU implementation dates, CSI Doc. No. 04071111.

7.12.3. Email from Harry Hartjen (IP3) to Daniel R. Poe (CSI Technologies), dated 10/18/2004, regarding operational and configuration changes due to SPU, CSI Doc. No. 04071113.

7.12.4. Email from Ron Macina (IP3) to Brian Trudeau (CSI Technologies), dated 1/10/2005, regarding addition al Heat Balance Diagrams and uprate start dates, CSI Doc. No. 04071140.

7.12.5. Email from Harry Hartjen (IP3) to Greg R. Lupia (CSI Technologies), dated 8/2/2005, regarding operating hours for Cycle 13 and MOPS/SCRUPS piping replacement, CSI Doc. No. 0507 14c07

7.12.6. Email from Harry Hartjen (IP3) to Greg R. Lupia (CSI Technologies), dated 8/9/2005, regarding replacement operations during Cycle 13, CSI Doc. No. 050714c03.

7.12.7. Letter from Harry Hartjen (IP3) to Dan Poe (CSI Technologies), dated 7/26/2005, regarding input data for the 3R13 outage, CSI Doc. No. 050714c00.

7.12.8. Email from Harry Hartjen (IP3) to Dan Poe (CSI Technologies), dated 10/18/2005, regarding Comments on Revision A of the IP3 R13 Pass 2 Calculation, CSI Doc. No. 050714c11.

7.12.9. Email from Harry Hartjen (IP3) to Al Sipkovsky (CSI Technologies), dated 9/14/2007, regarding questions about recent replacements, CSI Doc. No. 0705.100.03.

7.12.10. Email from Harry Hartjen (IP3) to Al Sipkovsky (CSI Technologies), dated 9/14/2007, regarding questions about recent replacements, CSI Doc. No. 0705.100.04.

7.12.11. Email from Ian Mew (IP3) to Amanda Wajrowski (CSI Technologies), dated 9/3/2009, regarding Turbine run hours, CSI Doc. No. 0705.105.05.

7.13. Case N-597 of ASME Boiler and Pressure Vessel Code, 3/2/1998.

7.14. Ultrasonic Examination Reports

7.14.1. 3RO9 UT Exam Reports, hardcopy reports.

7.14.2. 3RO10 UT Exam Reports, hardcopy reports.

7.14.3. 3RO11 UT Exam Reports, hardcopy reports.

7.14.4. 3RO12 UT Exam Reports, hardcopy reports.

7.14.5. 3RO13 UT Exam Reports, hardcopy reports.

7.14.6. 3RO15 UT Exam Reports, hardcopy reports.

7.15. Ultrasonic Examination Grid Files

7.15.1. 3RO9 UT Exam Electronic Grid Files, electronic text files.

7.15.2. 3RO10 UT Exam Electronic Grid Files, electronic text files.

7.15.3. 3RO11 UT Exam Electronic Grid Files, electronic text files.

7.15.4. 3RO12 UT Exam Electronic Grid Files, electronic text files.

7.15.5. 3RO13 UT Exam Electronic Grid Files, electronic text files.

7.15.6. 3RO15 UT Exam Electric Grid Files, electronic text files.

7.16. "Recommendations for an Effective Flow-Accelerated Corrosion Program", EPRI NSAC-202L-R3, TR 1011838, May 2006.

7.17. "CHECWORKS Steam/Feedwater Application Version 3.0 User Guide", EPRI Product #1018102, EPRI, Palo Alto, CA: 2004. (for information only)

7.18. "Flow Accelerated Corrosion Program CHECWORKS Analysis Enhancement", Technical Report No. 00130-TR-001, Volume 1 of 1, Revision 0, December 2000 (for information only).

7.19. EPRI Report TR-106611-R1, "Flow-Accelerated Corrosion In Power Plants", Revision 1, Plants, 1998 (for information only).

7.20. New York Power Authority, Indian Point 3 Nuclear Power Plant, Non-Category I, Modification Procedure, MOD-86-03-082-MS, Rev. 0, dated 3/21/87 (for information only).

7.21. NYPA Minor Modification Package (MMP) MMP-98-3-051, Rev. 0, Generic Pipe Replacement of Non Cat-1, Seismic Class III C.S. Pipe Susceptible to Erosion-Corrosion (for information only).

7.22. Nuclear Engineering, Minor Modification Package (MMP) Control Form, Titled No. 36 Extraction Steam Line Replacement, Revision 0, dated 10/22/96 (for information only).

7.23. New York Power Authority, Piping Wall Thinning Evaluation for 18" EX Pipings, Calculation No. IP3-CALC-EX-03119, Rev. 0, dated 09/29/99 (for information only).

7.24. New York Power Authority, Indian Point 3 Nuclear Power Plant, Nuclear Safety Evaluation, NSE 86-03-082-MS, Rev. 0, dated 3/24/87 (for information only).

7.25. Containment Building, Boiler-Feed Piping Plan – Steam Generators No. 33 & 34, Drawing No. 9321-F-25503-7, Revision 7 (for information only).

7.26. Specification for Material Supply and Fabrication of Piping Systems for Power Authority of the State of New York, Specification No.: 6604-104-248-4, Addendum A, Rev. 2A, 4/9/85 (for information only).

7.27. Metals & Alloys in the Unified Numbering System, SAE HS-1086 SEP96, 7th Edition (for information only).

7.28. Indian Point Unit 3 Chemistry Readings and Plant Period Data (for information only).

7.28.1. IP3 Chemistry Readings and Plant Period Data for Cycle 14, Information provided by Harry Hartjen via FTP site.

7.28.2. IP3 Chemistry Readings and Plant Period Data for Cycle 15, Information provided by Ian Mew via email.

7.29. Indian Point 3 CHECMATE Erosion/Corrosion Analyses (for information only).

7.29.1. "CHECMATE Erosion/Corrosion Analysis of Condensate System", Utilizing CHECMATE, Report No.: IP3-RPT-FWS-00626, Rev. 0, 1/25/93.

7.29.2. CHECMATE Erosion/Corrosion Analysis of Extraction Steam System, Utilizing CHECMATE, Report No.: IP3-RPT-EX-0091 1, 10/22/93.

7.29.3. CHECMATE Erosion/Corrosion Analysis of Feedwater and Feedwater Recirculation Systems", Utilizing CHECMATE, Report No.: IP3-RPT-FW-00984, Rev. 0, 8/24/94.

7.29.4. CHECMATE Erosion/Corrosion Analysis of Heater Drains System, Utilizing CHECMATE, Report No.: Unknown.

7.29.5. CHECMATE Erosion/Corrosion Analysis of Moisture Separator Drain System, Utilizing CHECMATE, Report No.: IP3-RPT-MSD-01 158, Rev. 1, 3/24/97.

7.29.6. CHECMATE Erosion/Corrosion Analysis of Moisture Preseparator Drain System, Utilizing CHECMATE, Report No.: IP3-RPT-HD-00913, Rev. 0, 10/23/93.

7.29.7. CHECMATE Erosion/Corrosion Analysis of Reheater Drain System, Utilizing CHECMATE, Report No.: IP3-RPT-HD-01 144, Rev. 0, 8/22/94.

7.30. MSD Piping Replacement Isometric Drawings (for information only):

7.30.1. Turbine Building & Heater Bay Replace Piping From MSD Tanks 31A&B, 32A&B, and 33A&B Spool Piece Location Isometric From MSD Tank 31A, 32A, & 33A to Heater Drain Tank, NYPA Drawing No. SK-98-3-051-001, Rev. 0.

7.30.2. Turbine Building & Heater Bay Replace Piping From MSD Tanks 31A&B, 32A&B, and 33A&B Spool Piece Location Isometric From MSD Tank 31B, 32B, & 33B to Heater Drain Tank, NYPA Drawing No. SK-98-3-051-002, Rev. 0.

Appendix A

CHECWORKS Model Change History

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Updates prior to 3RO14

Global

- The steam lines between the preseparators and the separators were represented on the CHECWORKS Heat Balance Diagram (HBD) as a dummy high-pressure extraction line, as recommended in the Guidelines for Plant Modeling and Evaluation of Component Inspection Data [7.6]. The enthalpy for this CHECWORKS HBD line was assumed to be the same as the line from the preseparator, as shown on the heat balance diagrams [7.5].

- For MSEP 1 on the CHECWORKS HBD, the steam cycle enthalpy was entered as the combination of the preseparator and the separator drains to the drain tank. The steam cycle pressure was taken from the previously verified CHECMATE model, and translated to psia from psig.

- For RHTR 1 on the CHECWORKS HBD, the steam cycle pressure was taken from the previously verified CHECMATE model, and translated to psia from psig.

- The blowdown rate for the steam generator operated at 0.1000 Mlb/hr for the majority of plant life. However, after refueling outage 9 the rate was cut to 0.0750 Mlb/hr.

- The blowdown pressure was assumed to be equal to the pressure at the outlet of the steam generator. The blowdown enthalpy was assumed to be the enthalpy of saturated water at this pressure.

- The Steam Generator Moisture Carryover Percentage was left at the default value of 0.25%.

- The Blowdown Tank venting rate was entered as 0% [7.5.1].

- The Heater Drain Tank venting rate was entered as 0%. This does not necessarily represent actual operating conditions but is used to obtain reasonable oxygen concentration values.

Condensate

- For component CD-06.2-01R, the design pressure was reduced to 625 psig. This was done to reduce the value of Tcrit so that it is less than the value for Tnom. This is acceptable since the operating pressure is 156.4 psig.

- The sketch for components CD-02.8B-03P, CD-02.6-03T, and CD-02.8B-02E for the 1997 outage is unclear. It was assumed that these components were inspected in a manner similar to components CD-02.7-02T, CD-02.8A-03P, and CD-02.8A-02E for the 1997 outage, which is of a similar configuration.

- CD-02.5-04T has downstream pipe inspected for the 1992 refueling outage. However, CD-02.6-01T is a fabricated tee immediately downstream of CD-02.5-04T. Therefore, the first 5

rows of data from file CD254TDP.dat were imported to the main of CD-02.6-01T, and the remaining three rows were imported as its downstream extension. A 180 degree offset was used for the downstream tee since both tees were inspected using the same grid even though their branches are 180 degrees opposed.

- The initial thickness of 0.845 inches imported from CHECMATE for CD-5.1C-10T was significantly greater than the nominal thickness of 0.688 inches. This would have resulted in CHECWORKS over-predicting the wear since CHECWORKS calculates wear based upon initial thickness versus measured thickness. Therefore, this value was removed from the model.

- Point (J,2) was deleted from the refueling outage 9 inspection of CD-02.12-05P (report 97UT101), imported as the D/S extension of CD-02.12-04V, since this point was obviously inaccurate.

- CHECWORKS point (L,4), which corresponds to point (L,9) in report 97UT044, was removed from the branch of CD-02.6-03T for refueling outage 9 since the reading was unrealistically high.

- CD-02.5-04T's branch was not used in the calculation of the LCF since the measurements are not due to actual wear for both refueling outage 8 and 9.

- Point (F,4) was removed from the refueling outage 9 inspection of CD-02.1A-13R (report 97UT053) due to an unrealistically high reading.

- The initial thicknesses of 0.678 and 0.671 inches, respectively, imported from CHECMATE for CD-02.8B-02E and CD-02.8C-02E were significantly greater than the nominal thickness of 0.438 inches. This would have resulted in CHECWORKS over-predicting the wear since CHECWORKS calculates wear based upon initial thickness versus measured thickness. Therefore, this value was removed from the model.

- Point (F,1) was deleted from the Cycle 10B inspection of CD-02.1C-12T (report 99UT074), imported as the U/S Main, since this point was determined to be inaccurate by engineering judgment.

Extraction Steam

- The orientation angle of component EX-04.1-07P was changed to 180 degrees.

- Expansion joints were modeled as orifices with the component number that was next in the series. An orifice diameter equal to 90% of the inside diameter of the pipe was used. Specifically, the components added were as follows:

EX-03.1A-42X	EX-03.1B-37X	EX-03.1C-41X
EX-04.1-08X	EX-04.8-08X	EX-04. 15-08X
EX-04.2- 10X	EX-04.9-10X	EX-04. 16-10X

- The following components were changed to geometry code 3, 45 degree elbow, and, where applicable, their downstream pipe was changed to geometry code 53:

EX-05. 1A-03E	EX-05. 1B-03E	EX-05.1C-03E
EX-05.2A-03E	EX-05.2B-03E	EX-05.2C-03E
EX-06.4A-02E	EX-06.4B-02E	EX-06.4C-02E

- The following components were changed to geometry code 1, 45 degree elbow:

EX-05.2A-05E	EX-05 .2B-05E	EX-05 .2C-05E

- The following components were changed to long radius elbows:

EX-04.2-07E	EX-04.9-07E	EX-04. 16-07E

- The orientation angle of component EX-01.3-21E was changed to 90 degrees.

- Components EX-02.13-04E, EX-03.1A-20E, and EX-03.1A-24E were assumed to be short radius elbows based on overall line configuration.

- An orientation angle of 90 degrees was added for component EX-01.3-21E

- Components EX-01.5A-03E and EX-01.5A-09E were changed to geometry code 102, 90 degree elbow with counterbore.

- Lines ES: PRESEP 1A TO HDR 35, ES: PRESEP 2A TO HDR 35, ES: PRESEP 1B TO HDR 35, and ES: PRESEP 2B TO HDR 35 were newly installed during refueling outage 5, RO5 [7.29]. Therefore, the installation date for the components within these lines was set to the start date of RO5, 05/02/87.

- During Refueling Outage 9, all piping between the High Pressure Turbine and the 6 Heaters was replaced with the exception of the turbine exit nozzles, the feedwater heaters inlet nozzles, and all the valves. The replacement date used was the first day of Refueling Outage 9 or 5/14/97. The feedwater heaters inlet nozzles were internally given a stainless steel weld overlay. In order to accurately model the existing weld overlay within CHECWORKS, the feedwater inlet nozzles were also replaced. The valves and turbine exit nozzles were left as is.

- Components EX-02.16-08E, EX-02.17-05E, and EX-02.18-05E were replaced with carbon steel in 1985. Therefore, the material and WRA Option for these components were changed to A234/WPB and "Use Measured Wear for LCF", respectively.

- Type 12 tees with no flow in the upstream or downstream main and their corresponding downstream pipes were changed to the proper geometry code. The table below lists the component, current geometry code, applicable downstream pipe, and current geometry code for downstream pipe.

Tee Component Name	Current Geometry Code	D/S Pipe Component Name	Current Geometry Code
EX-02.1-06T	10	EX-02.5-01P	60
EX-02.8-08T	10	N/A	N/A
EX-04.1-06T	10	EX-04.3-01P	60
EX-04.8-06T	10	EX-04.10-01P	60
EX-04.15-06T	10	EX-04.17-01P	60

- Components EX-02.4-01T and EX-02.11-01T were removed from the model since the main run of these tees are on non-modeled lines.

- Component EX-01.3-18P was deleted from the model since the 1992 inspection of adjacent components revealed that no pipe actually exists.

- The original material of components EX-01.3-23T and EX-01.4-02T was A234 Grade WPB. This material was changed to A106 Grade B since tees were assumed fabricated.

- Piping specifications were unavailable for LP extraction lines to Heaters 31 and 32. These lines were assumed to have the same design pressure and temperature as well as piping schedule and material as the lines to the 33 Heaters.

- New material A691 EFW Grade 2 ¼ CR Class 22 was added as having 2.25% chrome and 0.70% molybdenum with an allowable stress of 15,000 psi. This material, A691/EFW/22, was used for replaced piping to the 35 Heaters.

- All components that were replaced during Refueling Outage 9 from the HP Turbine to the 6 Heaters have a current material of A-213/TP304L/TP3. This material is comparable in composition to the actual material installed. Since the current material is non-susceptible to FAC, all replaced components were selected as "Do Not Use Any Measured Wear".

- The following components were replaced with chrome-moly during RO11. The replacement date for these components was assumed to be 04/28/01.

EX-02.16-02P	EX-02.16-06E	EX-02.17-03E
EX-02.16-03E	EX-02.16-07P	EX-02.17-04P
EX-02.16-04P		

- Components EX-01.1-03P and EX-01.2-10L had two inspections during RO8. The later of the two was imported.

- Component EX-02.3-03T is not in the model, therefore its RO8 inspection data could not be imported.

- In some cases, inspection data files did not match the hard copies. This data was not

imported. Affected components were EX-04.6-05E and, EX-02.14-32T for RO9.

- Data file EX042102.DAT was not imported for RO9 because it is an expanded view of the EX-04.21-04P that is already associated with inspection file EX042 1 00.DAT.

- The following data points were removed from RO8 on component EX-01.1-03P, the downstream extension of EX-01.1-02E, because of high readings: (H,3&4), (I,3&4), (M,3&4), (N,3&4), and (O,3&4).

- For component EX-01.1-08R in RO8 the data point (O,9) was removed from the downstream main section and rows 3 & 4 were excluded from the wear calculation for the upstream main section.

- For component EX-03.1C-13E in RO9 the data point (I,1) was removed from the main section.

- Data file EX 02.16 03EMICR was not imported for RO10 because it is an expanded view of elbow EX-02.16-03E that is already associated with inspection file EX02 1603 .DAT.

- Hot UT inspections taken on components EX-04.4-22T, EX-04.4-21P, and EX-04.6-01R during RO10P were repeated during RO10 to measure the difference between hot versus ambient temperature UT data. The RO10 UT data was not imported due to the lack of inspection data sheets.

- Data file EX 02.17 03E SUP was not imported for R10 because it is an expanded view of elbow EX-02.17-03E that is already associated with inspection file EX021701 .DAT.

- For Cycle 10B inspections of tee branches EX-04.20-16T and EX-04.4-22T blank UT data columns N-R were deleted and readings were assumed to be taken clockwise against flow (counterclockwise with flow). For component EX-04.4-22T the data point (K,3) was removed from the branch section.

- For component EX-02.16-06E data points (AA,1), (AB,1), (Y,2), and (AB,3) were removed from the downstream extension analysis.

- For component EX-03.1B-05T, the inspection was a partial grid on one section of the main. The grid was imported to CHECWORKS for historical purposes only and was therefore excluded from the calculation of the LCF.

- UT inspection data for component EX-02.7-02T for RO9 was not imported due to questionable readings and the component was only partially gridded.

- A number of inspections revealed piping components that had not been modeled previously. In each case, the component was added to the model in the correct location. The component name was obtained from the inspection packet. Pipe material and schedule was assumed to be identical as other piping components nearby. The following table lists the components that were added to the model.

Component	Inspection Report Number	Location
EX-02.9-07P	03UT141	Upstream of EX-02.9-07E
EX-02.9-10P	03UT141	Downstream of EX-02.9-09E
EX-02.13-03P	03UT086	Downstream of EX-02. 1 3-03E

- The table below lists Extraction Steam components which were replaced during this outage. These replacements are documented in inspection report number 03UT1 51. Line scan readings were performed prior to installation to obtain the minimum and maximum thickness of these components; however, no inspection was imported to the model as line scan readings cannot be used as a baseline exam by CHECWORKS.

EX-02.9-02P	EX-02.9-04P	EX-02.9-06P
EX-02.9-03E	EX-02.9-05E	

- The geometry code of components EX-02.13-04E and EX-02.13-05P was changed to 3 and 53, respectively.

- The nominal thickness of over fifty components was updated based on documentation from the Extraction Steam modification of 1987.

- Component EX-01.1-08R had no file or data for the downstream extension in RO8.

Feedwater

- The feedwater heaters inlet nozzles were internally given a stainless steel weld overlay. In order to accurately model the existing weld overlay within CHECWORKS, the feedwater inlet nozzles were also replaced. The valves and turbine exit nozzles were left as is.

- A straight pipe exists between components FW-03.1C-04B and FW-03.1C-05B. Therefore, components FW-03.1C-16P_1 and FW-03.1C-16P_2 were inserted as type 51 and type 9 respectively between those components.

- Component FW-02.5-05P was deleted from the CHECWORKS database. The inspection report 99UT269 shows that there is no pipe between tees FW-02.4-19T and FW-02.5-01T.

- Components FW-02.8A-25R, FW-02.8B-25R, FW-02.8D-24R, and FW-02.8C-24R were changed from Geometry Code 17 to Geometry Code 7.

- Component FW-03.1A-08B was changed to Geometry Code 4 from Geometry Code 3.

- Component FW-03.1C-05B was changed to Geometry Code 2 from Geometry Code 3.
- Tinit was deleted from component FW-02.8B-22T since it resulted in an unrealistic value for

calculated wear.

- Tinit was deleted from the small end of component FW-01.2B-27R since it resulted in an unrealistic value for calculated wear.

- The datasheet for the outage 9 inspection of component FW-01.3-09P listed FW013001.dat as the data file. However, file FW013001.dat was used for component FW-01.3-06E. File FW0130O1.dat was used instead. File FW0130O1.dat was slightly different than the datasheet and was modified to match by moving one data point and deleting another. To summarize, the data files for outage 9 were imported as follows:

Component	DAT File
FW-01.3-06E	FW013001
FW-01.3-05P	FW013002
FW-01.3-09P	FW0130O1
FW-01.3-18P	FW01310B
FW-01.3-08E	FW013O01
FW-01.3-07E	FW013O02

- The first and last bands were excluded from the analysis of component FW-03.1A-08B's outage 9 inspection due to counterbore. Point (I,15) was also removed from this component since it was unrealistically low and provided an unrealistic value for measured wear.

- Tinit was removed from the downstream main of component FW-02.8B-26R since it provided unrealistic calculated wear.

- Point (N,8) was removed from component FW-02.8B-26R's RO9 inspection since it was unrealistically low and provided an unrealistic value for measured wear

- Point (F,7) was removed from component FW-01.3-03E's outage 8 inspection since it was unrealistically low and provided an unrealistic value for measured wear.

- Component FW-02.5-0 1T's branch is actually an elbolet, which is not modeled in CHECWORKS. The outage 10 inspection data was imported to the branch of FW-02.5-01T, however it was not used in the calculation of the LCF.

- The outage 10 sketch for the branch extension of component FW-02.4-19T is unclear as to which end of pipe the rows begin. It was assumed that the inspection rows begin downstream of flow and move towards the tee.

- Tinit was changed to 1.372 for the U/S and D/S Main of tee FW-02.5-01T to match with pipe FW-02.5-05P.

- Inspection report number 03UT123 revealed a piping component that had not been modeled previously. This pipe was named FW-01.6B-07P and was located downstream of FW-01.6B-

06E.

- The component name was obtained from the inspection packet. Pipe material and schedule was assumed to be identical as other piping components nearby.

- The initial thickness (Tinit) value of 1.3 12" was deleted for reducers FW-02.8C-25R and FW-02.8C-24R. The Tinit value was approximately 0.5" greater then Tnom. Removal of the Tinit value resulted in a significant reduction in calculated wear, around 0.3" less, and a more realistic calculated wear for the RO11 inspections.

- Component FW-02.4-15E showed high wear due to a cluster of low readings caused by a lamination. These low readings were deleted to give a more accurate wear value and minimum thickness value. The deleted readings were: (C8, 0.513); (C9, 0.539); (C10, 0.668); (C11, 0.815); (D8, 0.582); (D10, 0.751); (D11, 0.837); (D12, 0.906); (E9, 0.759); and (E10, 0.811).

Heater Drains

- Components HD-6.1A-35N, HD-6.1A-36N, HD-6.1B-30N, HD-6.1B-31N, HD-6.1C-26N, and HD-6.1C-27N were removed from the model. The isometric drawings change sheets at this location. The continuation symbol was mistakenly labeled as a nozzle.

- The 1997 inspection of component HD-01.2B-01R shows that there is no pipe between the elbow and reducer. Therefore, component HD-01.1B-08P was removed from the model.

- The expansion joints in the heater drain pump suction lines were modeled as orifices with the component number that was next in the series. An orifice diameter equal to 90% of the inside diameter of the pipe was used. Specifically, the components added were HD-10.2A-07X and HD-10.2B-06X.

- The IP3 P&IDs show a "Temporary Strainer" in the heater drain pump suction lines. This was not modeled previously. Therefore, it was assumed that it was not installed and does not significantly affect wear rates.

- Component HD-10.2B-01E was changed to Geometry Code 16 from Geometry Code 4.

- Component HD-12.4-19T was removed from the model since it was previously modeled in the Condensate system as component CD-06.1-01T.

Moisture Preseparator Drains

- The following is a list of components that required a material change:

Line Name	Component Name	Old Material	New Material
PD: DRNS FROM PRESEP 1B	PD-01.2-02B	A106/B/B	A53/B/S
	PD-01.2-03P	A106/B/B	A53/B/S
	PD-01.2-05P	A106/B/B	A53/B/S
	PD-01.2-07P	A106/B/B	A53/B/S
	PD-01.2-10O	A106/B/B	A53/B/S
PD: DRNS FROM PRESEP 1A	PD-01.4-02B	A106/B/B	A53/B/S
	PD-01.4-03P	A106/B/B	A53/B/S
	PD-01.4-05P	A106/B/B	A53/B/S
	PD-01.4-07P	A106/B/B	A53/B/S
	PD-01.4-10O	A106/B/B	A53/B/S
PD: DRNS FROM PRESEP 2B	PD-01.6-02B	A106/B/B	A53/B/S
	PD-01.6-03P	A106/B/B	A53/B/S
	PD-01.6-05P	A106/B/B	A53/B/S
	PD-01.6-07P	A106/B/B	A53/B/S
	PD-01.6-09P	A106/B/B	A53/B/S
	PD-01.6-11P	A106/B/B	A53/B/S
	PD-01.6-14O	A106/B/B	A53/B/S
PD: DRNS FROM PRESEP 2A	PD-01.8-02B	A106/B/B	A53/B/S
	PD-01.8-03P	A106/B/B	A53/B/S
	PD-01.8-05P	A106/B/B	A53/B/S
	PD-01.8-07P	A106/B/B	A53/B/S
	PD-01.8-09P	A106/B/B	A53/B/S
	PD-01.8-11P	A106/B/B	A53/B/S
	PD-01.8-14O	A106/B/B	A53/B/S
PD: DRAINS TO HTR DRN	PD-02.1-01T	A106/B/B	A53/B/S
	PD-02.2-01T	A106/B/B	A53/B/S
	PD-02.4-22T	A106/B/B	A53/B/S
	PD-02.3-01T	A106/B/B	A53/B/S
	PD-02.4-01T	A106/B/B	A53/B/S
	PD-02.4-03P	A106/B/B	A53/B/S
	PD-02.4-05P	A106/B/B	A53/B/S
	PD-02.4-07P	A106/B/B	A53/B/S
	PD-02.4-09P	A106/B/B	A53/B/S
	PD-02.4-1 1P	A106/B/B	A53/B/S
	PD-02.4-13P	A106/B/B	A53/B/S
	PD-02.4-15P	A106/B/B	A53/B/S
	PD-02.4-17P	A106/B/B	A53/B/S
	PD-02.4-19P	A106/B/B	A53/B/S
	PD-02.4-20P	A106/B/B	A53/B/S

- Tinit was removed from component PD-02.4-02E since it provided unrealistic calculated

wear. Points (B,13) and (K,6) were also removed from the outage 8 inspection data because they were unrealistically high, and provided an unrealistic calculated wear.

- The table below lists the Preseparator Drain components in line PD: DRAINS TO HTR DRN TANK that were replaced or installed during the RO12 MOPS/SCRUPS Modification DCP 01-3-072.

Component	Status Due to RO12 Design Modification
PD-02.4-02E	Replaced (component ID number re-assigned)
PD-02.4-03P	Replaced (component ID number re-assigned)
PD-02.4-04E	Replaced (component ID number re-assigned)
PD-02.4-05P	Replaced (component ID number re-assigned)
PD-02.4-22E	Initial Installation
PD-02.4-23R	Initial Installation
PD-02.4-24P	Initial Installation
PD-02.4-25T	Initial Installation
PD-02.4-26P	Initial Installation
PD-02.4-27P	Initial Installation
PD-02.4-28E	Initial Installation
PD-02.4-06E	Replaced (component ID number re-assigned)
PD-02.4-29R	Initial Installation
PD-02.4-30V	Initial Installation
PD-02.4-31R	Initial Installation
PD-02.4-32P	Initial Installation

Moisture Separator Drains

- The Moisture Separator Drains from the Drain Tanks to the Heater Drain Tank were updated to reflect piping replacements during RO10. The installation date was entered as 10/1/99. Certain sections of piping were divided to reflect the changes in material. In such cases, the existing component name was changed, with a "_1", "_2", or "_3" suffix added as needed. Piping tolerances were ignored when calculating pipe lengths for use in CHECWORKS.

- The nozzles attached to the Moisture Separators are all at the same elevation according to the isometric drawings. However, the center tee is at a lower elevation than the outside tees. Therefore, a pup piece of pipe was added to the CHECWORKS model between the center nozzle and the center tee to account for this. The component was named with the next sequential number in the series.

- Pipe MSD-01.5B-32P was added to the model to reflect the installation of a new pup piece with the elbow. No length was entered, since the length was unknown.

- The inspection information on the D/S extension of MSD-0 1.1 5A- 1 7E was imported to component MSD-01.15A-18P since the pipe was inspected, replaced, and baselined.

- Tinit for component MSD-01.5A-01E was causing over-calculation of wear and was thus deleted.

- Point (L-11) was removed from the 1994 inspection of component MSD-01.5A-01E. This point was unrealistically high, and was providing inaccurate wear calculations.

- Point (D-1) was removed from component MSD-01.8B-07P's 1997 Refueling

- Outage inspection, since it was providing an unrealistic value for measured wear.

- Tinit for component MSD-01.15A-01E was removed since it was forcing an over-calculation of measured wear.

- The first and last bands were excluded from the analysis of component MSD-01.7A-01T's Cycle 10B inspection due to counterbore.

- The first and last bands were excluded from the analysis of component MSD-01.8A-01T's Cycle 10B inspection due to counterbore.

- The first and 7th band was excluded from the analysis of component MSD-01.8B-0 1T's Cycle 11 inspection due to counterbore.

Reheater Drains

- Component RHD02.5B-02R was replaced during refueling outage 10. Therefore, this component was replaced with an installation date of 10/18/99. This component was inspected during refueling outage 10 and the inspection was assumed to be prior to the replacement.

- Component RHD01.12A-01T, which is actually an elbolet, was modeled as a Type 15 tee in CHECMATE. It was changed to a Type 12 tee, since flow is through the elbolet.

- Points (A-4) and (M-6) were removed from the 1992 Refueling Outage inspection for component RHD01.8A-01R since they were obviously inaccurate.

- Row 3 was excluded from the analysis of the 1997 Refueling Outage inspection on component RHD01.3B-01N since it was obviously a counterbore and provided an unrealistic value of wear.

- Tinit for component RHD02.4B-02E was deleted since it provided an inaccurate value for measured wear using the 1992 Refueling Outage inspection data.

- Column J was removed from the downstream extension of the 1992 Refueling Outage inspection on component RHD02.3B-02R since it provided unrealistic values for measured wear.

- The 1999 Refueling Outage inspection data downstream of pipe RHD01.8A-02P was imported to the U/S Extension of Valve RHD02.3A-01V because the inspection data upstream of component RHD-02.3A-02R was previously imported to the Valve Main.

- Counterbore was excluded from the analysis of the D/S Main of component RHD02.5A-02R in RO11.

- Point (P2, 0.342) was deleted from the U/S Main of RHD-02.5B-02R in RO11. Counterbore was excluded from the analysis of the U/S Main as well.

Update for 3RO14

The model was updated with all information necessary to run Wear Rate Analysis (WRA) for plant conditions through Refuel Outage 14 (3R014), such as updates to the plant period table, water chemical treatments, WRA run definitions, replacements, UT inspection data, etc.

Global Data Updates

- Operating Cycle 14 water chemistry was updated to reflect actual measured concentrations. This data appears in Appendix C.
- The plant period table was updated with the actual Operating Cycle 14 start date, end date, and operating hours. Refuel 14 outage actual start and end dates were updated. Operating Cycle 15 was updated with the actual start date, estimated end date, operating hours and water chemistry. This data appears in Appendix C.

UT Data Updates

- All 3R014 FAC inspections were imported to the appropriate component from FAC Manager. These inspections are listed in Appendix F. Only those components that were in the official CHECWORKS model were imported from FAC Manager.

Line and Component Data Updates

- The model was updated with the following 3R014 component replacements. The components were all replaced as-is.

System	Component	Geometry	Size
Reheater Drains	RHD02.15A-02E	Elbow	6"
Reheater Drains	RHD02.14B-14P	Pipe	6"
Reheater Drains	RHD02.6A-05P	Pipe	6"
Reheater Drains	RHD02.14B-02E	Elbow	6"
Reheater Drains	RHD02.15A-13P	Pipe	6"
Reheater Drains	RHD02.15A-11T	Tee	6"

In addition, the model was updated with replacements for the following components in RO13:

System	Component	Geometry	Size
Extraction Steam	EX-02.9-10P	Pipe	10”
Extraction Steam	EX-02.13-03P	Pipe	18”

- The following components were added to the model based on an email sent to CSI from Harry Hartjen at Indian Point Unit 3. The email can be found in its entirety in Attachment A. The component data was assumed to be the same as the components found elsewhere in the same flow segment.

Line Name	Component	Geometry	Size
RHD-02.14B B HDR to FWH 36C	RHD02.14B-14P	Pipe	6"
RHD-02.15A A HDR to FWH 36C	RHD02.15A-13P	Pipe	6"
EX-02.4 PSEP2A 14" to 35 HDR	EX-02.4-07P	Pipe	14”
EX-02.11 PSEP1B 14" to 35 HDR	EX-02.11-07P	Pipe	14”
EX-02.8 PSEP 2B 10" to 35 HDR	EX-02.8-09P	Pipe	10”

- The following components had their materials updated to a carbon steel material similar to other components. In the previous outage, the data was incorrectly set and are now set correctly as carbon steel.

EX-02.14-02E	EX-02.14-06E	EX-02.14-08E

- Wear Rate Analysis run HD: HD PMP TO BFP HDR was changed to take advantage of the Advanced Run Definition due to incorrect values obtained from the HBD during analysis. Pressure, temperature and flow information were obtained from the three power level HBDs [7.5].

- The following table displays the lines had their component flow orders changed. It also includes components that were created

Component	Geometry	Size	Isometric Number
Transport steam from Preseparator 2A Xunder			
EX-02.4-02P	PIPE	14	EC-H-50071
EX-02.4-03E	ELBOW	14	EC-H-50071
EX-02.4-04P	PIPE	14	EC-H-50071
EX-02.4-06O	ORIFICE	14	EC-H-50071
EX-02.4-07P	PIPE	14	EC-H-50071
EX-02.4-05T	TEE	14 / 18	EC-H-50071
Transport steam from Preseparator 1B			
EX-02.9--02P	PIPE	10	EC-H-50081
EX-02.9-03E	ELBOW	10	EC-H-50081
EX-02.9-04P	PIPE	10	EC-H-50081
EX-02.9-05E	ELBOW	10	EC-H-50081
EX-02.9-06P	PIPE	10	EC-H-50081
EX-02.9-11O	ORIFICE	10	EC-H-50081
EX-02.9-7P	PIPE	10	EC-H-50081
EX-02.9-07E	ELBOW	10	EC-H-50081
EX-02.9-08P	PIPE	10	EC-H-50081
EX-02.9-09E	ELBOW	10	EC-H-50081
EX-02.9-10P	PIPE	10	EC-H-50081
EX-02.9-10T	TEE	10 / 18	EC-H-50081
Transport steam from Preseparator 2B			
EX-02.8-02E	ELBOW	10	EC-H-50081
EX-02.8-03P	PIPE	10	EC-H-50081
EX-02.8-04E	ELBOW	10	EC-H-50081
EX-02.8-05P	PIPE	10	EC-H-50081

Component	Geometry	Size	Isometric Number
EX-02.8-07O	ORIFICE	10	EC-H-50081
EX-02.8-06E	ELBOW	10	EC-H-50081
EX-02.8-09P	PIPE	10	EC-H-50081
EX-02.8-08T	TEE	10 / 18	EC-H-50081
Transport steam from Preseparator 1B Xunder			
EX-02.11-02P	PIPE	14	EC-H-50081
EX-02.11-03E	ELBOW	14	EC-H-50081
EX-02.11-04P	PIPE	14	EC-H-50081
EX-02.11-06O	ORIFICE	14	EC-H-50081
EX-02.11-07P	PIPE	14	EC-H-50081
EX-02.11-05T	TEE	14 / 18	EC-H-50081
Steam from Preseparator 1B and 2B			
EX-02.12-01P	PIPE	18	EC-H-50082
EX-02.13-01P	PIPE	18	EC-H-50082
EX-02.13-02B	BEND	18	EC-H-50082
EX-02.13-03E	ELBOW	18	EC-H-50082
EX-02.13-03P	ELBOW	18	EC-H-50082
EX-02.13-04E	ELBOW	18	EC-H-50082
EX-02.13-05P	PIPE	18	EC-H-50082
EX-02.13-06R	ELBOW	18	EC-H-50082

Update for 3RO15

The model was updated with all information necessary to run Wear Rate Analysis (WRA) for plant conditions through Refuel Outage 15 (3RO15), such as updates to the plant period table, water chemical treatments, WRA run definitions, replacements, UT inspection data, etc.

Global Data Updates

- Operating Cycle 15 water chemistry was updated to reflect actual measured concentrations. This data appears in Appendix C.

- The plant period table was updated with the actual Operating Cycle 15 start date, end date, and operating hours. Refuel 15 outage actual start and end dates were updated. Operating Cycle 16 was updated with the actual start date, estimated end date, operating hours and water chemistry. This data appears in Appendix C.

- For Cycles 1-6, the Ammonia input was moved from the Complex Chemistry input to the Hydrazine Treatment input as per the CHECWORKS Modeling Guidelines.

UT Data Updates

- UT exams taken during 3RO15 were input to the model. All inputs were documented and appear in Appendix F.

- UT data for the U/S Main of EX-02.14-26P for RO12 and RO15 was removed because it was already in the model as the D/S Extension of EX-02.14-25E.

- UT data from RO8 for the D/S Extension of EX-01.2-10L was moved to the downstream pipe, EX-01.3-01P.

- UT data from RO15 for the D/S Extension of EX-02.16-01R was moved to the downstream pipe, EX-02.16-02P.

- UT data from RO9 and RO10 for the D/S Extension of MSD-01.10B-02E was moved to the downstream pipe, MSD-01.10B-03P.

- UT data from RO8 and RO10 for the D/S Extension of MSD-01.10B-07E was moved to the downstream pipe, MSD-01.10B-08P.

- The analysis method for RHD02.2A-02E for RO14 was changed from Max. Delta to Blanket. The new calculated wear is 0.098.

- The analysis method for RHD01.9B-01R was changed from Max. Delta to Band for both the U/S Main and D/S Main. The new calculated wear is 0.056 inches for the U/S Main

and 0.081 inches for the D/S Main.

- Several components imported measured wear from FAC Manager in 3RO14 were removed from CHECWORKS due to a measured wear that cannot be used in the LCF Calculation. These changes are reflected in the updated Pass 2 Results as well as Appendix F.

- Several changes were made to increase the quality of the Pass 2 Results. These changes are outlined in the table below:

WRA Run	Component	Changes Made	Reason
CD: HDR TO HTR 33	CD-02.8C-02E	Changed analysis method in FACManager from point to point to blanket for U/S Main.	Point to Point method did not show FAC wear. The grid appeared to show pitting.
CD: HDR TO HTR 33	CD-02.8C-02E	Changed analysis method in FACManager from point to point to band for D/S Extension.	Point to Point method did not show FAC wear. The grid appeared to show pitting.
CD: HTR 32 TO 33 HDR	CD-02.4-04E	Removed D/S Main inspection wear from RF08 (0.125").	There is no evidence of an inspection on the main of this component. The note in FACManager states that only extensions have been inspected.
CD: HTR 32 TO 33 HDR	CD-02.5-01P	Removed U/S Main inspection wear from RF08 (0.125").	No grid data exists for latest inspection in FAC Manager, thus wear cannot be verified. Used U/S Ext of elbow (downstream component) to estimate wear. Calculated wear is lower than 0.030 inches and should not be used in LCF.
CD: HTR 32 TO 33 HDR	CD-02.5-02E	Checked "Do Not Use MW" for U/S Extension to exclude from LCF.	Calculated wear was less that 0.030 inches.
CD: HTR 34 TO HTR 35	CD-04.1C-01N	Removed U/S Main inspection wear from RO14 (0.060").	Only one row of UT data. Calculated wear likely due to manufacturing variance.
CD: HTR 35 TO BFT HDR	CD-05.4-02P	Removed U/S Main inspection wear from RF08 (0.089")	No grid data exists for the latest inspection in FACManager, thus wear cannot be verified. Notes in FAC Manager state Tmin value is invalid. Data is not reliable and cannot be confirmed
CD: S/B BLWDN HX OUT	CD-02.11-04P	Changed analysis method of DSE from point to point to band	Point to point method is not reliable. Comparison of grid data showed significant changes in values that are not typical of FAC wear.

WRA Run	Component	Changes Made	Reason
ES: LP TO 32 HEATERS	EX-05.2C-06N	Removed U/S Main inspection wear from RO14 (0.032").	FACManager is unclear as to how wear was calculated. Wear value is unreliable.
ES: LP to 33 HEATERS	EX-04.13-01R	Checked "Do Not Use MW" for U/S and D/S Main to remove inspection wear from LCF calc.	Removed wear from LCF. Point to point showed wear less than 0.030 inches on the U/S Main and unrealistic wear on the D/S Main. The band method cannot be used due to differences in delta readings that are probably caused by manufacturing differences.
ES: PRESEP TO 35 HDR	EX-02.14-20E	Changed D/S Extension to read from RO15 data instead of RO12 data.	Current data is more reliable.
ES: PRESEP TO 35 HDR	EX-02.2-01N	Checked "Do Not Use MW" for D/S Main.	Component is Stainless Steel and should not be used to calibrate a Wear Rate Analysis run.
FW: BFP to 36 HTR	FW-01.1B-03R	Checked "Do Not Use MW" for U/S and D/S Main for RO15.	Only three rows of data exist on elbow. The grid is suspect because there are more grid rows on previous inspections.
FW: BFP to 36 HTR	FW-01.6A-01R	Checked "Do Not Use MW" for U/S Main.	The first two of the three rows are counterbore, leading to an unreliable wear calculation.
FW: SG HEADERS	FW-02.8B-26R	Checked "Do Not Use MW" for U/S Main.	Only two rows of data. Measured wear not indicative of FAC.
HD: HD PMP TO BFP HDR	HD-11.2B-01R	Checked "Do Not Use MW" for U/S Main.	Only two rows of data. Measured wear not indicative of FAC.
HD: HD PMP TO BFP HDR	HD-12.2B-04T	Removed USM and DSM from LCF calculation	Data shows manufacturing variances, not FAC.
HD: HTR 32 TO HTR 31	HD-09.1C-02R	Checked "Do Not Use MW" for U/S and D/S Main.	Only two rows of data. Measured wear not indicative of FAC.
HD: HTR 34 TO HTR 33	HD-05.1B-02R	Checked "Do Not Use MW" for U/S and D/S Main.	Calculated wear is not indicative of FAC due to extensive machining in this component.
MSD: MS 32 TO MSDT	MSD-01.6B-03P	Removed U/S Main inspection wear from RO8 (0.079").	No grid data exists for the latest inspection in FACManager, thus wear cannot be verified. Notes in FAC Manager state Tmin value is invalid. Data is not reliable and cannot be confirmed
MSD: MS 32 TO MSDT	MSD-01.7A-01T	Recalculated wear excluding first row of UT data.	This component is counterbored on the first row giving an unrealistic wear value.
MSD: MSDT 33 TO HDT	MSD-01.15A-01E	Recalculated wear excluding first row of UT data.	This component is counterbored on the first row giving an unrealistic wear value.

WRA Run	Component	Changes Made	Reason
RHD: RH 31 TO HDR	RHD01.1A-04N	Checked "Do Not Use MW" for U/S Main.	Only one row of UT data. Calculated wear likely due to manufacturing variance.
RHD: RH 31 TO HDR	RHD02.1A-02R	Recalculated wear excluding the counterbore for the U/S and D/S Main.	Wear calculations on machined areas yield unrealistic results.
RHD: RH 32A TO HDR	RHD01.3A-03N	Removed inspection wear from RO14 for U/S Main.	Unrealistic wear calculation due to manufacturing variances.
RHD: RH 32A TO HDR	RHD01.5A-01R	Checked "Do Not Use MW" for U/S and D/S Main.	Unrealistic wear calculation due to manufacturing variances.
RHD: RH 32A TO HDR	RHD02.3A-02R	Removed inspection wear from RO14 for U/S and D/S Main.	Unrealistic wear calculation due to manufacturing variances.
RHD: RH 32A TO HDR	RHD02.4A-02E	Checked "Do Not Use MW" for U/S Main.	This component has an incomplete grid that results in an unrealistic wear calculation.
RHD: RH 32B TO HDR	RHD02.3B-02R	Checked "Do Not Use MW" for U/S and D/S Main.	Unrealistic wear calculation due to manufacturing variances.
RHD: RH 32B TO HDR	RHD02.4B-01P	Checked "Do Not Use MW" for U/S Main.	Unreliable wear calculation due to questionable Tnom associated with downstream half of UT Data.
RHD: RH 33 TO HDR	RHD02.5A-02R	Checked "Do Not Use MW" for U/S Main.	Data shows manufacturing variances, not FAC.
RHD: RHD HDR TO HTRS	RHD02.11A-17T	Checked "Do Not Use MW" for Branch.	Only one row of UT data. Calculated wear likely due to manufacturing variance.
RHD: RHD HDR TO HTRS	RHD02.2B-06L	Checked "Do Not Use MW" for D/S Main and Branch.	Unrealistic wear calculation due to manufacturing variances.

Line and Component Data Updates

- The model was updated with the following 3RO15 component replacements. The components were all replaced with like for like components.

System	Component	Geometry	Size
Extraction Steam	EX-02.14-06E	Elbow	28”
Extraction Steam	EX-02.14-08E	Elbow	28”

- In addition, the model was updated with replacements for the following components in order to reflect the weld build-up repairs during 3RO15.

System	Component	Geometry	Size
Feedwater	FW-02.8A-25R	Reducer	18”

Feedwater	FW-02.8B-26R	Reducer	18”
Reheater Drains	RHD02.14B-10T	Tee	6.625”
Reheater Drains	RHD02.1A-02R	Reducer	6.625”

- As per the updated SSE, extraction steam lines to the #34 Feedwater Heaters were removed from the Wear Rate Analysis. These lines are superheated and non-susceptible to FAC [7.30]. The lines and flow segments were renamed with an “x” preceding the old name.
- Modelable lines found in the updated SSE [7.30] that were not previously modeled were placed in the model with temporary components. These lines do not have isometrics and could not be fully modeled. They should be walked down, modeled, and inspected to obtain the information needed to create an accurate prediction with CHECWORKS. The new lines are as follows:

WRA Run Name	Line Name	Comp. Name
HD: HTR 31 TO COND	HD-FWH 31A to Condenser 33	TEMP01
	HD-FWH 31B to Condenser 32	TEMP02
	HD-FWH 31C to Condenser 31	TEMP03
ES: BFPT DRN TO COND	EX-BFPT #31 Drain to Condenser	TEMP04
	EX-BFPT #32 Drain to Condenser	TEMP05
MS: HPTURB TO PRESEPS	MS-HP Turbine to Presep 1A	TEMP06
	MS-HP Turbine to Presep 1B	TEMP07
	MS-HP Turbine to Presep 2A	TEMP08
	MS-HP Turbine to Presep 2B	TEMP09
MS: PRESEPS TO MSR	MS-Presep 1A to "A" MSR Header	TEMP10
	MS-Presep 1B to "B" MSR Header	TEMP11
	MS-Presep 2A to "A" MSR Header	TEMP12
	MS-Presep 2B to "B" MSR Header	TEMP13
	MS-"A" MSR Header	TEMP14
	MS-"B" MSR Header	TEMP15
	MS-"A" Header to MSR 31A & 32A	TEMP16
	MS-"B" Header to MSR 31B & 32B	TEMP17
	MS-"A" Header to MSR 31A	TEMP18
	MS-"A" Header to MSR 32A	TEMP19
	MS-"A" Header to MSR 33A	TEMP20
	MS-"B" Header to MSR 31B	TEMP21
	MS-"B" Header to MSR 32B	TEMP22
	MS-"B" Header to MSR 33B	TEMP23
MSD: MSDT TO DCT	MSD-MS Drain Tank 31A to DCT	TEMP24
	MSD-MS Drain Tank 32A to DCT	TEMP25
	MSD-MS Drain Tank 33A to DCT	TEMP26
	MSD-MS Drain Tank 31B to DCT	TEMP27
	MSD-MS Drain Tank 32B to DCT	TEMP28
	MSD-MS Drain Tank 33B to DCT	TEMP29

Appendix B

Pass 2 Wear Rate Analysis Summary

B.1 Pass 2 Wear Rate Analysis Summary

The Pass 2 Wear Rate Analysis results of each WRA run were reviewed to determine the relationship between measured wear and predicted wear. Based on this relationship, a WRA run was classified as Calibrated or Not Calibrated. For Calibrated WRA runs, the Pass 2 analysis results of predicted wear rate and remaining service life can be used with reasonable confidence. For runs classified as Not Calibrated, Pass 2 Wear Rate Analysis results should not be used. Instead, Pass 1 Wear Rate Analysis results should be used to determine relative rankings only. In particular, remaining service life (Time to Tcrit) should not be used as an estimate of remaining component life.

The criterion used to classify a WRA run as Calibrated or Not Calibrated is discussed Section 6.4 for the report. No single criterion is definitive in classifying a WRA run as either Calibrated or Not Calibrated. Instead, engineering judgment was used to weigh each criterion to determine calibration status.

These results can be found in Table B.1.

Table B.1 Pass 2 Wear Rate Analysis Summary

WRA Run Name & Run Note	Is Run Calibrated?	Inspection Locations	Outliers	Correlation (Scatter)	LCF	Average Current Wear Rate (mils/yr)	Geometry Coverage	Parallel Train Coverage	Insp. D/S of CVs & Orifices
CD: HDR TO BFP	Yes	10	2	Good	1.153	3.26	Moderate	Good	2 of 2
CD: HDR TO HTR 33	Yes	10	4	Moderate	1.260	3.25	Good	Good	N/A
CD: HTR 31 TO HTR 32	No	0	N/A	N/A	N/A	1.92	N/A	N/A	N/A
CD: HTR 32 TO 33 HDR	No	8	9	Poor	1.043	2.787	Poor	Good	N/A
CD: HTR 32 TO HDR	No	3	0	Good	0.990	2.64	Poor	Good	N/A
CD: HTR 33 TO HTR 34	Yes	9	0	Good	0.601	2.35	Poor	Good	N/A
CD: HTR 34 TO HTR 35	Yes	9	0	Moderate	0.508	2.35	Moderate	Good	N/A
CD: HTR 35 TO BFP HDR	No	4	5	Poor	0.422	1.47	Good	Good	N/A
CD: HTR 35 TO HDR	Yes	7	1	Good	0.620	2.43	Moderate	Good	N/A
CD: S/G BLWDN HX IN	No	3	0	Moderate	1.754	1.20	Poor	Good	N/A
CD: S/G BLWDN HX OUT	No	7	5	Poor	3.247	2.69	Good	Good	N/A

WRA Run Name & Run Note	Is Run Calibrated?	Inspection Locations	Outliers	Correlation (Scatter)	LCF	Average Current Wear Rate (mils/yr)	Geometry Coverage	Parallel Train Coverage	Insp. D/S of CVs & Orifices
ES: BFPT DRN TO COND	No	0	N/A	N/A	N/A	0.30	N/A	N/A	N/A
ES: HDR TO 35 HTRS	No	10	5	Poor	0.948	5.51	Good	Good	N/A
ES: HDR TO 36 HTRS	Yes	17	7	Moderate	0.686	0.11	Good	Good	N/A
ES: HTR 36 HEADER	Yes	11	4	Good	0.751	0.33	Moderate	Good	N/A
ES: LP TO 31 HEATERS	No	0	N/A	N/A	N/A	4.65	N/A	N/A	N/A
ES: LP TO 32 HEATERS	No	10	4	Poor	0.332	2.73	Good	Poor	N/A
ES: LP TO 33 HEATERS	No	19	6	Good	1.807	7.05	Moderate	Poor	0 of 6
ES: PRESEP TO 35 HDR	No	23	11	Moderate	2.126	1.74	Moderate	Poor	1 of 6
FW: 36 HTR TO SG HDR	Yes	11	7	Moderate	3.590	5.12	Good	Good	N/A
FW: BFP TO 36 HTR	No	30	17	Poor	0.893	3.26	Moderate	Good	N/A
FW: FW RECIRC	No	0	N/A	N/A	N/A	0.13	N/A	N/A	N/A
FW: SG HEADERS	No	40	24	Moderate	3.423	4.30	Good	Good	7 of 8
HD: HD PMP TO BFP HDR	Yes	12	2	Good	0.976	3.59	Moderate	Good	4 of 4
HD: HTR 31 TO COND	No	0	N/A	N/A	N/A	0.85	N/A	N/A	N/A
HD: HTR 32 TO HTR 31	No	2	0	Good	1.863	0.77	Poor	Poor	3 of 3
HD: HTR 33 TO HTR 32	Yes	11	2	Moderate	1.045	1.21	Moderate	Good	3 of 3
HD: HTR 34 TO HTR 33	Yes	8	2	Good	0.911	2.12	Poor	Good	3 of 3
HD: HTR 35 TO HDT	Yes	7	1	Good	1.487	2.60	Moderate	Good	N/A
HD: HTR 36 TO HDT	No	11	3	Poor	1.405	3.42	Poor	Good	3 of 3
HD: HTR DN TO PUMPS	No	2	0	Moderate	0.597	3.02	Poor	Poor	0 of 2
MS: HPTURB TO PRESEPS	No	0	N/A	N/A	N/A	9.51	N/A	N/A	N/A
MS: PRESEPS TO MSR	No	0	N/A	N/A	N/A	9.47	N/A	N/A	N/A
MSD: MS 31 TO HDT	No	15	7	Poor	2.791	0.40	Poor	Poor	N/A
MSD: MS 32 TO MSDT	No	11	2	Good	12.801	3.68	Good	Poor	N/A
MSD: MS 33 TO MSDT	No	7	1	Good	8.247	2.40	Moderate	Poor	N/A
MSD: MSDT 32 TO HDT	Yes	13	1	Moderate	4.355	0.42	Poor	Good	N/A
MSD: MSDT 33 TO HDT	No	18	6	Poor	3.770	0.40	Poor	Good	N/A

WRA Run Name & Run Note	Is Run Calibrated?	Inspection Locations	Outliers	Correlation (Scatter)	LCF	Average Current Wear Rate (mils/yr)	Geometry Coverage	Parallel Train Coverage	Insp. D/S of CVs & Orifices
MSD: MSDT TO DCT	**No**	0	N/A	N/A	N/A	1.96	N/A	N/A	N/A
PD: PRESEPRTR DRAINS	**No**	6	1	Good	3.643	4.36	Poor	Poor	4 of 5
RHD: RH 31 TO HDR	**No**	16	7	Poor	2.231	3.12	Good	Moderate	4 of 4
RHD: RH 32A TO HDR	**No**	9	5	Poor	3.281	4.27	Moderate	Good	2 of 2
RHD: RH 32B TO HDR	**No**	24	19	Poor	2.932	2.68	Moderate	Good	2 of 2
RHD: RH 33 TO HDR	**Yes**	15	5	Moderate	3.306	5.05	Good	Good	4 of 4
RHD: RHD HDR TO HTRS	**No**	28	10	Moderate	3.180	5.42	Moderate	Poor	N/A

B.2 Pass 2 Wear Rate Analysis Results

As each of the WRA Runs was analyzed, the results were reviewed and the conclusions for each run, as well as any pertinent information, are listed below.

B 2.01 CD: HDR TO BFP

The condensate header to the Boiler Feedwater Pump consists of 3 lines; all of which contain inspections. Inspections have been done downstream of both orifices in this run. It is suggested that an inspection be done on at least one of the two 45 degree elbows. Despite this, the geometry coverage in this run is distributed well. CD-06.2A-07V has a negative time to Tcrit. An inspection down stream of the valve is recommended. With an LCF of 1.153 and good correlation, this run is considered to be calibrated.

B 2.02 CD: HDR TO HTR 33

Three components in this run have a negative time to Tcrit. Inspections on nozzles CD-02.8A-08N and CD-02.8B-08N may improve their time to Tcrit as seen with inspected component CD-02.8C-08N on a parallel run, which has a Time to Tcrit of 296,773 hours. CD-02.8B-04V has a negative time to Tcrit. An inspection down stream of the valve is recommended. With an LCF of 1.260 and 10 inspection locations, covering 15 of the 26 components, this run may be considered calibrated.

B 2.03 CD: HTR 31 TO HTR 32

This run contains no inspection and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.04 CD: HTR 32 TO 33 HDR

The tees generally are to the “left” of the 45° line while the pipes and elbows tend to be to the “right” of the 45° line. All 5 lines in this run have had inspections. CD-02.4-02V has a negative time to Tcrit. An inspection down stream of the valve is recommended. CD-02.3-15T should be considered for inspection because of the low time to Tcrit and relatively high wear rate. To increase geometry coverage 90 degree elbows, 45 degree elbows, and the reducer should be inspected. This run has a high number of outliers to inspection location ratio (9:8) and an LCF of 1.043. The scatter pattern shows poor correlation. Due to the poor correlation and high outlier count, this run cannot be considered calibrated.

B 2.05 CD: HTR 32 TO HDR

The run, which consists of condensate lines from Feedwater Heater 32 to the header, requires more inspection locations. It is recommended to inspect more geometry types to improve the geometry coverage of the run. The nozzles in this run, CD-02.1A-01N, CD-02.1B-01N, and CD-02.1C-

01N, have negative times to Tcrit. Inspections on nozzles in other runs have been demonstrated to greatly increase the predicted time to Tcrit. This may be true in this case as well; however, at least one nozzle should be inspected to confirm that this is the case for this run. CD-02.1A-05V, CD-02.1B-07V and CD-02.1C-08V have negative times to Tcrit. An inspection down stream of the valves is recommended. This run cannot be considered calibrated.

B 2.06 CD: HTR 33 TO HTR 34

This run has three condensate lines from Feedwater Heater 33 to Feedwater Heater 34. Inlet nozzles and 45 degree elbow should be inspected for better geometry coverage. This run has good correlation between predicted and measured wear. Of the 39 components in this run, 9 inspection sites include 12 components. With an LCF of 0.601, this run can be considered calibrated.

B 2.07 CD: HTR 34 TO HTR 35

All three lines from Feedwater Heater 34 to Feedwater Heater 35 have had inspections. Of the 46 components, 12 components have been inspected over 9 inspection locations. Inspections are recommended on 45-elbows and inlet nozzles for this run. Despite the lack of coverage on these geometry types the run has an LCF of 0.508 and can be considered calibrated.

B 2.08 CD: HTR 35 TO BFP HDR

This run consists of lines from FWT 35 to the Boiler Feed Pump Header. All geometries types have been inspected. Tees are generally grouped to the “left” of the 45° line while the straight pipes and elbow fall to the “right.” There are five outliers and only four inspection locations. Because of the high number of outliers and poor correlation, this run cannot be considered calibrated. However, due to high number of inspections covered to low number of components, this line can be governed by re-inspections intervals rather than CHECWORKS predicted wear rates.

B 2.09 CD: HTR 35 TO HDR

Inspection of nozzles on any of the three lines in this run is recommended. Two nozzles, CD-05.1A-01N and CD-05.1B-01N, will reach zero time to Tcrit during Cycle 16 while three valves are at negative time to Tcrit around a value of -39,423 hours. Inspections on nozzles in other runs have been demonstrated to greatly increase the predicted time to Tcrit. This may be true in this case as well; however, at least one of these nozzles should be inspected to confirm that this is the case for this run. This run has an LCF of 0.620, good geometry coverage, and good correlation. This line can be considered calibrated.

B 2.10 CD: S/G BLWDN HX IN

The inlet piping to the Steam Generator Blowdown Heat Exchanger consists of one line with 27 components. Only four components, over three locations, have been inspected. Inspections on the tee or nozzle would help to obtain adequate geometry coverage for this run. More inspections are required to allow this run to be calibrated.

B 2.11 CD: S/G BLWDN HX OUT

The outlet piping from the Steam Generator Heat Exchanger consists of one line with 23 components. All geometry types have been inspected with the exception of an exit nozzle. All inspected elbows lay outside of the ±50% wear boundaries. Reinspecting these elbows could improve the correlation. With five outliers and only seven inspection locations, there are too many outliers to consider this run calibrated.

B 2.12 ES: BFPT DRN TO COND

This run contains lines that need to be modeled. There are no inspections and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.13 ES: HDR TO 35 HTRS

This extraction steam run contains 3 lines and 22 components. There are 10 inspection locations and 5 outliers. Several valves and a nozzle have a negative time to Tcrit. For example, Nozzle EX-02.16-09N has a negative time to Tcrit of -131,798 hours. However, inspecting this nozzle may improve its time to Tcrit as seen with inspected component EX-03.17-06N on a parallel run, which has a Time to Tcrit of 129,225 hours. All three valves have elbows downstream composed of CrMo. Inspections on these valves should be handled per plant procedure. It is important to note that current wear rates are greater than the average wear rates over the life of the plant, meaning the carbon steel components are wearing faster than would have been indicated by inspections that occurred before changing to the current power level.

B 2.14 ES: HDR TO 36 HTRS

This run contains lines from the Extraction Steam header to Feedwater heaters 36. Of the 48 components in this run, 45 components have been replaced with A-213 TP304L TP3, a non-susceptible material. The 3 remaining components, gate valves EX-01.5A-11V, EX-01.5B-09V, and EX-01.5C-09V, have not been replaced and have not been inspected. Inspections on these valves should be handled per plant procedure. Future inspections on the non-susceptible materials should also be governed by plant procedure for non-susceptible materials. This run can be considered calibrated.

B 2.15 ES: HTR 36 HEADER

All components, except for check valves, gate valves, and nozzles, have been replaced with stainless steel. Future inspections on the carbon steel components should be governed by plant procedure for non-susceptible materials. Inspection on nozzle EX-01.2-01N may improve its time to Tcrit as seen in other runs. This run has good correlation between measured and predicted wear, as well as good parallel train coverage. This run can be considered calibrated.

B 2.16 ES: LP TO 31 HEATERS

This run contains no inspection; therefore, this run should be considered Pass 1. Because this run shows moderate wear of 4.7 mils per year, inspections are highly recommended on any of the 12 lines and 54 components in this run. This run cannot be considered calibrated.

B 2.17 ES: LP TO 32 HEATERS

The 6 lines in this run are from the Low Pressure Turbine to Feedwater Heaters 32. Only 3 of the lines contain inspections used in the LCF calculation. Components in the other three lines should be inspected for adequate parallel train coverage. With a low LCF of 0.332 and a poor correlation this run cannot be considered calibrated.

B 2.18 ES: LP TO 33 HEATERS

The 15 lines in this run are from the Low Pressure Turbine to Feedwater Heaters 33. Only 8 of the lines have had inspections. It is recommended to conduct inspections the remaining uninspected lines. It is also recommended to conduct inspections on 45-degree elbows, the concentric expander, and exit nozzles. This run has an LCF of 1.807 and good correlation between predicted and measured wear. However, of the six orifices in this run, none have had inspections components directly downstream. EX-04.9-09T, EX-04.16-09T, and EX-04.2-09T have negative times to Tcrit. Inspections down stream of these tees are recommended. For this reason, along with poor parallel train coverage, this run cannot be considered calibrated. It is important to note that current wear rates are greater than the average wear rates over the life of the plant, meaning the carbon steel components are wearing faster than would have been indicated by inspections that occurred before changing to the current power level.

B 2.19 ES: PRESEP TO 35 HDR

Five of the twelve lines contain no inspections. All lines except the header are made of stainless steel and are not included in the LCF calculation and therefore the five lines do not need any inspections. A significant number of components on line EX-02.14 FWH 35 Header, have a negative time to Tcrit now or will have a negative time at the end of Cycle 16. Inspections on these specific components are recommended to accurately predicted

time to Tcrit. Valve EX-02.14-10V is directly upstream of another valve. Inspections on this valve should be handled per plant procedure. Only one orifice was inspected, however all orifices are made of stainless steel and are non-susceptible to FAC. This line is not calibrated; however, it is difficult to calibrate a mostly non-susceptible line due to low predicted wear rates. Inspections should be used to determine wear rate on the remaining carbon steel components.

B 2.20 FW: 36 HTR TO SG HDR

This run has a high ratio of outliers to inspection locations (7:11). All geometry types in the run have been inspected. At 3.590, the LCF is slightly higher than the EPRI's recommended range. This run has moderate correlation between predicted and measured wear. Three valves have negative times to Tcrit, but one has a downstream inspection. The downstream extension of the other two valves, FW-02.1A-05V and FW-02.1C-05V, should be inspected. Nozzle FW-02.1A-01N also has a negative time to Tcrit and should be inspected. Run can be considered calibrated based on fulfillment of criteria.

B 2.21 FW: BFP TO 36 HTR

There are 9 lines and 105 components in this run. This run has good geometry coverage. The only types of geometry that have not had an inspection are exit nozzles and the reducer. All nozzles have been replaced with non-susceptible material. Seven valves have a negative time to Tcrit. Only one has been inspected downstream of the valve. Four valves should have the downstream inspected. The remaining two valves FW-01.2A-05V and FW-01.2B-07V are directly upstream of other valves. These should be inspected according to plant procedure. This run has a good LCF of 0.893; however, with poor correlation and a high ratio of outliers to inspection locations (17:30), this run cannot be considered calibrated.

B 2.22 FW: FW RECIRC

This run consists of 2 feedwater lines with a total of 85 components. These components have a low average current Pass 1 wear rate of 0.134 inches per year. This low wear rate is due to the non-susceptible materials used for all components in this run. This run contains no inspection and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.23 FW: SG Headers

This run consists of the Steam Generator Inlet Headers as well as the Steam Generator Inlet piping. This run has 40 inspection locations, which is a high number of inspection locations compared to the 190 components in this run. Although there are a high number of outliers, correlation between lines in this run is good. However, the LCF is slightly out of range at 3.423. This may be partially due to the nearly "horizontal" distribution of the elbow inspections on the wear plot generally to the

"right" of the 45° line. The tees are generally grouped to the "left" of the 45° line. The inspections for this run cover the included most geometry types, with the exception of only expanders and valves. One of the four control valves, FW-02.8B-06V has not been inspected. Due to industry experience, the downstream of this valve should be inspected.

A significant number of components in this run have a negative time to Tcrit while several others have a time to Tcrit less than the estimated operating hours until next refueling outage 16. The high LCF means that CHECWORKS was under predicting FAC wear rates. CHECWORKS originally predicted moderately low wear rates. Because of this, any measured wear used in the LCF calculation would tend to demonstrate a wear rate larger than the predicted. A low predicted wear rate will cause the LCF ratio to be fairly high, even if the absolute difference between predicted and measured is not that large. Because of the high LCF and uninspected control valve this run is not calibrated.

B 2.24 HD: HD PMP TO BFP HDR

These three lines run from the Heater Drain Pump to the Boiler Feedwater pump Header. There are 45 components and 12 inspection locations. This run has good correlation between predicted and measured wear. Geometry coverage could be improved by inspecting more nozzles and 45 degree elbows. With an LCF of 1.037, this run can be considered well calibrated.

B 2.25 HD: HTR 32 TO COND

This run contains lines that need to be modeled. There are no inspections and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.26 HD: HTR 32 to HTR 31

This run consists of 9 lines from Feedwater Heater 32 to Feedwater Heater 31. There are only 2 inspection locations out of 66 components total for this run. In order to be calibrated, it is recommended that this run have at least 5 inspection locations. Inspections on more lines and different geometry types, such as pipes, elbows, and tees are suggested. These inspections are particularly important downstream of the control valves in the Heater Drain System. This run can not be considered calibrated.

B 2.27 HD: HTR 33 TO HTR 32

This run consists of three lines from Feedwater Heater 33 to Feedwater Heater 32. There are 11 inspection locations over 148 components in the run. There is good correlation between predicted and measured wear and only 2 outliers. Inspections are recommended on any of the seven 45-degree elbows and any of the six nozzles. All 3 lines in this run have inspections. This run can be considered calibrated.

B 2.28 HD: HTR 34 TO HTR 33

This heater drain run contains 3 lines and 91 components. There are 8 inspection locations and 2 outliers; both of which fall only slightly above or below the ±50% error lines. Inspections of 45-degree elbows, inlet nozzles, and exit nozzles are recommended to improve calibration. The downstream extensions of the 3 control valves in this run have been inspected. HD-4.2A-02V, HD-4.2B-02V and HD-4.2C-02V have negative times to Tcrit. However, the downstream component has been inspected in all cases. With good correlation and an LCF of 0.911, this run can be considered calibrated.

B 2.29 HD: HTR 35 TO HDT

This run includes lines from Feedwater Heater 35 to the Heater Drain Tank. This run consists of 3 lines with a total of 48 components. There are 7 inspections locations and 1 outlier which falls slightly above the ±50% error lines. More inspections are suggested on the "B" train to improve the diversity of the inspections on this line. With good correlation and an LCF of 1.487, this run can be considered calibrated.

B 2.30 HD: HTR 36 TO HDT

This run consists of 3 heater drain lines with a total of 43 components. There are 11 inspection locations and 3 outliers which are over predicted and therefore "left" of the 45° line. Inspections on any of the 3 exit nozzles and 13 pipes are recommended to improve calibration. These inspections are particularly important downstream of the control valves in the Heater Drain System. All downstream extensions of the 3 control valves in this run have been inspected. This run has poor correlation between predicted and measured wear and cannot be considered calibrated.

B 2.31 HD: HTR DN TO PUMPS

This run from the Heater Drains to the pumps contains only 2 inspection locations. Inspections should be performed on line HD-10.1B HD TK to HD PMP 32. A variety of component types should be inspected to improve geometry coverage. The nozzles of downstream of the orifices are of specific concern due to industry experience downstream of orifices. This run cannot be considered calibrated.

B 2.32 MS: HPTURB TO PRESEPS

This run contains lines that need to be modeled. There are no inspections and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.33 MS: PRESEPS TO MSR

This run contains lines that need to be modeled. There are no inspections and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.34 MSD: MS 31 TO HDT

This line from the Moisture Separator 31 to the Heater Drain Tank contains 107 components and 15 inspection locations. Of these components, 65 have been replaced. Inspections are recommended on exit nozzles and 45-degree elbows. Inspections are also recommended on lines which have not yet had inspections. The slightly high LCF of 2.791 may be due to the low average current wear rate of 0.399 inches per year. This low wear rate is due to the low flow rate in these 12 lines which allows for a long time to Tcrit. The high LCF may also be partially due to the nearly "horizontal" distribution of the elbow inspections on the wear plot. This indicates a consistent predicted wear but a wide range of measured wear for elbows. Overall, this wear plot has poor correlation between predicted and measured wear. This run cannot be considered calibrated.

B 2.35 MSD: MS 32 TO MSDT

Eleven sites have been inspected from the 32 components is this run from the Moisture Separator 32 to the Moisture Separator Drain Tank. The geometry is well covered with the exception of exit nozzles. These geometries are moderately correlated and are distributed adequately over the 45° line. Four valves had a negative time to Tcrit, MSD-01.8A-04V, MSD-01.8A-06V, MSD-01.8B-04V, MSD-01.8B-06V. Of these, two have not been inspected, MSD-01.8A-06V and MSD-01.8B-04V. Because one of each type of valve is inspected, it is understood that wear is comparable in the two locations. However, it is still recommended to inspect downstream of the two remaining valves to obtain a full understanding of the negative times to Tcrit.

The high LCF of 12.801 is due to the low average Pass 1 current wear rate of 0.287 inches per year. This low wear rate is due to the low flow rate in these ten lines. Until inspections are completed on components in uninspected trains this run cannot be considered calibrated.

B 2.36 MSD: MS 33 TO MSDT

This run includes 10 lines from Moisture Separator 33 to the Moisture Separator Drain Tank. There are a total of 36 components and 7 inspection locations. Of these components, geometries are well covered with the exception of nozzles. Pipes tend to lay to the "left" of the 45° line while 90-degree elbows fall to the "right." These "groupings" of geometries shows that similar geometries are predicting and measuring similar wear.

The high LCF of 8.247 is due to the low flow rate in these components from all lines. Low flow causes a low wear rate which allows for a significant time to Tcrit in all components. Only 2 of the 10 lines in this run have had inspections. Although the remaining 8 lines do not have many components, ranging from 2-4 per line, inspections are recommended on these lines. This run cannot be considered calibrated.

B 2.37 MSD: MSDT 32 TO HDT

This run consists of 2 lines and 68 components. Of the 68 components, all but 11 components have been replaced and only 3 of these 11 which have been inspected. These replacements have been done with primarily non-susceptible materials. The slightly high LCF of 4.355 may be due to the low average Pass 1 current wear rate of 0.097 inches per year. The low wear rate, along with replacements of components with non-susceptible material, accounts for the great amount of time before Tcrit. There are 13 inspection locations and only 1 outlier which is slightly "above" the ±50% error line. These lines contain components which creates moderate correlation between predicted and measured wear, showing a slightly horizontal distribution of components. There have been no inspections on tees or 90-degree reducing elbows; however, all of these types of components have been replaced and have a long time to Tcrit. Although inspections are recommended on the exit nozzles which have not been replaced or inspected, this run can be considered calibrated.

B 2.38 MSD: MSDT 33 TO HDT

This run from the Moisture Separator Drain Tank 33 to the Heater Drain Tank consists of two lines and 64 components. Of the 64 components, all but 11 components have been replaced. Of these 11 components, six have been inspected. The slightly high LCF of 3.770 may be due to the low average current Pass 1 wear rate of 0.107 inches per year. The low wear rate, along with the replacement of components with non-susceptible materials, accounts for the great amount of time before Tcrit. There are 18 inspection locations and 6 outliers in this run. There are no inspections on 45-degree elbows, tees, or exit nozzles in this run. However, since all of the tees and 45-degree elbows have been replaced, it is suggested to inspect the exit nozzles. The correlation between the predicted and measured wear creates a poor scatter on the wear plot, as it tends to move horizontally rather than along the 45° line. This run cannot be considered calibrated.

B 2.39 MSD: MSDT TO DCT

This run contains lines that need to be modeled. There are no inspections and is not considered calibrated; therefore, this run should be considered Pass 1.

B 2.40 PD: PRESEPRTR DRAINS

The Preseparator Drain Lines consist of 87 components, with 6 inspection locations. These inspections were done on only 3 of the 7 lines in this run. Inspections are recommended on the uninspected lines. It is recommended to conduct inspections on concentric expanders, exit nozzles, or tees. Although this run has poor geometry and parallel train coverage, the correlation between predicted and measure creates a good plot along the 45° line with only one outlier. However, with an orifice, PD-01.2-10O, with no inspection downstream and a high LCF of 3.643, this run cannot be considered calibrated.

B 2.41 RHD: RH 31 TO HDR

These lines from Reheater 31 to the header consist of 128 components with 15 inspection locations. Of the four lines that make up this run, 3 have had inspections; however, line "RHD-01.1B_1 RH 31B to TK 31," with no inspections, has only 3 components total. Although inspections are not required on this line for calibration, they are recommended.

The distribution of components on the LCF plot seems to be geometry based. Geometries are grouped together in "horizontal" bands, showing similar predicted wear but a great change in measured wear. Pipes are generally predicted at 60 mils but have a measured wear from 33-134 mils. Elbows are predicted about 80 mils; however, are measuring wear from 50-162 mils. Inspections of tees are recommended to improve calibration of this run.

This run has a LCF of 2.231 which is within EPRI's recommended range. However, with the poor correlation, this run cannot be considered calibrated.

B 2.42 RHD: RH 32A TO HDR

This run from Reheater 32A to the Header consists of 54 components which make up two lines. There have been 9 inspection locations and 5 outliers. The downstream extensions of RHD01.5A-03F and RHD02.3A-01V have been inspected.

Inspections are highly recommended on nozzles RHD01.3A-01N and RHD01.3A-04N, as they have never been inspected and have a negative time to Tcrit at -14,552 hours. Inspections on nozzles in other runs have been demonstrated to greatly increase the predicted time to Tcrit. This may be true in this case as well; however, at least one nozzle should be inspected to confirm that this is the case for this run. It is recommended to inspect more 90-degree elbows as the only inspection on a 90-degree elbow lies outside of the ±50% error lines.

This run has an LCF of 3.281. Although this run has good geometry coverage and good parallel train coverage, with poor correlation of predicted to measured wear and a slightly high LCF according to EPRI's recommended range, this run cannot be considered calibrated.

B 2.43 RHD: RH 32B TO HDR

The run consists of 2 lines from the reheater 32B to the Header. The run has 73 components, 24 inspection locations, and 19 outliers. However, inspections are heavily grouped by geometry type on the wear plot. The 90-degree elbows create a "horizontal" pattern across the 45° line. Concentric expanders fall to the "right" of the 45° line. This is creating a "shotgun blast" pattern on the wear plot. With this sort of pattern, inspections are not following along or close to the 45° line, which creates poor correlation. Additional reinspections could improve this problem. Also, to improve geometry coverage, tees and 45-degree elbows should be inspected. Every component in the "RHD-01.3B_1 RH 32B to TK 32B" line has been inspected. Reinspections on this line should be based on the results of the previous inspections.

With poor correlation and a high ration of outliers to inspection locations (19:24), this run cannot be considered calibrated.

B 2.44 RHD: RH 33 TO HDR

This run from reheater 33 to the heater has 4 lines and 120 components. There are 15 inspection locations with 5 outliers. Concentric expanders and 90-degree elbows are typically falling to the "right" of the 45° line, which may be one of the reasons for the LCF to be slightly high at 3.306.

Inspections are recommended on Line RHD-01.10A_1, specifically on nozzle RHD01.10A-01N, as it has a negative time to Tcrit. Inspections on nozzles in other runs have been demonstrated to greatly increase the predicted time to Tcrit. This may be true in this case as well; however, more nozzles should be inspected to confirm that this is the case for this run.

Despite the moderate correlation, good parallel train and geometry coverage allows this run to be calibrated.

B 2.45 RHD: RHD HDR to HTRS

This run from the Reheater Drain Header to the Heaters contains 28 inspection locations over 148 components total. The variances between measured wear of the elbows creates an unwanted pattern on the plots, driving the LCF in the wrong direction. Inspection of more components, specifically 45-degree elbows and concentric reducers, would help this run to be calibrated. This run cannot be considered calibrated.

Appendix C

CHECWORKS Global Data

Table C.1 Original Power Level Input Data

CHECWORKS Field	Power Level 100.0%	Reference
Steam Rate (Mlb/hr)	13.024152	7.18.1
Pressure (psia)	779.0	7.18.1
Temp (F)	515.2	7.18.1
Blowdown Rate (Mlb/hr)	0.100000	7.18.1
Carryover (%)	0.01	7.18.1
Feedwater Vent Rate (%)	x	CW User Guide
Reheater Vent Rate(%)	x	CW User Guide
Moisture Separator Carryunder (%)	x	CW User Guide
Notes: Original Power Level 3045.3 MWt		

x - Field should be left blank for a PWR.

Table C.2 Appendix K Power Level Input Data

CHECWORKS Field	Power Level 101 .1 2%	Reference
Steam Rate (Mlb/hr)	13.186870	7.18.2
Pressure (psia)	774.4	7.18.2
Temp (F)	514.5	7.18.2
Blowdown Rate (Mlb/hr)	0.057785	7.18.2
Carryover (%)	0.08	7.18.2
Feedwater Vent Rate (%)	x	CW User Guide
Reheater Vent Rate(%)	x	CW User Guide
Moisture Separator Carryunder (%)	x	CW User Guide
Notes: Appendix K Uprate. 3079.4 MWt		

x - Field should be left blank for a PWR.

Table C.3 SPU Power Level Input Data

CHECWORKS Field	Power Level 104.95%	Reference
Steam Rate (Mlb/hr)	13.783800	7.18.3
Pressure (psia)	760.4	7.18.3
Temp (F)	512.4	7.18.3
Blowdown Rate (Mlb/hr)	0.057785	7.18.3
Carryover (%)	0.08	7.18.3
Feedwater Vent Rate (%)	x	CW User Guide
Reheater Vent Rate(%)	x	CW User Guide
Moisture Separator Carryunder (%)	x	CW User Guide
Notes: Stretch Power Uprate. 3196.0 MWt		

x - Field should be left blank for a PWR.

Table C.4 Original Power Level Steam Cycle Input Data

HBD Item[1]	Location	Flow Rate (Mlb/hr)	Enthalpy (Btu/lbm)	Pressure (psia)	Temp (F)	Reference
FWHTR 1	Tube side outlet	x	x	x	423.2	7.18.1
FWHTR 2	Tube side outlet	x	x	x	371.6	7.18.1
FWHTR 3	Tube side outlet	x	x	x	293.6	7.18.1
FWHTR 4	Tube side outlet	x	x	x	243.8	7.18.1
FWHTR 5	Tube side outlet	x	x	x	191.8	7.18.1
FWHTR 6	Tube side outlet	x	x	x	155.7	7.18.1
SPUMP 1	Driven steam and drain enthalpy and pressure	0.116701	974.8	1.0	x	7.18.1
MSEP 1	Moist Sep & Moist PreSep Drains[2]	0.942923	364.8	221.9	x	7.18.1
TANK 1	Heater Drain Tank exiting steam	0	x	185.6	x	Note 4
TANK 2	Blowdown tank exiting steam	0	506.1	779.0	x	Note 4
RHTR 1	Reheater Drain	0.795863	495.3	644.7	x	7.18.1
HPEXTLINE 1	Conditions in line (Presep Outlet to FWH 5)[3]	0.929080	1136.9	185.6	x	7.18.1
HPEXTLINE 2	Conditions in line to FWH 6	0.706255	1136.9	340.4	x	7.18.1
LPEXTLINE 1	Conditions in line to FWH 4	0.502856	1177.4	64.98	x	7.18.1
LPEXTLINE 2	Conditions in line to FWH 3	0.475653	1120.6	27.85	x	Note 5
LPEXTLINE 3	Conditions in line to FWH 2	0.408297	815.4	10.72	x	Note 5
LPEXTLINE 4	Conditions in line to FWH 1	0.667055	858.0	5.04	x	Note 5

x = No value entered (not required by CHECWORKS).

(1) The HBD Item name is automatically generated by CHECWORKS. Feedwater heaters are numbered sequentially in reverse flow order. Feedwater Heater 1 is the feedwater heater closest to the steam generator (equivalent to heater 36 at Indian Point 3). Extraction lines are numbered sequentially in order of decreasing pressure.

(2) MSEP 1 represents the conditions in both the moisture separator and moisture pre-separator drain lines as recommended by EPRI Guidelines [7.3].

(3) HPEXTLINE 1 is a fictitious high-pressure extraction line representing the steam lines between the pre-separator and main separator as recommended by EPRI Guidelines [7.3].

(4) Flow rate is for exiting steam flow was entered as zero as recommended by EPRI Guidelines [7.3]. Pressure and enthalpy were obtained from the HBD "F" [7.18.1].

(5) Enthalpy calculated as the weighted average of the steam and liquid phases. Steam phase enthalpy was obtained directly from the PEPSE diagram as the enthalpy after moisture removal in the LP Turbine. Liquid phase enthalpy was calculated as the enthalpy of saturated liquid at the pressure given on the PEPSE diagram. [7. 18.1]

Table C.5 Appendix K Steam Cycle Input Data

HBD Item[1]	Location	Flow Rate (Mlb/hr)	Enthalpy (Btu/lbm)	Pressure (psia)	Temp (F)	Reference
FWHTR 1	Tube side outlet	x	x	x	425.0	7.18.2
FWHTR 2	Tube side outlet	x	x	x	374.7	7.18.2
FWHTR 3	Tube side outlet	x	x	x	296.6	7.18.2
FWHTR 4	Tube side outlet	x	x	x	243.0	7.18.2
FWHTR 5	Tube side outlet	x	x	x	196.4	7.18.2
FWHTR 6	Tube side outlet	x	x	x	155.3	7.18.2
SPUMP 1	Driven steam and drain enthalpy and pressure	0.147147	976.3	1.0	x	7.18.2
MSEP 1	Moist Sep & Moist PreSep Drains[2]	0.922509	355.9	199.8	x	7.18.2
TANK 1	Heater Drain Tank exiting steam	0	338.7	197.7	x	Note 4
TANK 2	Blowdown tank exiting steam	0	502.9	761.2	x	Note 4
RHTR 1	Reheater Drain	0.954357	506.5	623.3	x	7.18.2
HPEXTLINE 1	Conditions in line (Presep Outlet to FWH 5)[3]	0.935949	1148.2	200.9	x	7.18.2
HPEXTLINE 2	Conditions in line to FWH 6	0.751563	1138.6	361.4	x	7.18.2
LPEXTLINE 1	Conditions in line to FWH 4	0.531280	1197.4	74.54	x	7.18.2
LPEXTLINE 2	Conditions in line to FWH 3	0.447417	1075.7	31.29	x	Note 5
LPEXTLINE 3	Conditions in line to FWH 2	0.458881	906.1	12.80	x	Note 5
LPEXTLINE 4	Conditions in line to FWH 1	0.771656	907.0	5.55	x	Note 5

x = No value entered (not required by CHECWORKS).

(1) The HBD Item name is automatically generated by CHECWORKS. Feedwater heaters are numbered sequentially in reverse flow order. Feedwater Heater 1 is the feedwater heater closest to the steam generator (equivalent to heater 36 at Indian Point 3). Extraction lines are numbered sequentially in order of decreasing pressure.

(2) MSEP 1 represents the conditions in both the moisture separator and moisture pre-separator drain lines as recommended by EPRI Guidelines [7.3].

(3) HPEXTLINE 1 is a fictitious high-pressure extraction line representing the steam lines between the pre-separator and main separator as recommended by EPRI Guidelines [7.3].

(4) Flow rate is for exiting steam flow and was entered as zero as recommended by EPRI Guidelines [7.3]. Pressure and enthalpy were obtained from the Appendix K PEPSE model [7.18.2].

(5) Enthalpy was calculated as the weighted average of the steam and liquid phases. Steam phase enthalpy was obtained directly from the PEPSE diagram as the enthalpy after moisture removal in the LP Turbine. Liquid phase enthalpy was calculated as the enthalpy of saturated liquid at the pressure given on the PEPSE diagram [7.18.2].

Table C.6 SPU Steam Cycle Input Data

HBD Item[1]	Location	Flow Rate (Mlb/hr)	Enthalpy (Btu/lbm)	Pressure (psia)	Temp (F)	Reference
FWHTR 1	Tube side outlet	x	x	x	430.4	7.18.3
FWHTR 2	Tube side outlet	x	x	x	377.3	7.18.3
FWHTR 3	Tube side outlet	x	x	x	298.3	7.18.3
FWHTR 4	Tube side outlet	x	x	x	245.2	7.18.3
FWHTR 5	Tube side outlet	x	x	x	198.0	7.18.3
FWHTR 6	Tube side outlet	x	x	x	156.9	7.18.3
SPUMP 1	Driven steam and drain enthalpy and pressure	0.160926	974.8	1.0	x	7.18.3
MSEP 1	Moist Sep & Moist PreSep Drains[2]	1.097732	358.7	207.2	x	7.18.3
TANK 1	Heater Drain Tank exiting steam	0	342.5	203.3	x	Note 4
TANK 2	Blowdown tank exiting steam	0	502.8	760.4	x	Note 4
RHTR 1	Reheater Drain	0.870169	504.5	620.3	x	7.18.3
HPEXTLINE 1	Conditions in line (Presep Outlet to FWH 5)[3]	0.984482	1147.3	208.3	x	7.18.3
HPEXTLINE 2	Conditions in line to FWH 6	0.852604	1155.1	388.6	x	7.18.3
LPEXTLINE 1	Conditions in line to FWH 4	0.548842	1197.6	77.28	x	7.18.3
LPEXTLINE 2	Conditions in line to FWH 3	0.472533	1076.5	32.42	x	Note 5
LPEXTLINE 3	Conditions in line to FWH 2	0.475753	905.9	13.27	x	Note 5
LPEXTLINE 4	Conditions in line to FWH 1	0.790585	905.2	5.76	x	Note 5

x = No value entered (not required by CHECWORKS).

(1) The HBD Item name is automatically generated by CHECWORKS. Feedwater heaters are numbered sequentially in reverse flow order. Feedwater Heater 1 is the feedwater heater closest to the steam generator (equivalent to heater 36 at Indian Point 3). Extraction lines are numbered sequentially in order of decreasing pressure.

(2) MSEP 1 represents the conditions in both the moisture separator and moisture pre-separator drain lines as recommended by EPRI Guidelines [7.3].

(3) HPEXTLINE 1 is a fictitious high-pressure extraction line representing the steam lines between the pre-separator and main separator as recommended by EPRI Guidelines [7.3].

(4) Flow rate is for exiting steam flow and was entered as zero as recommended by EPRI Guidelines [7.3]. Pressure and enthalpy were obtained from the SPU PEPSE model [7.18.3].

(5) Enthalpy was calculated as the weighted average of the steam and liquid phases. Steam phase enthalpy was obtained directly from the PEPSE diagram as the enthalpy after moisture removal in the LP Turbine. Liquid phase enthalpy was calculated as the enthalpy of saturated liquid at the pressure given on the PEPSE diagram [7.18.3].

Table C.7 Cycle 1 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	15.67	ppb	7.19.2
Ammonia	Final Feed Water	0.680	ppm	7.19.2
Hydrazine	Final Feed Water	20.000	ppb	7.19.2
Hydrazine	SG Outlet	12.000	ppb	7.19.2
Hydrazine	MSR Drain	24.000	ppb	7.19.2

Note: This water treatment was used for Cycle 1
See Assumption 4.1.6 concerning this water treatment.

Table C.8 Cycle 2 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	16.43	ppb	7.19.2
Ammonia	Final Feed Water	0.480	ppm	7.19.2
Hydrazine	Final Feed Water	20.000	ppb	7.19.2
Hydrazine	SG Outlet	12.000	ppb	7.19.2
Hydrazine	MSR Drain	24.000	ppb	7.19.2

Note: This water treatment was used for Cycle 2
See Assumption 4.1.6 concerning this water treatment.

Table C.9 Cycle 3 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	11.72	ppb	7.19.2
Ammonia	Condensate	0.760	ppm	7.19.2
Hydrazine	Final Feed Water	25.000	ppb	7.19.2
Hydrazine	SG Outlet	15.000	ppb	7.19.2
Hydrazine	MSR Drain	30.000	ppb	7.19.2

Note: This water treatment was used for Cycles 3
See Assumption 4.1.6 concerning this water treatment.

Table C.10 Cycle 4 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	9.13	ppb	7.19.2
Ammonia	Final Feed Water	1.260	ppm	7.19.2
Hydrazine	Final Feed Water	40.000	ppb	7.19.2
Hydrazine	SG Outlet	24.000	ppb	7.19.2
Hydrazine	MSR Drain	48.000	ppb	7.19.2

Note: This water treatment was used for Cycle 4
See Assumption 4.1.6 concerning this water treatment.

Table C.11 Cycle 5 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	2.83	ppb	7.19.2
Ammonia	Final Feed Water	1.290	ppm	7.19.2
Hydrazine	Final Feed Water	40.000	ppb	7.19.2
Hydrazine	SG Outlet	24.000	ppb	7.19.2
Hydrazine	MSR Drain	48.000	ppb	7.19.2

Note: This water treatment was used for Cycle 5
See Assumption 4.1.6 concerning this water treatment.

Table C.12 Cycle 6 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	2.53	ppb	7.19.2
Ammonia	Final Feed Water	1.290	ppm	7.19.2
Hydrazine	Final Feed Water	40.000	ppb	7.19.2
Hydrazine	SG Outlet	24.000	ppb	7.19.2
Hydrazine	MSR Drain	48.000	ppb	7.19.2

Note: This water treatment was used for Cycle 6
See Assumption 4.1.6 concerning this water treatment..

Table C.13 Cycle 7 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	3.00	ppb	7.19.2
Morpholine	Final Feed Water	4.500	ppm	7.19.2
Hydrazine	Final Feed Water	58.000	ppb	7.19.2
Ammonia	Final Feed Water	0.060	ppm	7.19.2
Hydrazine	SG Outlet	34.800	ppb	7.19.2
Hydrazine	MSR Drain	69.600	ppb	7.19.2

Note: This water treatment was used for Cycle 7
See Assumption 4.1.6 concerning this water treatment.

Table C.14 Cycle 8 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	4.00	ppb	7.19.2
Morpholine	Final Feed Water	4.500	ppm	7.19.2
Hydrazine	Final Feed Water	190.000	ppb	7.19.2
Ammonia	Final Feed Water	0.200	ppm	7.19.2
Hydrazine	SG Outlet	114.000	ppb	7.19.2
Hydrazine	MSR Drain	228.000	ppb	7.19.2

Note: This water treatment was used for Cycle 8
See Assumption 4.1.6 concerning this water treatment.

Table C.15 Cycle 9 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	9.00	ppb	7.19.2
Morpholine	Final Feed Water	4.500	ppm	7.19.2
Hydrazine	Final Feed Water	225.000	ppm	7.19.2
Ammonia	Final Feed Water	0.680	ppb	7.19.2
Hydrazine	SG Outlet	135.000	ppb	7.19.2
Hydrazine	MSR Drain	270.000	ppb	7.19.2

Note: This water treatment was used for Cycles 9A-9B
See Assumption 4.1.6 concerning this water treatment.

Table C.16 Cycle 10A Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	1.80	ppb	7.19.2
Morpholine	Final Feed Water	4.500	ppm	7.19.2
Hydrazine	Final Feed Water	180.000	ppb	7.19.2
Ammonia	Condensate	2.000	ppb	7.19.2
Hydrazine	SG Outlet	108.000	ppb	7.19.2
Hydrazine	MSR Drain	216.000	ppb	7.19.2

Note: This water treatment was used for Cycle 10A See Assumption 4.1.6 concerning this water treatment.

Table C.17 Cycle 10B Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	2.50	ppb	7.19.2
Ethanolamine	Final Feed Water	2.000	ppm	7.19.2
Hydrazine	Final Feed Water	225.000	ppb	7.19.2
Ammonia	Condensate	2.000	ppb	7.19.2
Hydrazine	SG Outlet	135.000	ppb	7.19.2
Hydrazine	MSR Drain	270.000	ppb	7.19.2

Note: This water treatment was used for Cycle 10B See Assumption 4.1.6 concerning this water treatment.

Table C.18 Cycle 11 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	3.3	ppb	7.19.2
Ethanolamine	Final Feed Water	2.400	ppm	7.19.2
Hydrazine	Final Feed Water	190.000	ppb	7.19.2
Ammonia	Final Feed Water	5.285	ppm	7.19.2
Hydrazine	SG Outlet	114.000	ppb	7.19.2
Hydrazine	MSR Drain	228.000	ppb	7.19.2

Note: This water treatment was used for Cycle 11
See Assumption 4.1.6 concerning this water treatment.

Table C.19 Cycle 12 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	0.69	ppb	7.19.2
Ethanolamine	Final Feed Water	3.558	ppm	7.19.2
Hydrazine	Final Feed Water	104.657	ppb	7.19.2
Ammonia	Final Feed Water	5.830	ppm	7.19.2
Hydrazine	SG Outlet	62.794	ppb	7.19.2
Hydrazine	MSR Drain	125.589	ppb	7.19.2

Note: This water treatment was used for Cycles 12A-12B See Assumption 4.1.6 concerning this water treatment.

Table C.20 Cycle 13 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	3.34	ppb	7.27.7
Ethanolamine	Final Feed Water	3.423	ppm	7.27.7
Hydrazine	Final Feed Water	98.400	ppb	7.27.7
Ammonia	Final Feed Water	4.886	ppm	7.27.7
Hydrazine	SG Outlet	58.100	ppb	7.27.7
Hydrazine	MSR Drain	116.200	ppb	7.27.7

Table C.21 Cycle 14 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	2.987	ppb	7.20.1
Ethanolamine	Final Feed Water	4.808	ppm	7.20.1
Hydrazine	Final Feed Water	53.730	ppb	7.20.1
Ammonia	Final Feed Water	3.600	ppm	7.20.1
Hydrazine	SG Outlet	33.440	ppb	7.20.1
Hydrazine	MSR Drain	66.880	ppb	7.20.1

Table C.22 Cycle 15 Water Treatment Data Input

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	2.820	ppb	7.20.2
Ethanolamine	Final Feed Water	4.360	ppm	7.20.2
Hydrazine	Final Feed Water	61.000	ppb	7.20.2
Ammonia	Final Feed Water	3.620	ppm	7.20.2
Hydrazine	SG Outlet	36.600	ppb	7.20.2
Hydrazine	MSR Drain	73.200	ppb	7.20.2

Note: This water treatment was used for Cycles 15-16.
See Assumption 4.1.6 concerning this water treatment.

Table C.23 Plant Period Input Data

Period	Start Date	End Date	Type	Water Treatment	Power Level	Operating Hours	Reference
Cycle 1	6/27/1976	6/7/1978	Operating	Cycle 1	100	12117.6	7.19.2
RO1	6/7/1978	8/25/1978	Maintenance	----	----	----	7.19.2
Cycle 2	8/25/1 978	9/1 4/1 979	Operating	Cycle 2	100	7874.4	7.19.2
RO2	9/14/1979	2/11/1980	Maintenance	----	----	----	7.19.2
Cycle 3	2/11/1980	3/25/1982	Operating	Cycle 3	100	8944.8	7.19.2
RO3	3/25/1982	6/8/1983	Maintenance	----	----	----	7.19.2
Cycle 4	6/8/1983	6/7/1985	Operating	Cycle 4	100	9854.4	7.19.2
RO4	6/7/1985	10/4/1985	Maintenance	----	----	----	7.19.2
Cycle 5	10/4/1985	5/2/1987	Operating	Cycle 5	100	10012.8	7.19.2
RO5	5/2/1987	9/5/1987	Maintenance	----	----	----	7.19.2
Cycle 6	9/5/1987	2/4/1989	Operating	Cycle 6	100	10461.6	7.19.2
RO6	2/4/1989	6/25/1989	Maintenance	----	----	----	7.19.2
Cycle 7	6/25/1989	9/15/1990	Operating	Cycle 7	100	9463.2	7.19.2
RO7	9/15/1990	12/23/1990	Maintenance	----	----	----	7.19.2
Cycle 8	12/23/1990	4/18/1992	Operating	Cycle 8	100	9916.8	7.19.2
RO8	4/18/1992	7/2/1995	Maintenance	----	----	----	7.19.2
Cycle 9A	7/2/1995	9/14/1995	Operating	Cycle 9	100	1852.2	7.19.2
Winter 1995	9/15/1995	4/13/1996	Maintenance	----	----	----	7.19.2
Cycle 9B	4/14/1996	5/14/1997	Operating	Cycle 9	100	11703.0	7.19.2
RO9	5/14/1997	9/12/1997	Maintenance	----	----	----	7.19.2
Cycle 10A	9/12/1997	3/20/1998	Operating	Cycle 10A	100	3864.0	7.19.2
Cycle 10B	3/20/1998	9/10/1999	Operating	Cycle 10B	100	11841.6	7.19.2
RO10	9/10/1999	10/19/1999	Maintenance	----	----	----	7.19.2
Cycle 11	10/19/1999	4/27/2001	Operating	Cycle 11	100	13113.8	7.19.2
RO11	4/28/2001	5/23/2001	Maintenance	----	----	----	7.19.2
Cycle 12A	5/24/2001	12/21/2002	Operating	Cycle 12	100	13848.0	7.19.2
Cycle 1 2B	12/22/2002	3/28/2003	Operating	Cycle 12	101.12	2328.0	7.19.2
RO12	3/29/2003	4/23/2003	Maintenance	----	----	----	7.19.2
Cycle 13	4/24/2003	3/11/2005	Operating	Cycle 13	101.12	16268.0	7.19.2
RO13	3/11/2005	4/6/2005	Maintenance	----	----	----	7.19.2
Cycle 14	4/7/2005	3/6/2007	Operating	Cycle 14	104.95	16654.0	7.19.2
RO14	3/7/2007	3/31/2007	Maintenance	----	----	----	7.20.1
Cycle 15	4/1/2007	3/10/2009	Operating	Cycle 15	104.95	16469.0	7.20.2
RFO 15	3/11/2009	4/1/2009	Maintenance	----	----	----	7.20.2
Cycle 16	4/2/2009	3/31/2011	Operating	Cycle 15	104.95	16992.0	7.20.2

Appendix D

CHECWORKS Modeled Lines

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
CD-01.1A FWH 31A to FWH 32A	Cond: FW Heater 31A to FW Heater 32A	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 6	0.333	1	CD: HTR 31 TO HTR 32
CD-01.1B FWH 31B to FWH 32B	Cond: FW Heater 31B to FW Heater 32B	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 6	0.333	1	CD: HTR 31 TO HTR 32
CD-01.1C FWH 31C to FWH 32C	Cond: FW Heater 31C to FW Heater 32C	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 6	0.333	1	CD: HTR 31 TO HTR 32
CD-02.11 SGBD HX3 to FWH HDR	Cond: FW Heaters 32 Outlet Header to SG Blowdown HX 3	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.038	1	CD: S/G BLWDN HX OUT
CD-02.1A FWH 32A to HDR	Cond: FW Heater 32A to Header	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 5	0.333	1	CD: HTR 32 TO HDR
CD-02.1B FWH 32B to HDR	Cond: FW Heater 32B to Header	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 5	0.333	1	CD: HTR 32 TO HDR
CD-02.1C FWH 32C to HDR	Cond: FW Heater 32C to Header	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 5	0.333	1	CD: HTR 32 TO HDR
CD-02.2 FWH 32 OUT HDR	Cond: FW Heaters 32 Outlet Header Between 32B Connection and 32C Connection	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 5	0.667	1	CD: HTR 32 TO 33 HDR
CD-02.3 FWH 32 OUT HDR	Cond: FW Heaters 32 Outlet Header Between 32C Connection and Takeoff to SG Blowdown HX 3	EC-F-20183 SH. 1	HBD	FWH Tube Side Line 5	1	1	CD: HTR 32 TO 33 HDR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
CD-02.4 FWH 32 OUT HDR	Cond: FW Heaters 32 Outlet Header Between Takeoff to SG Blowdown HX 3 and Return from SG Blowdown HX 3	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.962	1	CD: HTR 32 TO 33 HDR
CD-02.5 FWH 32 OUT HDR	Cond: FW Heaters 32 Outlet Header Between Return from SG Blowdown HX 3 and 33C Takeoff	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.962	1	CD: HTR 32 TO 33 HDR
CD-02.6 FWH 32 OUT HDR	Cond: FW Heaters 32 Outlet Header Between 33C Takeoff and 33B Takeoff	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.667	1	CD: HTR 32 TO 33 HDR
CD-02.8A HDR to FWH 33A	Cond: FW Heaters 32 Outlet Header to FW Heater 33A	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.333	1	CD: HDR TO HTR 33
CD-02.8B HDR to FWH 33B	Cond: FW Heaters 32 Outlet Header to FW Heater 33B	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.333	1	CD: HDR TO HTR 33
CD-02.8C HDR to FWH 33C	Cond: FW Heaters 32 Outlet Header to FW Heater 33C	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.333	1	CD: HDR TO HTR 33
CD-02.9 FWH HDR to SGBD HX3	Cond: SG Blowdown HX 3 to FW Heaters 32 Outlet Header	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 5	0.038	1	CD: S/G BLWDN HX IN
CD-03.1A FWH 33A to FWH 34A	Cond: FW Heater 33A to FW Heater 34A	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 4	0.333	1	CD: HTR 33 TO HTR 34

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
CD-03.1B FWH 33B to FWH 34B	Cond: FW Heater 33B to FW Heater 34B	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 4	0.333	1	CD: HTR 33 TO HTR 34
CD-03.1C FWH 33C to FWH 34C	Cond: FW Heater 33C to FW Heater 34C	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 4	0.333	1	CD: HTR 33 TO HTR 34
CD-04.1A FWH 34A to FWH 35A	Cond: FW Heater 34A to FW Heater 35A	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 3	0.333	1	CD: HTR 34 TO HTR 35
CD-04.1B FWH 34B to FWH 35B	Cond: FW Heater 34B to FW Heater 35B	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 3	0.333	1	CD: HTR 34 TO HTR 35
CD-04.1C FWH 34C to FWH 35C	Cond: FW Heater 34C to FW Heater 35C	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 3	0.333	1	CD: HTR 34 TO HTR 35
CD-05.1A FWH 35A to HDR	Cond: FW Heater 35A to Header	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 2	0.333	1	CD: HTR 35 TO HDR
CD-05.1B FWH 35B to HDR	Cond: FW Heater 35B to Header	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 2	0.333	1	CD: HTR 35 TO HDR
CD-05.1C FWH 35C to HDR	Cond: FW Heater 35C to Header	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 2	0.333	1	CD: HTR 35 TO HDR
CD-05.3 FWH 35 OUT HDR	Cond: FW Heaters 35 Outlet Header Between 35B Connection and 35C Connection	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 2	0.667	1	CD: HTR 35 TO BFP HDR
CD-05.4 FWH 35 OUT HDR	Cond: FW Heaters 35 Outlet Header Between 35C Connection and Heater Drain Pump Discharge Connection	EC-F-20183 SH. 2	HBD	FWH Tube Side Line 2	1	1	CD: HTR 35 TO BFP HDR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
CD-06.1 FWH 35 OUT HDR	Cond: FW Heaters 35 Outlet Header Between Heater Drain Pump Discharge Connection and Boiler Feed Pump Inlet Tee	EC-F-20183 SH. 2	ARD	FWH Tube Side Line 2 (MIXED)	1	1	CD: HDR TO BFP
CD-06.2A HDR to BFP 31	Cond: FW Heaters 35 Outlet Header to Boiler Feed Pump 31	EC-F-20183 SH. 2	ARD	FWH Tube Side Line 2 (MIXED)	1	1	CD: HDR TO BFP
CD-06.2B HDR to BFP 32	Cond: FW Heaters 35 Outlet Header to Boiler Feed Pump 32	EC-F-20183 SH. 2	ARD	FWH Tube Side Line 2 (MIXED)	1	1	CD: HDR TO BFP
EX-01.1 HP EXT to FWH 36 HDR	Ext Steam: HP Extraction from HP Turbine to FW Heater 36 Inlet Header (Line 1 of 2)	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	0.5	1	ES: HTR 36 HEADER
EX-01.2 HP EXT to FWH 36 HDR	Ext Steam: HP Extraction from HP Turbine to FW Heater 36 Inlet Header (Line 2 of 2)	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	0.5	1	ES: HTR 36 HEADER
EX-01.3 HP EXT FWH 36 HEADER	Ext Steam: HP Extraction Header Between HP Turbine Outlet Tee and FW Heater 36C Takeoff	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	1	1	ES: HTR 36 HEADER

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-01.4 HP EXT FWH 36 HEADER	Ext Steam: HP Extraction Header Between FW Heater 36C Takeoff and FW Heater 36B Takeoff	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	0.667	1	ES: HTR 36 HEADER
EX-01.5A HP EX HDR to FWH 36A	Ext Steam: HP Extraction Header to FW Heater 36A	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	0.333	1	ES: HDR TO 36 HTRS
EX-01.5B HP EX HDR to FWH 36B	Ext Steam: HP Extraction Header to FW Heater 36B	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	0.333	1	ES: HDR TO 36 HTRS
EX-01.5C HP EX HDR to FWH 36C	Ext Steam: HP Extraction Header to FW Heater 36C	EC-F-20203 Sh. 1	HBD	HP Extraction Steam Line 2	0.333	1	ES: HDR TO 36 HTRS
EX-02.1 PSEP 2A 10" to 35 HDR	Ext Steam: Moist PreSeparator 2A to Feedwater Heater 35 Inlet Header (10-Inch OD Line)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.11 PSEP1B 14" to 35 HDR	Ext Steam: Moist PreSeparator 1B to Feedwater Heater 35 Inlet Header (14-Inch OD Line)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.12 PSEP 1B&2B to 35 HDR	Ext Steam: Moist PreSeparator 1B and 2B Outlet Tee to Feedwater Heater 35 Inlet Header (Upstream of 14" Connection)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-02.13 PSEP 1B&2B to 35 HDR	Ext Steam: Moist PreSeparator 1B and 2B Outlet Tee to Feedwater Heater 35 Inlet Header (Downstream of 14" Connection)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.14 FWH 35 HEADER	Ext Steam: FW Heater 35 Inlet Header Between Moist PreSeparator Outlets and FW Heater 35C Takeoff	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.15 FWH 35 HEADER	Ext Steam: FW Heater 35 Inlet Header Between FW Heater 35C Takeoff and FW Heater 35B Takeoff	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.16 HDR 35 to FWH 35A	Ext Steam: FW Heater 35 Inlet Header to Feedwater Heater 35A	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: HDR TO 35 HTRS
EX-02.17 HDR 35 to FWH 35B	Ext Steam: FW Heater 35 Inlet Header to Feedwater Heater 35B	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: HDR TO 35 HTRS
EX-02.18 HDR 35 to FWH 35C	Ext Steam: FW Heater 35 Inlet Header to Feedwater Heater 35C	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: HDR TO 35 HTRS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-02.2 PSEP 1A 10" to 35 HDR	Ext Steam: Moist PreSeparator 1A to Feedwater Heater 35 Inlet Header (10-Inch OD Line)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.4 PSEP2A 14" to 35 HDR	Ext Steam: Moist PreSeparator 2A to Feedwater Heater 35 Inlet Header (14-Inch OD Line)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.6 PSEP 1A&2A to 35 HDR	Ext Steam: Moist PreSeparator 1A and 2A Outlet Tee to Feedwater Heater 35 Inlet Header (Upstream of 14" Connection)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.7 PSEP 1A&2A to 35 HDR	Ext Steam: Moist PreSeparator 1A and 2A Outlet Tee to Feedwater Heater 35 Inlet Header (Downstream of 14" Connection)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-02.8 PSEP 2B 10" to 35 HDR	Ext Steam: Moist PreSeparator 2B to Feedwater Heater 35 Inlet Header (10-Inch OD Line)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-02.9 PSEP 1B 10" to 35 HDR	Ext Steam: Moist PreSeparator 1B to Feedwater Heater 35 Inlet Header (10-Inch OD Line)	EC-F-20203 Sh. 1	ARD	HP Extraction Steam Line 1	1	1	ES: PRESEP TO 35 HDR
EX-04.1 LPEX14 to FWH33A HDR	Ext Steam: LP Extraction No. 14 from LP Turbine 33 to Header Upstream of FW Heater 33A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.11 LPEX FWH 33B IN HDR	Ext Steam: LP Extraction Header Upstream of FW Heater 33B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.333	1	ES: LP TO 33 HEATERS
EX-04.13 LP EXT 32 to FWH 33B	Ext Steam: LP Extraction Header to FW Heater 33B (Line 1 of 2)	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.14 LP EXT 32 to FWH 33B	Ext Steam: LP Extraction Header to FW Heater 33B (Line 2 of 2)	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.15 LPEX14 to FWH33C HDR	Ext Steam: LP Extraction No. 14 from LP Turbine 31 to Header Upstream of FW Heater 33C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.16 LPEX13 to FWH33C HDR	Ext Steam: LP Extraction No. 13 from LP Turbine 31 to Header Upstream of FW Heater 33C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-04.18 LPEX FWH 33C IN HDR	Ext Steam: LP Extraction Header Upstream of FW Heater 33C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.333	1	ES: LP TO 33 HEATERS
EX-04.2 LPEX13 to FWH33A HDR	Ext Steam: LP Extraction No. 13 from LP Turbine 33 to Header Upstream of FW Heater 33A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.21 LP EXT 31 to FWH 33C	Ext Steam: LP Extraction Header to FW Heater 33C (Line 1 of 2)	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.22 LP EXT 31 to FWH 33C	Ext Steam: LP Extraction Header to FW Heater 33C (Line 2 of 2)	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.4 LPEX FWH 33A IN HDR	Ext Steam: LP Extraction Header Upstream of FW Heater 33A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.333	1	ES: LP TO 33 HEATERS
EX-04.6 LP EXT to FWH 33A	Ext Steam: LP Extraction Header to FW Heater 33A (Line 1 of 2)	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.7 LP EXT to FWH 33A	Ext Steam: LP Extraction Header to FW Heater 33A (Line 2 of 2)	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-04.8 LPEX14 to FWH33B HDR	Ext Steam: LP Extraction No. 14 from LP Turbine 32 to Header Upstream of FW Heater 33B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-04.9 LPEX13 to FWH33B HDR	Ext Steam: LP Extraction No. 13 from LP Turbine 32 to Header Upstream of FW Heater 33B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 2	0.167	1	ES: LP TO 33 HEATERS
EX-05.1A LP EXT 16 to FWH 32A	Ext Steam: LP Extraction No. 16 from LP Turbine 33 to FW Heater 32A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 3	0.167	1	ES: LP TO 32 HEATERS
EX-05.1B LP EXT 16 to FWH 32B	Ext Steam: LP Extraction No. 16 from LP Turbine 32 to FW Heater 32B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 3	0.167	1	ES: LP TO 32 HEATERS
EX-05.1C LP EXT 16 to FWH 32C	Ext Steam: LP Extraction No. 16 from LP Turbine 31 to FW Heater 32C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 3	0.167	1	ES: LP TO 32 HEATERS
EX-05.2A LP EXT 15 to FWH 32A	Ext Steam: LP Extraction No. 15 from LP Turbine 33 to FW Heater 32A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 3	0.167	1	ES: LP TO 32 HEATERS
EX-05.2B LP EXT 15 to FWH 32B	Ext Steam: LP Extraction No. 15 from LP Turbine 32 to FW Heater 32B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 3	0.167	1	ES: LP TO 32 HEATERS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-05.2C LP EXT 15 to FWH 32C	Ext Steam: LP Extraction No. 15 from LP Turbine 31 to FW Heater 32C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 3	0.167	1	ES: LP TO 32 HEATERS
EX-06.1A LP EXT 19 to FWH 31A	Ext Steam: LP Extraction No. 19 from LP Turbine 33 to FW Heater 31A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.1B LP EXT 19 to FWH 31B	Ext Steam: LP Extraction No. 19 from LP Turbine 32 to FW Heater 31B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.1C LP EXT 19 to FWH 31C	Ext Steam: LP Extraction No. 19 from LP Turbine 31 to FW Heater 31C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.2A LP EXT 17 to FWH 31A	Ext Steam: LP Extraction No. 17 from LP Turbine 33 to FW Heater 31A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.2B LP EXT 17 to FWH 31B	Ext Steam: LP Extraction No. 17 from LP Turbine 32 to FW Heater 31B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.2C LP EXT 17 to FWH 31C	Ext Steam: LP Extraction No. 17 from LP Turbine 31 to FW Heater 31C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.3A LP EXT 20 to FWH 31A	Ext Steam: LP Extraction No. 20 from LP Turbine 33 to FW Heater 31A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
EX-06.3B LP EXT 20 to FWH 31B	Ext Steam: LP Extraction No. 20 from LP Turbine 32 to FW Heater 31B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.3C LP EXT 20 to FWH 31C	Ext Steam: LP Extraction No. 20 from LP Turbine 31 to FW Heater 31C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.4A LP EXT 18 to FWH 31A	Ext Steam: LP Extraction No. 18 from LP Turbine 33 to FW Heater 31A	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.4B LP EXT 18 to FWH 31B	Ext Steam: LP Extraction No. 18 from LP Turbine 32 to FW Heater 31B	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-06.4C LP EXT 18 to FWH 31C	Ext Steam: LP Extraction No. 18 from LP Turbine 31 to FW Heater 31C	EC-F-20203 Sh. 2	HBD	LP Extraction Steam Line 4	0.083	1	ES: LP TO 31 HEATERS
EX-BFPT #31 Drain to Condenser	Ext Steam: BFPT #31 Drain to Condenser	9321-F-20173	HBD	Feed Pump Steam & Drain Line 1	0.5	1	ES: BFPT DRN TO COND
EX-BFPT #32 Drain to Condenser	Ext Steam: BFPT #32 Drain to Condenser	9321-F-20173	HBD	Feed Pump Steam & Drain Line 1	0.5	1	ES: BFPT DRN TO COND
FW-01.1A BFP 31 to RCIRC T	Feed: Boiler Feed Pump 31 Discharge to Recirculation Takeoff	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
FW-01.1B BFP 32 to RCIRC T	Feed: Boiler Feed Pump 32 Discharge to Recirculation Takeoff	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-01.2A BFP31 RCIRC T to HDR	Feed: Boiler Feed Pump 31 Discharge Between Recirculation Takeoff and Boiler Feed Pump Discharge Header	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-01.2B BFP32 RCIRC T to HDR	Feed: Boiler Feed Pump 32 Discharge Between Recirculation Takeoff and Boiler Feed Pump Discharge Header	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-01.3 BFP DISCHARGE HDR	Feed: Boiler Feed Pump Discharge Header Between Pumps Outlet Tee and FW Heater 36C Takeoff	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-01.4 BFP DISCHARGE HDR	Feed: Boiler Feed Pump Discharge Header Between FW Heater 36C Takeoff and FW Heater 36B Takeoff	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
FW-01.6A BFP HDR to FWH 36A	Feed: Boiler Feed Pump Discharge Header to Feedwater Heater 36A	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-01.6B BFP HDR to FWH 36B	Feed: Boiler Feed Pump Discharge Header to Feedwater Heater 36B	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-01.6C BFP HDR to FWH 36C	Feed: Boiler Feed Pump Discharge Header to Feedwater Heater 36C	EC-F-20193	ARD	FWH Tube Side Line 1	1	1	FW: BFP TO 36 HTR
FW-02.1A FWH 36A to SG HDR	Feed: Feedwater Heater 36A to SG Inlet Header	EC-F-20193	HBD	FWH Tube Side Line 1	0.333	1	FW: 36 HTR TO SG HDR
FW-02.1B FWH 36B to SG HDR	Feed: Feedwater Heater 36B to SG Inlet Header	EC-F-20193	HBD	FWH Tube Side Line 1	0.333	1	FW: 36 HTR TO SG HDR
FW-02.1C FWH 36C to SG HDR	Feed: Feedwater Heater 36C to SG Inlet Header	EC-F-20193	HBD	FWH Tube Side Line 1	0.333	1	FW: 36 HTR TO SG HDR
FW-02.3 SG INLET HEADER	Feed: SG Inlet Header Between FW Heater 36B Connection and FW Heater 36C Connection	EC-F-20193	HBD	FWH Tube Side Line 1	0.667	1	FW: SG HEADERS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
FW-02.4 SG INLET HEADER	Feed: SG Inlet Header Between FW Heater 36C Connection and SG 31 Takeoff	EC-F-20193	HBD	FWH Tube Side Line 1	1	1	FW: SG HEADERS
FW-02.5 SG INLET HEADER	Feed: SG Inlet Header Between SG 31 Takeoff and SG 32 Takeoff	EC-F-20193	HBD	FWH Tube Side Line 1	0.75	1	FW: SG HEADERS
FW-02.6 SG INLET HEADER	Feed: SG Inlet Header Between SG 32 Takeoff and SG 34 Takeoff	EC-F-20193	HBD	FWH Tube Side Line 1	0.5	1	FW: SG HEADERS
FW-02.8A SG HDR to SG 31	Feed: SG Inlet Header to SG 31	EC-F-20193	HBD	FWH Tube Side Line 1	0.25	1	FW: SG HEADERS
FW-02.8B SG HDR to SG 32	Feed: SG Inlet Header to SG 32	EC-F-20193	HBD	FWH Tube Side Line 1	0.25	1	FW: SG HEADERS
FW-02.8C SG HDR to SG 34	Feed: SG Inlet Header to SG 34	EC-F-20193	HBD	FWH Tube Side Line 1	0.25	1	FW: SG HEADERS
FW-02.8D SG HDR to SG 33	Feed: SG Inlet Header to SG 33	EC-F-20193	HBD	FWH Tube Side Line 1	0.25	1	FW: SG HEADERS
FW-04.1A BFP 31 RECIRC	Feed: Boiler Feed Pump 31 Recirculation From BFP 31 Discharge Line to Drain Collecting Tank 31	EC-F-20193	ARD	#N/A	1	0.02	FW: FW RECIRC
FW-04.1B BFP 32 RECIRC	Feed: Boiler Feed Pump 32 Recirculation From BFP 32 Discharge Line to Drain Collecting Tank 31	EC-F-20193	ARD	#N/A	1	0.02	FW: FW RECIRC

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
HD-01.1A FWH 36A to HD TK	Heater Dr: FW Heater 36A Drain to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	FWH Shell Side Line 1	1	1	HD: HTR 36 TO HDT
HD-01.1B FWH 36B to HD TK	Heater Dr: FW Heater 36B Drain to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	FWH Shell Side Line 1	1	1	HD: HTR 36 TO HDT
HD-01.1C FWH 36C to HD TK	Heater Dr: FW Heater 36C Drain to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	FWH Shell Side Line 1	1	1	HD: HTR 36 TO HDT
HD-03.1A FWH 35A to HD TK	Heater Dr: FW Heater 35A Drain to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	FWH Shell Side Line 2	1	1	HD: HTR 35 TO HDT
HD-03.1B FWH 35B to HD TK	Heater Dr: FW Heater 35B Drain to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	FWH Shell Side Line 2	1	1	HD: HTR 35 TO HDT
HD-03.1C FWH 35C to HD TK	Heater Dr: FW Heater 35C Drain to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	FWH Shell Side Line 2	1	1	HD: HTR 35 TO HDT
HD-04.1A FWH 34A to FWH 33A	Heater Dr: FW Heater 34A Drain to FW Heater 33A	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 3	1	1	HD: HTR 34 TO HTR 33
HD-04.1B FWH 34B to FWH 33B	Heater Dr: FW Heater 34B Drain to FW Heater 33B	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 3	1	1	HD: HTR 34 TO HTR 33
HD-04.1C FWH 34C to FWH 33C	Heater Dr: FW Heater 34C Drain to FW Heater 33C	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 3	1	1	HD: HTR 34 TO HTR 33

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
HD-06.1A FWH 33A to FWH 32A	Heater Dr: FW Heater 33A Drain to FW Heater 32A	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 4	1	1	HD: HTR 33 TO HTR 32
HD-06.1B FWH 33B to FWH 32B	Heater Dr: FW Heater 33B Drain to FW Heater 32B	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 4	1	1	HD: HTR 33 TO HTR 32
HD-06.1C FWH 33C to FWH 32C	Heater Dr: FW Heater 33C Drain to FW Heater 32C	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 4	1	1	HD: HTR 33 TO HTR 32
HD-08.1A FWH 32A to FWH 31A	Heater Dr: FW Heater 32A Drain to Tee Upstream of FW Heater 31A	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-08.1B FWH 32B to FWH 31B	Heater Dr: FW Heater 32B Drain to Tee Upstream of FW Heater 31B	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-08.1C FWH 32C to FWH 31C	Heater Dr: FW Heater 32C Drain to Tee Upstream of FW Heater 31C	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-09.3A FWH 32A to FWH 31A	Heater Dr: FW Heater 32A Drain from Tee Upstream of FW Heater 31A to FW Heater 31A (Line 1 of 2)	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-09.3B FWH 32B to FWH 31B	Heater Dr: FW Heater 32B Drain from Tee Upstream of FW Heater 31B to FW Heater 31B (Line 1 of 2)	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
HD-09.3C FWH 32C to FWH 31C	Heater Dr: FW Heater 32C Drain from Tee Upstream of FW Heater 31C to FW Heater 31C (Line 1 of 2)	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-09.4A FWH 32A to FWH 31A	Heater Dr: FW Heater 32A Drain from Tee Upstream of FW Heater 31A to FW Heater 31A (Line 2 of 2)	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-09.4B FWH 32B to FWH 31B	Heater Dr: FW Heater 32B Drain from Tee Upstream of FW Heater 31B to FW Heater 31B (Line 2 of 2)	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-09.4C FWH 32C to FWH 31C	Heater Dr: FW Heater 32C Drain from Tee Upstream of FW Heater 31C to FW Heater 31C (Line 2 of 2)	EC-F-20223 Sh. 2	ARD	FWH Shell Side Line 5	1	1	HD: HTR 32 TO HTR 31
HD-10.1A HD TK to HD PMP 31	Heater Dr: Heater Drain Tank to Heater Drain Pump 31	EC-F-20223 Sh. 1	HBD	Drain Tank Drain Line 1	0.5	1	HD: HTR DN TO PUMPS
HD-10.1B HD TK to HD PMP 32	Heater Dr: Heater Drain Tank to Heater Drain Pump 32	EC-F-20223 Sh. 1	HBD	Drain Tank Drain Line 1	0.5	1	HD: HTR DN TO PUMPS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
HD-11.1A HD PMP 31 to HDR	Heater Dr: Heater Drain Pump 31 Discharge to Heater Drain Pump Discharge Header	EC-F-20223 Sh. 1	ARD	Drain Tank Drain Line 1	1	1	HD: HD PMP TO BFP HDR
HD-11.1B HD PMP 32 to HDR	Heater Dr: Heater Drain Pump 32 Discharge to Heater Drain Pump Discharge Header	EC-F-20223 Sh. 1	ARD	Drain Tank Drain Line 1	1	1	HD: HD PMP TO BFP HDR
HD-12.2A HD PMP HDR to CD SYS	Heater Dr: Heater Drain Pump Discharge Header to Connection with Condensate System at FW Heater 35 Outlet Header	EC-F-20223 Sh. 1	ARD	Drain Tank Drain Line 1	1	1	HD: HD PMP TO BFP HDR
HD-FWH 31A to Condenser 33	Heater Dr: Heater Drain from FWH 31A to Condenser 33 via LCV 1124	9321-F-20223 Sh. 2	HBD	FWH Shell Side Line 6	0.333	1	HD: HTR 31 TO COND
HD-FWH 31B to Condenser 32	Heater Dr: Heater Drain from FWH 31B to Condenser 32 via LCV 1125	9321-F-20223 Sh. 2	HBD	FWH Shell Side Line 6	0.333	1	HD: HTR 31 TO COND
HD-FWH 31C to Condenser 31	Heater Dr: Heater Drain from FWH 31C to Condenser 31 via LCV 1126	9321-F-20223 Sh. 2	HBD	FWH Shell Side Line 6	0.333	1	HD: HTR 31 TO COND

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MS-"A" Header to MSR 31A	Main Steam: Moisture Preseparator Header to MSR 31A	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.167	1	MS: PRESEPS TO MSR
MS-"A" Header to MSR 31A & 32A	Main Steam: Moisture Preseparator Header to MSR 31A and 32A	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.333	1	MS: PRESEPS TO MSR
MS-"A" Header to MSR 32A	Main Steam: Moisture Preseparator Header to MSR 32A	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.167	1	MS: PRESEPS TO MSR
MS-"A" Header to MSR 33A	Main Steam: Moisture Preseparator Header to MSR 33A	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.167	1	MS: PRESEPS TO MSR
MS-"A" MSR Header	Main Steam: Moisture Preseparator Header to A MSRs	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.5	1	MS: PRESEPS TO MSR
MS-"B" Header to MSR 31B	Main Steam: Moisture Preseparator Header to MSR 31B	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.167	1	MS: PRESEPS TO MSR
MS-"B" Header to MSR 31B & 32B	Main Steam: Moisture Preseparator Header to MSR 31Band 32B	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.333	1	MS: PRESEPS TO MSR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MS-"B" Header to MSR 32B	Main Steam: Moisture Preseparator Header to MSR 32B	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.167	1	MS: PRESEPS TO MSR
MS-"B" Header to MSR 33B	Main Steam: Moisture Preseparator Header to MSR 33B	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.167	1	MS: PRESEPS TO MSR
MS-"B" MSR Header	Main Steam: Moisture Preseparator Header to B MSRs	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.5	1	MS: PRESEPS TO MSR
MSD-01.11A_1 MSEP 33A to HDR	Moist Sep Dr: Moist Separator 33A Drain to Header (Line 1 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.11A_2 MSEP 33A to HDR	Moist Sep Dr: Moist Separator 33A Drain to Header (Line 2 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.11A_3 MSEP 33A to HDR	Moist Sep Dr: Moist Separator 33A Drain to Header (Line 3 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.11B_1 MSEP 33B to HDR	Moist Sep Dr: Moist Separator 33B Drain to Header (Line 1 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MSD-01.11B_2 MSEP 33B to HDR	Moist Sep Dr: Moist Separator 33B Drain to Header (Line 2 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.11B_3 MSEP 33B to HDR	Moist Sep Dr: Moist Separator 33B Drain to Header (Line 3 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.12A MSEP 33A DR HDR	Moist Sep Dr: Moist Separator 33A Drain Header Upstream of Takeoff to Moist Separator Drain Tank	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.12B MSEP 33B DR HDR	Moist Sep Dr: Moist Separator 33B Drain Header Upstream of Takeoff to Moist Separator Drain Tank	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.13A HDR to MSEP TK 33A	Moist Sep Dr: Moist Separator 33A Drain Header to Moist Separator Drain Tank 33A	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT
MSD-01.13B HDR to MSEP TK 33B	Moist Sep Dr: Moist Separator 33B Drain Header to Moist Separator Drain Tank 33B	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 33 TO MSDT

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MSD-01.14A TK 33A to HD TK	Moist Sep Dr: Moist Separator Drain Tank 33A to Heater Drain Tank	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MSDT 33 TO HDT
MSD-01.14B TK 33B to HD TK	Moist Sep Dr: Moist Separator Drain Tank 33B to Heater Drain Tank	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MSDT 33 TO HDT
MSD-01.1A_1 MSEP 31A to HDR	Moist Sep Dr: Moist Separator 31A Drain to Header (Line 1 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.1A_2 MSEP 31A to HDR	Moist Sep Dr: Moist Separator 31A Drain to Header (Line 2 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.1A_3 MSEP 31A to HDR	Moist Sep Dr: Moist Separator 31A Drain to Header (Line 3 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.1B_1 MSEP 31B to HDR	Moist Sep Dr: Moist Separator 31B Drain to Header (Line 1 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.1B_2 MSEP 31B to HDR	Moist Sep Dr: Moist Separator 31B Drain to Header (Line 2 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MSD-01.1B_3 MSEP 31B to HDR	Moist Sep Dr: Moist Separator 31B Drain to Header (Line 3 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.2A MSEP 31A DR HDR	Moist Sep Dr: Moist Separator 31A Drain Header Upstream of Takeoff to Moist Separator Drain Tank	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.2B MSEP 31B DR HDR	Moist Sep Dr: Moist Separator 31B Drain Header Upstream of Takeoff to Moist Separator Drain Tank	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.3A HDR to MSEP TK 31A	Moist Sep Dr: Moist Separator 31A Drain Header to Moist Separator Drain Tank 31A	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.3B HDR to MSEP TK 31B	Moist Sep Dr: Moist Separator 31B Drain Header to Moist Separator Drain Tank 31B	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.4A TK 31A to HD TK	Moist Sep Dr: Moist Separator Drain Tank 31A to Heater Drain Tank	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MSD-01.4B TK 31B to HD TK	Moist Sep Dr: Moist Separator Drain Tank 31B to Heater Drain Tank	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 31 TO HDT
MSD-01.6A_1 MSEP 32A to HDR	Moist Sep Dr: Moist Separator 32A Drain to Header (Line 1 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.6A_2 MSEP 32A to HDR	Moist Sep Dr: Moist Separator 32A Drain to Header (Line 2 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.6A_3 MSEP 32A to HDR	Moist Sep Dr: Moist Separator 32A Drain to Header (Line 3 of 3)	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.6B_1 MSEP 32B to HDR	Moist Sep Dr: Moist Separator 32B Drain to Header (Line 1 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.6B_2 MSEP 32B to HDR	Moist Sep Dr: Moist Separator 32B Drain to Header (Line 2 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.6B_3 MSEP 32B to HDR	Moist Sep Dr: Moist Separator 32B Drain to Header (Line 3 of 3)	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MSD-01.7A MSEP 32A DR HDR	Moist Sep Dr: Moist Separator 32A Drain Header Upstream of Takeoff to Moist Separator Drain Tank	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.7B MSEP 32B DR HDR	Moist Sep Dr: Moist Separator 32B Drain Header Upstream of Takeoff to Moist Separator Drain Tank	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.8A HDR to MSEP TK 32A	Moist Sep Dr: Moist Separator 32A Drain Header to Moist Separator Drain Tank 32A	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.8B HDR to MSEP TK 32B	Moist Sep Dr: Moist Separator 32B Drain Header to Moist Separator Drain Tank 32B	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MS 32 TO MSDT
MSD-01.9A TK 32A to HD TK	Moist Sep Dr: Moist Separator Drain Tank 32A to Heater Drain Tank	EC-F-20233 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	MSD: MSDT 32 TO HDT
MSD-01.9B TK 32B to HD TK	Moist Sep Dr: Moist Separator Drain Tank 32B to Heater Drain Tank	EC-F-20233 Sh. 2	ARD	Moisture Separator Drain Line 1	1	1	MSD: MSDT 32 TO HDT

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MSD-MS Drain Tank 31A to DCT	Moist Sep Dr: MS Drain Tank 31A Drain to Drains Collecting Tank	9321-F-20233 Sh. 1	HBD	Moisture Separator Drain Line 1	0.167	1	MSD: MSDT TO DCT
MSD-MS Drain Tank 31B to DCT	Moist Sep Dr: MS Drain Tank 31B Drain to Drains Collecting Tank	9321-F-20233 Sh. 2	HBD	Moisture Separator Drain Line 1	0.167	1	MSD: MSDT TO DCT
MSD-MS Drain Tank 32A to DCT	Moist Sep Dr: MS Drain Tank 32A Drain to Drains Collecting Tank	9321-F-20233 Sh. 1	HBD	Moisture Separator Drain Line 1	0.167	1	MSD: MSDT TO DCT
MSD-MS Drain Tank 32B to DCT	Moist Sep Dr: MS Drain Tank 32B Drain to Drains Collecting Tank	9321-F-20233 Sh. 2	HBD	Moisture Separator Drain Line 1	0.167	1	MSD: MSDT TO DCT
MSD-MS Drain Tank 33A to DCT	Moist Sep Dr: MS Drain Tank 33A Drain to Drains Collecting Tank	9321-F-20233 Sh. 1	HBD	Moisture Separator Drain Line 1	0.167	1	MSD: MSDT TO DCT
MSD-MS Drain Tank 33B to DCT	Moist Sep Dr: MS Drain Tank 33B Drain to Drains Collecting Tank	9321-F-20233 Sh. 2	HBD	Moisture Separator Drain Line 1	0.167	1	MSD: MSDT TO DCT
MS-HP Turbine to Presep 1A	Main Steam: HP Turbine Crossunder to Moisture Preseparator 1A	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: HPTURB TO PRESEPS
MS-HP Turbine to Presep 1B	Main Steam: HP Turbine Crossunder to Moisture Preseparator 1B	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: HPTURB TO PRESEPS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
MS-HP Turbine to Presep 2A	Main Steam: HP Turbine Crossunder to Moisture Preseparator 2A	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: HPTURB TO PRESEPS
MS-HP Turbine to Presep 2B	Main Steam: HP Turbine Crossunder to Moisture Preseparator 2B	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: HPTURB TO PRESEPS
MS-Presep 1A to "A" MSR Header	Main Steam: Moisture Preseparator 1A to MSR Header	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: PRESEPS TO MSR
MS-Presep 1B to "B" MSR Header	Main Steam: Moisture Preseparator 1B to MSR Header	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: PRESEPS TO MSR
MS-Presep 2A to "A" MSR Header	Main Steam: Moisture Preseparator 2A to MSR Header	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: PRESEPS TO MSR
MS-Presep 2B to "B" MSR Header	Main Steam: Moisture Preseparator 2B to MSR Header	9321-F-20203 Sh. 1	HBD	Main Steam Line 2	0.25	1	MS: PRESEPS TO MSR
PD-01.1 PRESEP 1B DR to HDR	Presep Dr: Moisture Preseparator 1B Drain to Header	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS
PD-01.3 PRESEP 1A DR to HDR	Presep Dr: Moisture Preseparator 1A Drain to Header	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
PD-01.5 PRESEP 2B DR to HDR	Presep Dr: Moisture Preseparator 2B Drain to Header	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS
PD-01.7 PRESEP 2A DR to HDR	Presep Dr: Moisture Preseparator 2A Drain to Header	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS
PD-02.2 PRESEP HDR to HD TK	Presep Dr: Moisture Preseparators Drain Header Between 1A Connection and 2B Connection	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS
PD-02.3 PRESEP HDR to HD TK	Presep Dr: Moisture Preseparators Drain Header Between 2B Connection and 2A Connection	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS
PD-02.4 PRESEP HDR to HD TK	Presep Dr: Moisture Preseparators Drain Header to Heater Drain Tank	EC-F-20223 Sh. 1	ARD	Moisture Separator Drain Line 1	1	1	PD: PRESEPRTR DRAINS
RHD-01.10A_1 RH 33A to TK 33A	Reheater Dr: Reheater 33A Drain to Reheater Drain Tank 33A	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 33 TO HDR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
RHD-01.10A_2 TK 33A to A HDR	Reheater Dr: Reheater Drain Tank 33A to Reheater Drain Tank "A-Train" Header	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 33 TO HDR
RHD-01.10B_1 RH 33B to TK 33B	Reheater Dr: Reheater 33B Drain to Reheater Drain Tank 33B	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 33 TO HDR
RHD-01.10B_2 TK 33B to B HDR	Reheater Dr: Reheater Drain Tank 33B to Reheater Drain Tank "B-Train" Header	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 33 TO HDR
RHD-01.1A_1 RH 31A to TK 31A	Reheater Dr: Reheater 31A Drain to Reheater Drain Tank 31A	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 31 TO HDR
RHD-01.1A_2 TK 31A to A HDR	Reheater Dr: Reheater Drain Tank 31A to Reheater Drain Tank "A-Train" Header	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 31 TO HDR
RHD-01.1B_1 RH 31B to TK 31B	Reheater Dr: Reheater 31B Drain to Reheater Drain Tank 31B	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 31 TO HDR

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
RHD-01.1B_2 TK 31B to B HDR	Reheater Dr: Reheater Drain Tank 31B to Reheater Drain Tank "B-Train" Header	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 31 TO HDR
RHD-01.3A_1 RH 32A to TK 32A	Reheater Dr: Reheater 32A Drain to Reheater Drain Tank 32A	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 32A TO HDR
RHD-01.3A_2 TK 32A to A HDR	Reheater Dr: Reheater Drain Tank 32A to Reheater Drain Tank "A-Train" Header	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 32A TO HDR
RHD-01.3B_1 RH 32B to TK 32B	Reheater Dr: Reheater 32B Drain to Reheater Drain Tank 32B	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 32B TO HDR
RHD-01.3B_2 TK 32B to B HDR	Reheater Dr: Reheater Drain Tank 32B to Reheater Drain Tank "B-Train" Header	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RH 32B TO HDR
RHD-02.10A TK A HDR to FWH 36	Reheater Dr: Reheater Drain Tanks Outlet "A-Train" Header Between FW Heater 36C Takeoff and FW Heater 36B Takeoff	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.333	1	RHD: RHD HDR TO HTRS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
RHD-02.10B B HDR to FWH 36A	Reheater Dr: Reheater Drain Tank "B-Train" Header to FW Heater 36A	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RHD HDR TO HTRS
RHD-02.11A A HDR to FWH 36A	Reheater Dr: Reheater Drain Tank "A-Train" Header to FW Heater 36A	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RHD HDR TO HTRS
RHD-02.12B B HDR to FWH 36B	Reheater Dr: Reheater Drain Tank "B-Train" Header to FW Heater 36B	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RHD HDR TO HTRS
RHD-02.13A A HDR to FWH 36B	Reheater Dr: Reheater Drain Tank "A-Train" Header to FW Heater 36B	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RHD HDR TO HTRS
RHD-02.14B B HDR to FWH 36C	Reheater Dr: Reheater Drain Tank "B-Train" Header to FW Heater 36C	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RHD HDR TO HTRS
RHD-02.15A A HDR to FWH 36C	Reheater Dr: Reheater Drain Tank "A-Train" Header to FW Heater 36C	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.167	1	RHD: RHD HDR TO HTRS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
RHD-02.7B TK B HDR to FWH 36	Reheater Dr: Reheater Drain Tanks Outlet "B-Train" Header Between Tank 33B Connection and Tank 32B Connection	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.333	1	RHD: RHD HDR TO HTRS
RHD-02.8A TK A HDR to FWH 36	Reheater Dr: Reheater Drain Tanks Outlet "A-Train" Header Between Tank 33A Connection and Tank 31A Connection	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.333	1	RHD: RHD HDR TO HTRS
RHD-02.8B TK B HDR to FWH 36	Reheater Dr: Reheater Drain Tanks Outlet "B-Train" Header Between Tank 32B Connection and FW Heater 36C Takeoff	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.5	1	RHD: RHD HDR TO HTRS
RHD-02.9A TK A HDR to FWH 36	Reheater Dr: Reheater Drain Tanks Outlet "A-Train" Header Between Tank 31A Connection and FW Heater 36C Takeoff	EC-F-20233 Sh. 1	HBD	Reheater Steam & Drain Line 1	0.5	1	RHD: RHD HDR TO HTRS

CHECWORKS Line Name	Line Description	Flow Diagram No.	Op. Cond. Source	Steam Cycle Loc.	Flow Factor	Duty Factor	WRA Run Name
RHD-02.9B TK B HDR to FWH 36	Reheater Dr: Reheater Drain Tanks Outlet "B-Train" Header Between FW Heater 36C Takeoff and FW Heater 36B Takeoff	EC-F-20233 Sh. 2	HBD	Reheater Steam & Drain Line 1	0.333	1	RHD: RHD HDR TO HTRS
xEX-03.1A LP EXT 12 to FWH 34A	Ext Steam: LP Extraction No. 12 from LP Turbine 33 to FW Heater 34A	EC-F-20203 Sh. 2	N/A	LP Extraction Steam Line 1	N/A	N/A	N/A
xEX-03.1B LP EXT 12 to FWH 34B	Ext Steam: LP Extraction No. 12 from LP Turbine 32 to FW Heater 34B	EC-F-20203 Sh. 2	N/A	LP Extraction Steam Line 1	N/A	N/A	N/A
xEX-03.1C LP EXT 12 to FWH 34C	Ext Steam: LP Extraction No. 12 from LP Turbine 31 to FW Heater 34C	EC-F-20203 Sh. 2	N/A	LP Extraction Steam Line 1	N/A	N/A	N/A

Appendix E

Component Summary Report

Table of Contents

Company : Entergy Nuclear Operations, Inc.
Plant : Indian Point
Unit : 3
DB Name: IPEC3(v3)

Report Date : 09-Feb-2010
Report Time : 14:14:45

CHECWORKS SFA Version: 3.0 (build 105)

Component Summary Report

(By Flow Order)

SELECTION CRITERIA:

Line Name: *
Drawing Name: *
Comp. Service Status: *

Component Name	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (in)	R / D Ratio	Orient Angle (Deg.)	Pipe Length (in)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (%)	Design Press. (psig)	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)	D/S Mn.	Br.
Line Name : CD-01.1A FWH 31A to FWH 32A																								
CD-01.1A-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-02P	61	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-03E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-04P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-08P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-09E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-10P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-11E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-12P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1A-13N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-01.1B FWH 31B to FWH 32B																								
CD-01.1B-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-02P	61	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-03E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-04P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-08P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-09E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-10P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-11E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-12P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1B-13N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-01.1C FWH 31C to FWH 32C																								
CD-01.1C-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-02P	61	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-03E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-04P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
CD-01.1C-08P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-09E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-10P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-11E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-12P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000
CD-01.1C-13N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-10	156	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-02.11 SGBD HX3 to FWH HDR

CD-02.11-01N	31	8.625	40	0.322	0.812	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-03E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-04P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-05E	1	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-06P	51	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-07E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-08P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-09P	9	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-10E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-11P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.11-12E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-01P	60	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-02E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-03P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-04V	22	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-05P	58	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-06E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-07P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	76	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-08E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-09P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-10E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000
CD-02.12-11P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	272	0.000	0.000	0.50000	0.00000	0.00000

Line Name : CD-02.1A FWH 32A to HDR

CD-02.1A-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-02P	61	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-03E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-04P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-05V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-08P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-09E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-10P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	16	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-11E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-12P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-14P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1A-13R	18	20.000	40	0.594	0.000	0.000	14.000	0.438	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	3.12600	0.00000

Line Name : CD-02.2 FWH 32 OUT HDR

CD-02.1B-11T	12	20.000	40	0.594	0.624	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	6.25200	3.12600

Line Name : CD-02.1B FWH 32B to HDR

CD-02.1B-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-02P	61	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-03E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-04P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
CD-02.1B-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-07V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-08P	58	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-09E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1B-10P	52	14.000	40	0.438	0.661	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-02.1C FWH 32C to HDR

CD-02.1C-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-02P	61	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	30	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-03E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-04P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-07P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-08V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-09P	58	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-10E	2	14.000	40	0.438	0.575	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000
CD-02.1C-11P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-02.2 FWH 32 OUT HDR

CD-02.2-01P	62	20.000	0	0.594	0.594	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	6.25200	0.00000	0.00000
CD-02.2-03P	9	20.000	0	0.594	0.594	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	6.25200	0.00000	0.00000
CD-02.2-02R	18	24.000	40	0.688	0.000	0.000	20.000	0.594	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	6.25200	6.25200	0.00000

Line Name : CD-02.3 FWH 32 OUT HDR

CD-02.1C-12T	12	24.000	40	0.688	0.692	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	6.25200	9.37800	3.12600
CD-02.3-01P	62	24.000	40	0.688	0.736	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-02T	15	24.000	0	0.688	0.688	0.000	12.000	0.406	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	9.37800	0.00000
CD-02.3-03P	65	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-04E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-05E	3	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-06P	53	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-07E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-08P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-09E	1	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-10P	51	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-16P	9	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-11E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-12P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-13E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-14P	54	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	0.00000	0.00000
CD-02.3-15T	14	24.000	0	0.688	0.688	0.000	18.000	0.500	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	9.37800	8.87800	0.50000

Line Name : CD-02.4 FWH 32 OUT HDR

CD-02.3-17P	62	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	0.00000	0.00000
CD-02.4-01R	7	24.000	40	0.688	0.000	0.000	20.000	0.594	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	8.87800	0.00000
CD-02.4-02V	23	20.000	0	0.594	0.594	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	0.00000	0.00000
CD-02.4-03P	58	20.000	0	0.594	0.594	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	0.00000	0.00000
CD-02.4-04E	19	24.000	40	0.688	0.864	0.000	20.000	0.594	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	8.87800	0.00000
CD-02.5-01P	69	24.000	40	0.688	0.754	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	0.00000	0.00000
CD-02.5-02E	2	24.000	40	0.688	0.994	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	8.87800	0.00000	0.00000

Line Name : CD-02.5 FWH 32 OUT HDR

CD-02.5-03T	12	24.000	0	0.688	0.688	0.000	18.000	0.562	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	8.87800	9.37800	0.50000
CD-02.5-04T	14	24.000	40	0.688	0.730	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	9.37800	6.25200	3.12600

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : CD-02.6 FWH 32 OUT HDR																								
CD-02.6-01T	15	24.000	40	0.688	0.693	0.000	12.000	0.406	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	6.25200	6.25200	0.00000
CD-02.6-02P	65	24.000	40	0.688	0.693	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	6.25200	0.00000	0.00000
CD-02.6-03T	14	24.000	40	0.688	0.694	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	6.25200	3.12600	3.12600
Line Name : CD-02.8A HDR to FWH 33A																								
CD-02.7-01P	64	24.000	40	0.688	0.675	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.7-02T	14	24.000	0	0.688	0.688	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	3.12600
CD-02.8A-01P	64	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-03P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-04V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-05E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-06P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8A-08N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-02.8B HDR to FWH 33B																								
CD-02.8B-01P	64	14.000	40	0.438	0.445	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-02E	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-03P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-04V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-05E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-06P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8B-08N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-02.8C HDR to FWH 33C																								
CD-02.8C-01P	64	14.000	40	0.438	0.629	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-02E	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-03P	54	14.000	40	0.438	0.594	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-04V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-05E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-06P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
CD-02.8C-08N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	196	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-02.9 FWH HDR to SGBD HX3																								
CD-02.9-01P	63	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-02E	4	18.000	0	0.562	0.562	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-03P	54	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-04V	22	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-05P	58	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-06E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-07P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-08E	4	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-09P	54	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-10P	9	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-11E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-12P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-13E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-14P	52	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-15P	9	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
CD-02.9-16E	2	18.000	0	0.562	0.562	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.9-17T	14	18.000	0	0.562	0.562	0.000	8.000	0.322	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.50000
CD-02.10-01P	64	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-02O	6	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-03P	56	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-04E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-05P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-06E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-07P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-08E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-09P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-10E	4	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000
CD-02.10-11N	30	8.625	0	0.812	0.812	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	-5	191	0.000	0.000	0.50000	0.00000	0.00000

Line Name : CD-03.1A FWH 33A to FWH 34A

CD-03.1A-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-05E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-15P	51	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	135	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-07P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-14P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-08E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-09P	51	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-10E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-11P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-12E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1A-13N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-03.1B FWH 33B to FWH 34B

CD-03.1B-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-05E	2	14.000	40	0.438	0.547	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-06E	4	14.000	40	0.438	0.555	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-07P	54	14.000	40	0.438	0.477	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-12P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-08E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-09P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-10E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1B-11N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-03.1C FWH 33C to FWH 34C

CD-03.1C-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-06E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-07P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-12P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-08E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-09P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-10E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000
CD-03.1C-11N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	12	244	0.000	0.000	3.12600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : CD-04.1A FWH 34A to FWH 35A																								
CD-04.1A-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-06P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-07E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-08P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-09E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-10P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-15P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-11E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-12P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-13E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1A-14N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-04.1B FWH 34B to FWH 35B																								
CD-04.1B-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-06E	3	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-07P	53	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-08E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-09P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-10E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-11P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-17P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-12E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-13E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-14P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-15E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1B-16N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-04.1C FWH 34C to FWH 35C																								
CD-04.1C-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-02E	4	14.000	40	0.438	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-03E	4	14.000	40	0.438	0.570	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-05E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-06P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-07E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-08E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-09P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-14P	9	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-10E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-11P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-12E	1	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
CD-04.1C-13N	30	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	46	294	0.000	0.000	3.12600	0.00000	0.00000
Line Name : CD-05.1A FWH 35A to HDR																								
CD-05.1A-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
CD-05.1A-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-05V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-06P	58	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-07E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-08P	52	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-09E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-10P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1A-11R	18	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	3.12600	0.00000
CD-05.2-01P	68	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-05.3 FWH 35 OUT HDR

CD-05.1B-09T	12	24.000	40	0.688	0.724	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	6.25200	3.12600

Line Name : CD-05.1B FWH 35B to HDR

CD-05.1B-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-05V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-06P	58	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-07E	2	14.000	40	0.438	0.575	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1B-08P	52	14.000	40	0.438	0.465	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-05.1C FWH 35C to HDR

CD-05.1C-01N	31	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-02E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-03E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-04P	54	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-05V	22	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-06P	58	14.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-07E	2	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-08E	4	14.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000
CD-05.1C-09P	54	14.000	40	0.438	0.498	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	3.12600	0.00000	0.00000

Line Name : CD-05.3 FWH 35 OUT HDR

CD-05.3-01P	62	24.000	40	0.688	0.724	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	6.25200	0.00000	0.00000

Line Name : CD-05.4 FWH 35 OUT HDR

CD-05.1C-10T	12	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	6.25200	9.37800	3.12600
CD-05.4-04P	62	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	9.37800	0.00000	0.00000
CD-05.4-01E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	9.37800	0.00000	0.00000
CD-05.4-02P	54	24.000	40	0.688	0.722	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	9.37800	0.00000	0.00000
CD-05.4-05P	60	30.000	0	0.625	0.625	0.000	0.000	0.000	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	665	400	162	372	0.000	0.000	9.37800	0.00000	0.00000

Line Name : CD-06.1 FWH 35 OUT HDR

CD-06.1-01T	12	30.000	0	0.625	0.659	0.000	16.000	0.500	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	9.37800	13.02500	3.64700
CD-06.1-02P	62	28.000	0	0.625	0.663	0.000	0.000	0.000	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	13.02500	0.00000	0.00000
CD-06.1-03T	14	30.000	0	0.625	0.702	0.000	24.000	0.688	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	13.02500	6.51250	6.51250

Line Name : CD-06.2A HDR to BFP 31

CD-06.2A-01P	64	24.000	40	0.688	0.721	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-02E	2	24.000	40	0.688	0.729	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
CD-06.2A-03P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-04E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-05P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-06E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-07V	22	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-08P	58	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-09E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-10P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-11E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-12P	54	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-13E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-14P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-15E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-16P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-17E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-18P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-19E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-20E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-21P	54	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-22P	9	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-23P	9	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-24O	6	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-25P	56	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-26E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-27P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-28E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-29P	54	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-30E	1	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-31E	3	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-32P	53	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-33E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2A-34P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.3A-01R	17	24.000	40	0.688	0.000	0.000	18.000	0.562	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	6.51200	0.00000
CD-06.3A-02N	30	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000

Line Name : CD-06.2B HDR to BFP 32

CD-06.2B-01R	7	30.000	0	0.625	0.000	0.000	24.000	0.688	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	625	400	156	369	0.000	0.000	6.51200	6.51200	0.00000
CD-06.2B-02P	57	24.000	40	0.688	0.702	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-35P	9	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-03T	15	24.000	0	0.688	0.688	0.000	12.000	0.406	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	6.51200	0.00000
CD-06.2B-04T	13	24.000	0	0.688	0.688	0.000	24.000	0.688	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	6.51200
CD-06.2B-05V	22	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-06E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-07P	54	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-36P	9	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-08O	6	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-09P	56	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-10E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-11P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-12E	4	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-13P	54	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-14E	2	24.000	0	0.688	0.688	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.2B-15P	52	24.000	0	0.688	0.688	0.000	0.000	0.000	0.00	180	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000
CD-06.3B-01R	17	24.000	40	0.688	0.000	0.000	18.000	0.562	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	6.51200	0.00000
CD-06.3B-02N	30	18.000	0	0.562	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	665	400	156	369	0.000	0.000	6.51200	0.00000	0.00000

Line Name : EX-01.1 HP EXT to FWH 36 HDR

EX-01.1-01N	31	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.00000	0.00000
EX-01.1-02E	4	12.750	0	0.330	0.446	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.35300	0.00000	0.00000
EX-01.1-03P	54	12.750	0	0.330	0.352	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.35300	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-01.1-04E	4	12.750	0	0.330	0.450	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.35300	0.00000	0.00000
EX-01.1-05P	54	12.750	0	0.330	0.368	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.35300	0.00000	0.00000
EX-01.1-06E	2	12.750	0	0.330	0.330	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.00000	0.00000
EX-01.1-07P	52	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.00000	0.00000
EX-01.1-08R	18	18.000	0	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.35300	0.00000
EX-01.6-01P	68	18.000	0	0.375	0.378	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.35300	0.00000	0.00000

Line Name : EX-01.3 HP EXT FWH 36 HEADER

EX-01.2-10L	12	18.000	0	0.375	0.482	0.000	12.750	0.375	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.35300	0.70600	0.35300

Line Name : EX-01.2 HP EXT to FWH 36 HDR

EX-01.2-01N	31	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.00000	0.00000
EX-01.2-02E	4	12.750	0	0.330	0.000	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.35300	0.00000	0.00000
EX-01.2-03P	54	12.750	0	0.330	0.385	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.35300	0.00000	0.00000
EX-01.2-04E	3	12.750	0	0.330	0.330	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.00000	0.00000
EX-01.2-05P	53	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.35300	0.00000	0.00000
EX-01.2-06E	4	12.750	0	0.330	0.330	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.850	0.000	0.35300	0.00000	0.00000
EX-01.2-07P	54	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.35300	0.00000	0.00000
EX-01.2-08E	1	12.750	0	0.330	0.330	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.35300	0.00000	0.00000
EX-01.2-09P	51	12.750	0	0.375	0.357	0.000	0.000	0.000	0.00	135	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.820	0.000	0.35300	0.00000	0.00000

Line Name : EX-01.3 HP EXT FWH 36 HEADER

EX-01.3-01P	62	18.000	0	0.438	0.456	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.70600	0.00000	0.00000
EX-01.3-02E	2	18.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-03P	52	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-04T	15	18.000	0	0.438	0.468	0.000	6.625	0.280	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.70600	0.70600	0.00000
EX-01.3-05P	65	18.000	0	0.438	0.464	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.70600	0.00000	0.00000
EX-01.3-06V	22	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-07V	25	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-08V	25	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-09E	4	18.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-10P	54	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-11T	15	18.000	0	0.438	0.438	0.000	4.500	0.237	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.70600	0.00000
EX-01.3-12P	65	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-13E	2	18.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-14P	52	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-15E	2	18.000	0	0.438	0.438	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-16P	52	18.000	0	0.438	0.460	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.70600	0.00000	0.00000
EX-01.3-17T	15	18.000	0	0.438	0.501	0.000	6.625	0.280	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.70600	0.70600	0.00000
EX-01.3-19E	4	18.000	0	0.438	0.000	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.70600	0.00000	0.00000
EX-01.3-20P	54	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-21E	2	18.000	0	0.438	0.438	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.70600	0.00000	0.00000
EX-01.3-22P	52	18.000	0	0.438	0.528	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.70600	0.00000	0.00000
EX-01.3-23T	14	18.000	0	0.438	0.539	0.000	12.750	0.330	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.820	0.000	0.70600	0.47100	0.23500

Line Name : EX-01.4 HP EXT FWH 36 HEADER

EX-01.4-01P	63	18.000	0	0.438	0.528	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.47100	0.00000	0.00000
EX-01.4-02T	14	18.000	0	0.438	0.439	0.000	12.750	0.330	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.47100	0.23600	0.23500

Line Name : EX-01.5A HP EX HDR to FWH 36A

EX-01.7-01P	63	18.000	0	0.438	0.438	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.23500	0.00000	0.00000
EX-01.5A-01R	7	18.000	0	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.23500	0.00000
EX-01.5A-02P	57	12.750	0	0.330	0.374	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000
EX-01.5A-03E	102	12.750	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000
EX-01.5A-04P	52	12.750	0	0.375	0.411	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-01.5A-05E	4	12.750	0	0.375	0.419	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000
EX-01.5A-06P	54	12.750	0	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.820	0.000	0.23500	0.00000	0.00000
EX-01.5A-16L	12	12.750	0	0.375	0.000	0.000	3.500	0.216	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	905.640	0.000	0.23500	0.36810	0.13310
EX-01.5A-07L	12	12.750	0	0.375	0.000	0.000	3.500	0.216	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.36810	0.50070	0.13260
EX-01.5A-08P	62	12.750	0	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-09E	102	12.750	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-10P	52	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-11V	22	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-12P	58	12.750	0	0.330	0.387	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-13E	2	12.750	0	0.330	0.426	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-17P	52	12.750	0	0.330	0.335	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50100	0.00000	0.00000
EX-01.5A-14E	4	12.750	0	0.330	0.470	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5A-15N	30	12.750	0	0.330	0.309	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000

Line Name : EX-01.5B HP EX HDR to FWH 36B

EX-01.5B-01P	64	12.750	0	0.330	0.363	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.830	0.000	0.23500	0.00000	0.00000
EX-01.5B-02E	2	12.750	0	0.330	0.477	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.820	0.000	0.23500	0.00000	0.00000
EX-01.5B-03P	52	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.859	0.000	0.23500	0.00000	0.00000
EX.01.5B-14L	12	12.750	0	0.330	0.330	0.000	3.500	0.216	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	905.640	0.000	0.23500	0.36810	0.13310
EX-01.5B-04L	12	12.750	0	0.330	0.330	0.000	3.500	0.216	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.36810	0.50070	0.13260
EX-01.5B-05P	62	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-06E	1	12.750	0	0.330	0.330	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-07E	4	12.750	0	0.330	0.330	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-08P	54	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-09V	22	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-10P	58	12.750	0	0.330	0.374	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-11E	2	12.750	0	0.330	0.452	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-15P	52	12.750	0	0.330	0.386	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50100	0.00000	0.00000
EX-01.5B-12E	4	12.750	0	0.330	0.543	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5B-13N	30	12.750	0	0.330	0.309	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000

Line Name : EX-01.5C HP EX HDR to FWH 36C

EX-01.5C-01P	64	12.750	0	0.330	0.450	0.000	0.000	0.000	0.00	180	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000
EX-01.5C-02E	2	12.750	0	0.330	0.423	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000
EX-01.5C-03P	52	12.750	0	0.330	0.377	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	1136.810	0.000	0.23500	0.00000	0.00000
EX.01.5C-14L	12	12.750	0	0.330	0.373	0.000	3.500	0.216	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	905.640	0.000	0.23500	0.36810	0.13310
EX-01.5C-04L	12	12.750	0	0.330	0.364	0.000	3.500	0.216	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.36810	0.50070	0.13260
EX-01.5C-05P	62	12.750	0	0.330	0.373	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-06E	1	12.750	0	0.330	0.431	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-07E	4	12.750	0	0.330	0.416	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50100	0.00000	0.00000
EX-01.5C-08P	54	12.750	0	0.330	0.356	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-09V	22	12.750	0	0.330	0.330	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-10P	58	12.750	0	0.330	0.358	0.000	0.000	0.000	0.00	0	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-11E	2	12.750	0	0.330	0.448	0.000	0.000	0.000	1.50	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-15P	52	12.750	0	0.330	0.337	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50100	0.00000	0.00000
EX-01.5C-12E	4	12.750	0	0.330	0.485	0.000	0.000	0.000	1.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000
EX-01.5C-13N	30	12.750	0	0.330	0.309	0.000	0.000	0.000	0.00	90	0.00	A-213/TP304TP3/	0.00	0.00	0.00	450	450	334	0	796.929	0.000	0.50070	0.00000	0.00000

Line Name : EX-02.1 PSEP 2A 10" to 35 HDR

EX-02.1-01N	31	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.1-02P	61	10.750	40	0.365	0.378	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.1-03E	4	10.750	40	0.365	0.425	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.1-04P	54	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.1-05O	6	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.5-01P	60	18.000	XS	0.500	0.500	0.000	0.000	0.000	0.00	180	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08650	0.00000	0.00000

Line Name : EX-02.6 PSEP 1A&2A to 35 HDR

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-02.2-07T	12	18.000	XS	0.500	0.500	0.000	10.750	0.365	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08650	0.17300	0.08650
Line Name : EX-02.11 PSEP1B 14" to 35 HDR																								
EX-02.11-02P	64	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	135	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.11-03E	4	14.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.11-04P	54	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.11-06O	6	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.11-07P	56	14.000	0	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
Line Name : EX-02.12 PSEP 1B&2B to 35 HDR																								
EX-02.12-01P	62	18.000	XS	0.500	0.500	0.000	0.000	0.000	0.00	180	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.17300	0.00000	0.00000
Line Name : EX-02.13 PSEP 1B&2B to 35 HDR																								
EX-02.11-05T	12	18.000	XS	0.500	0.500	0.000	14.000	0.375	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.570	0.000	0.17300	0.46500	0.29200
EX-02.13-01P	62	18.000	XS	0.500	0.500	0.000	0.000	0.000	0.00	180	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
EX-02.13-02B	1	18.000	XS	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
EX-02.13-03E	4	18.000	XS	0.500	0.375	0.000	0.000	0.000	1.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
EX-02.13-03P	54	18.000	XS	0.500	0.000	0.000	0.000	0.000	0.00	135	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
EX-02.13-04E	3	18.000	XS	0.500	0.375	0.000	0.000	0.000	1.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
EX-02.13-05P	53	18.000	XS	0.500	0.375	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
EX-02.13-06R	18	28.000	0	0.375	0.000	0.000	18.000	0.312	0.00	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.46500	0.00000
Line Name : EX-02.14 FWH 35 HEADER																								
EX-02.7-02T	12	28.000	0	0.375	0.375	0.000	18.000	0.375	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.46400	0.92900	0.46500
EX-02.14-01P	62	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-02E	2	28.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-03P	52	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-04T	15	28.000	0	0.375	0.375	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.92900	0.00000
EX-02.14-05P	65	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-06E	2	28.000	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.590	0.000	0.92900	0.00000	0.00000
EX-02.14-07P	52	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	0	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-08E	2	28.000	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-09P	52	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-10V	22	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-11V	25	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-12P	58	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-13V	25	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-31P	58	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-14E	3	28.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.600	0.000	0.92900	0.00000	0.00000
EX-02.14-32T	15	28.000	0	0.375	0.375	0.000	10.750	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.92900	0.00000
EX-02.14-16E	2	28.000	0	0.375	0.375	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-17P	52	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	180	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-18E	2	28.000	0	0.375	0.375	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-19P	52	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-20E	4	28.000	0	0.375	0.375	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-21P	54	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-33P	9	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.600	0.000	0.92900	0.00000	0.00000
EX-02.14-22T	15	28.000	0	0.375	0.375	0.000	6.625	0.280	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.92900	0.00000
EX-02.14-23P	65	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-24E	2	28.000	0	0.375	0.375	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-25E	4	28.000	0	0.375	0.375	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.00000	0.00000
EX-02.14-26P	54	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	0	0.00	A155/C552/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.92900	0.00000	0.00000
EX-02.14-27E	2	28.000	0	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.92900	0.00000	0.00000
EX-02.14-28P	52	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.92900	0.00000	0.00000
EX-02.14-29T	14	28.000	0	0.375	0.375	0.000	18.000	0.375	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.92900	0.61900	0.31000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : EX-02.15 FWH 35 HEADER																								
EX-02.15-01P	64	28.000	0	0.375	0.625	0.000	0.000	0.000	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.61900	0.00000	0.00000
EX-02.15-02T	14	28.000	0	0.375	0.656	0.000	18.000	0.375	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.61900	0.30900	0.31000
Line Name : EX-02.16 HDR 35 to FWH 35A																								
EX-02.19-01P	64	28.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.16-01R	7	28.000	0	0.375	0.000	0.000	18.000	0.312	0.00	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.31000	0.00000
EX-02.16-02P	57	18.000	0	0.375	0.284	0.000	0.000	0.000	0.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.16-03E	2	18.000	0	0.375	0.455	0.000	0.000	0.000	1.50	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.31000	0.00000	0.00000
EX-02.16-04P	52	18.000	0	0.375	0.346	0.000	0.000	0.000	0.00	0	0.00	A335/P22P22/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.31000	0.00000	0.00000
EX-02.16-05V	22	18.000	20	0.312	0.312	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
EX-02.16-06E	4	18.000	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.16-07P	54	18.000	0	0.375	0.380	0.000	0.000	0.000	0.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.16-08E	2	18.000	20	0.312	0.924	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.16-09N	30	18.000	20	0.312	0.293	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
Line Name : EX-02.17 HDR 35 to FWH 35B																								
EX-02.17-01P	64	18.000	0	0.375	0.375	0.000	0.000	0.000	0.00	0	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
EX-02.17-02V	22	18.000	20	0.312	0.312	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
EX-02.17-03E	4	18.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.17-04P	54	18.000	0	0.375	0.378	0.000	0.000	0.000	0.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.17-05E	2	18.000	20	0.312	0.968	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.17-06N	30	18.000	20	0.312	0.293	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.600	0.000	0.31000	0.00000	0.00000
Line Name : EX-02.18 HDR 35 to FWH 35C																								
EX-02.18-01P	64	18.000	0	0.375	0.375	0.000	0.000	0.000	0.00	0	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
EX-02.18-02V	22	18.000	20	0.312	0.312	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
EX-02.18-03E	4	18.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.18-04P	54	18.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A691/EFW22/	0.00	0.00	0.00	250	400	171	0	1179.560	0.000	0.31000	0.00000	0.00000
EX-02.18-05E	2	18.000	20	0.312	0.312	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.590	0.000	0.31000	0.00000	0.00000
EX-02.18-06N	30	18.000	20	0.312	0.293	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	0	1179.610	0.000	0.31000	0.00000	0.00000
Line Name : EX-02.2 PSEP 1A 10" to 35 HDR																								
EX-02.2-01N	31	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.2-02P	61	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.2-03E	2	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.2-04P	52	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	117	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.2-05E	2	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.2-06P	52	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.2-08O	6	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
Line Name : EX-02.4 PSEP2A 14" to 35 HDR																								
EX-02.4-02P	64	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	129	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.4-03E	4	14.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.4-04P	54	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.4-06O	6	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
EX-02.4-07P	56	14.000	0	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1192.180	0.000	0.29200	0.00000	0.00000
Line Name : EX-02.6 PSEP 1A&2A to 35 HDR																								
EX-02.6-01P	62	18.000	XS	0.500	0.500	0.000	0.000	0.000	0.00	180	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.17300	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : EX-02.7 PSEP 1A&2A to 35 HDR																								
EX-02.4-05T	12	18.000	XS	0.500	0.500	0.000	14.000	0.375	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.17300	0.46500	0.29200
EX-02.7-01P	62	18.000	XS	0.500	0.500	0.000	0.000	0.000	0.00	180	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1179.580	0.000	0.46500	0.00000	0.00000
Line Name : EX-02.8 PSEP 2B 10" to 35 HDR																								
EX-02.8-01N	31	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-02E	3	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-03P	53	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	113	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-04E	1	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-05P	51	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-07O	6	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-06E	3	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.8-09P	53	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
Line Name : EX-02.12 PSEP 1B&2B to 35 HDR																								
EX-02.9-10T	12	18.000	XS	0.500	0.500	0.000	10.750	0.365	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08650	0.17300	0.08650
Line Name : EX-02.9 PSEP 1B 10" to 35 HDR																								
EX-02.9-01N	31	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-02P	61	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-03E	2	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-04P	52	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	150	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-05E	2	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-06P	52	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-11O	6	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-07E	4	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-08P	54	10.750	40	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-09E	4	10.750	40	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
EX-02.9-10P	54	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	SA-21/TP304TP3/	0.00	0.00	0.00	250	400	171	0	1158.300	0.000	0.08600	0.00000	0.00000
Line Name : EX-04.1 LPEX14 to FWH33A HDR																								
EX-04.1-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.1-08X	6	20.000	0	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.1-02E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.1-03E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.1-04P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.1-05E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.1-07P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.3-01P	60	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
Line Name : EX-04.4 LPEX FWH 33A IN HDR																								
EX-04.2-09T	12	28.000	0	0.313	0.313	0.000	20.000	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.15860	0.07930
Line Name : EX-04.11 LPEX FWH 33B IN HDR																								
EX-04.11-01P	62	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-02T	15	28.000	0	0.313	0.313	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.11-03P	65	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-04V	22	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-05P	58	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-06V	25	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-07P	58	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-08E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-04.11-09E	3	28.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-10P	53	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	135	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-11E	3	28.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-12P	53	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-13E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-14P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	180	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-15E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-16P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-17T	15	28.000	0	0.313	0.313	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.11-18P	65	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.560	0.000	0.15860	0.00000	0.00000
EX-04.11-20P	9	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.11-19T	14	28.000	0	0.313	0.313	0.000	20.000	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.07930	0.07930

Line Name : EX-04.13 LP EXT 32 to FWH 33B

EX-04.12-01P	64	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.13-01R	7	28.000	0	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.07930	0.00000
EX-04.13-02P	57	20.000	0	0.250	0.255	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.560	0.000	0.07930	0.00000	0.00000
EX-04.13-07T	15	20.000	0	0.250	0.250	0.000	2.375	0.154	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.07930	0.00000
EX-04.13-03E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.13-04P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.13-05E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.13-06N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.14 LP EXT 32 to FWH 33B

EX-04.14-01P	64	20.000	0	0.250	0.276	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.14-02E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.14-03N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.15 LPEX14 to FWH33C HDR

EX-04.15-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.15-08X	6	20.000	0	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.15-02E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.15-03E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.15-04P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.15-05E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.15-07P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.17-01P	60	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.18 LPEX FWH 33C IN HDR

EX-04.16-09T	12	28.000	0	0.313	0.313	0.000	20.000	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.15860	0.07930

Line Name : EX-04.16 LPEX13 to FWH33C HDR

EX-04.16-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-10X	6	20.000	0	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-02E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-03E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-04P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-05E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-06P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-07E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.16-08P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.18 LPEX FWH 33C IN HDR

EX-04.18-01P	62	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-04.18-02T	15	28.000	0	0.313	0.313	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.18-03P	65	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.18-04V	22	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.18-05P	58	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.18-06V	25	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.19-01R	7	28.000	0	0.313	0.000	0.000	24.000	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.19-02V	23	24.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.19-03R	18	28.000	0	0.313	0.000	0.000	24.000	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.20-01P	68	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-02E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-03P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	180	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-04E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-05P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-06E	4	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-07P	54	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-08E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-09P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-10E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-11P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	180	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-12E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-13P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-14T	15	28.000	0	0.313	0.313	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.20-15P	65	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.20-16T	14	28.000	0	0.313	0.384	0.000	20.000	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.560	0.000	0.15860	0.07930	0.07930

Line Name : EX-04.2 LPEX13 to FWH33A HDR

EX-04.2-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-10X	6	20.000	0	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-02E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-03E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-04P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-05E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-06P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-07E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.2-08P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.21 LP EXT 31 to FWH 33C

EX-04.20-17P	64	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.21-01R	7	28.000	0	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.07930	0.00000
EX-04.21-02P	57	20.000	0	0.250	0.267	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.21-07T	15	20.000	0	0.250	0.250	0.000	2.375	0.154	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.07930	0.00000
EX-04.21-03E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.21-04P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.21-05E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.21-06N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.22 LP EXT 31 to FWH 33C

EX-04.22-01P	64	20.000	0	0.250	0.271	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.22-02E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.22-03N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.4 LPEX FWH 33A IN HDR

EX-04.4-01P	62	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-02T	15	28.000	0	0.313	0.313	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.4-03P	65	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-04V	22	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-04.4-05P	58	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-06V	25	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-07P	58	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-08E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-09P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	180	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-10E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-11P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-12E	4	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-13P	54	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-14E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-15P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-16E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-17P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	180	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-18E	2	28.000	0	0.313	0.313	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-19P	52	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-20T	15	28.000	0	0.313	0.313	0.000	6.625	0.280	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.15860	0.00000
EX-04.4-21P	65	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.560	0.000	0.15860	0.00000	0.00000
EX-04.4-23P	9	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.15860	0.00000	0.00000
EX-04.4-22T	14	28.000	0	0.313	0.352	0.000	20.000	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.15860	0.07930	0.07930

Line Name : EX-04.6 LP EXT to FWH 33A

EX-04.5-01P	64	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.560	0.000	0.07930	0.00000	0.00000
EX-04.6-01R	7	28.000	0	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.07930	0.00000
EX-04.6-02P	57	20.000	0	0.250	0.264	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.6-07T	15	20.000	0	0.250	0.262	0.000	2.375	0.154	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.07930	0.00000
EX-04.6-03E	2	20.000	0	0.250	0.461	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.6-04P	52	20.000	0	0.250	0.279	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.6-05E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.6-06N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.7 LP EXT to FWH 33A

EX-04.7-01P	64	20.000	0	0.250	0.264	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.570	0.000	0.07930	0.00000	0.00000
EX-04.7-02E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.7-03N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.8 LPEX14 to FWH33B HDR

EX-04.8-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.8-08X	6	20.000	0	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.8-02E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.8-03E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.8-04P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.8-05E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.8-07P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.10-01P	60	28.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Line Name : EX-04.11 LPEX FWH 33B IN HDR

EX-04.9-09T	12	28.000	0	0.313	0.313	0.000	20.000	0.250	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.15860	0.07930

Line Name : EX-04.9 LPEX13 to FWH33B HDR

EX-04.9-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-10X	6	20.000	0	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-02E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-03E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-04P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-05E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-04.9-06P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-07E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
EX-04.9-08P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	0	1120.600	0.000	0.07930	0.00000	0.00000
Line Name : EX-05.1A LP EXT 16 to FWH 32A																								
EX-05.1A-01N	31	22.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1A-02P	61	22.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1A-03E	3	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1A-04N	30	22.000	0	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
Line Name : EX-05.1B LP EXT 16 to FWH 32B																								
EX-05.1B-01N	31	22.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1B-02P	61	22.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1B-03E	3	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1B-04N	30	22.000	0	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
Line Name : EX-05.1C LP EXT 16 to FWH 32C																								
EX-05.1C-01N	31	22.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1C-02P	61	22.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1C-03E	3	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.1C-04N	30	22.000	0	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
Line Name : EX-05.2A LP EXT 15 to FWH 32A																								
EX-05.2A-01N	31	22.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2A-02E	4	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2A-03E	3	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2A-04P	53	22.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2A-05E	1	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2A-06N	30	22.000	0	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
Line Name : EX-05.2B LP EXT 15 to FWH 32B																								
EX-05.2B-01N	31	22.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2B-02E	4	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2B-03E	3	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2B-04P	53	22.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2B-05E	1	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2B-06N	30	22.000	0	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
Line Name : EX-05.2C LP EXT 15 to FWH 32C																								
EX-05.2C-01N	31	22.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2C-02E	4	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2C-03E	3	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2C-04P	53	22.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2C-05E	1	22.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
EX-05.2C-06N	30	22.000	0	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	815.400	0.000	0.06800	0.00000	0.00000
Line Name : EX-06.1A LP EXT 19 to FWH 31A																								
EX-06.1A-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1A-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1A-03E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-06.1A-04N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.1B LP EXT 19 to FWH 31B																								
EX-06.1B-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1B-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1B-03E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1B-04N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.1C LP EXT 19 to FWH 31C																								
EX-06.1C-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1C-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1C-03E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.1C-04N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.2A LP EXT 17 to FWH 31A																								
EX-06.2A-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2A-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2A-03E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2A-04N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.2B LP EXT 17 to FWH 31B																								
EX-06.2B-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2B-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2B-03E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2B-04N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.2C LP EXT 17 to FWH 31C																								
EX-06.2C-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2C-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2C-03E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.2C-04N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.3A LP EXT 20 to FWH 31A																								
EX-06.3A-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3A-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3A-03P	54	26.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3A-04E	1	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3A-05N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.3B LP EXT 20 to FWH 31B																								
EX-06.3B-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3B-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3B-03P	54	26.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3B-04E	2	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3B-05N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.3C LP EXT 20 to FWH 31C																								
EX-06.3C-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3C-02E	4	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3C-03P	54	26.000	0	0.313	0.313	0.000	0.000	0.000	0.00	90	0.00	A155/C552/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-06.3C-04E	2	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.3C-05N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.4A LP EXT 18 to FWH 31A																								
EX-06.4A-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4A-02E	3	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4A-03P	53	26.000	0	0.313	0.313	0.000	0.000	0.000	0.00	135	0.00	A155/C552/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4A-04E	2	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4A-05N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.4B LP EXT 18 to FWH 31B																								
EX-06.4B-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4B-02E	3	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4B-03P	53	26.000	0	0.313	0.313	0.000	0.000	0.000	0.00	135	0.00	A155/C552/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4B-04E	2	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4B-05N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-06.4C LP EXT 18 to FWH 31C																								
EX-06.4C-01N	31	26.000	0	0.313	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4C-02E	3	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4C-03P	53	26.000	0	0.313	0.313	0.000	0.000	0.000	0.00	135	0.00	A155/C552/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4C-04E	2	26.000	0	0.313	0.313	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
EX-06.4C-05N	30	26.000	0	0.313	0.375	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-10	0	858.037	0.000	0.05560	0.00000	0.00000
Line Name : EX-BFPT #31 Drain to Condenser																								
TEMP04	31	48.000		0.625	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : EX-BFPT #32 Drain to Condenser																								
TEMP05	31	48.000		0.625	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : FW-01.1A BFP 31 to RCIRC T																								
FW-01.1A-01N	31	16.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.1A-02P	61	16.000	100	1.031	1.075	0.000	0.000	0.000	0.00	0	3.00	A106/BB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.1A-03R	18	20.000	80	1.031	1.095	0.000	16.000	1.031	0.00	0	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000
FW-01.2A-01E	4	20.000	1	1.031	1.031	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-02P	54	20.000	80	1.031	1.043	0.000	0.000	0.000	0.00	90	18.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-03T	15	20.000	80	1.031	1.039	0.000	6.625	0.864	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000
Line Name : FW-01.1B BFP 32 to RCIRC T																								
FW-01.1B-01N	31	16.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.1B-02P	61	16.000	100	1.031	1.176	0.000	0.000	0.000	0.00	0	3.00	A106/BB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.1B-03R	18	20.000	80	1.031	1.095	0.000	16.000	1.031	0.00	0	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000
FW-01.2B-01E	4	20.000	1	1.031	1.031	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-02P	54	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	42.50	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-03E	1	20.000	80	1.031	1.251	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-04P	51	20.000	80	1.031	1.032	0.000	0.000	0.000	0.00	90	6.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-05T	15	20.000	80	1.031	1.036	0.000	6.625	0.864	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000
Line Name : FW-01.2A BFP31 RCIRC T to HDR																								
FW-01.2A-04P	65	20.000	80	1.031	1.039	0.000	0.000	0.000	0.00	90	54.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
FW-01.2A-05V	25	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-06V	22	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-07E	4	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-08T	15	20.000	1	1.031	1.031	0.000	10.750	0.719	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000
FW-01.2A-09P	65	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-10E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-11P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	60.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-12E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-13P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	0	31.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-14E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-15P_1	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	300.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-15P_2	9	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	50.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-16E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-17P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	270.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-18E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-19P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	180	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-20E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-21P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	198.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-22E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2A-23P	52	20.000	80	1.031	1.053	0.000	0.000	0.000	0.00	0	60.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000

Line Name : FW-01.2B BFP32 RCIRC T to HDR

FW-01.2B-06P	65	20.000	80	1.031	1.057	0.000	0.000	0.000	0.00	90	42.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-07V	25	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-08V	22	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-09E	4	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-10P	54	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	12.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-11T	15	20.000	1	1.031	1.031	0.000	10.750	0.719	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000
FW-01.2B-12P	65	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-13E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-14P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	87.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-15E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-16P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	0	31.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B.17E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-18P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	190.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-19E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-20P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	180	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-21E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-22P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	87.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-23E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-24P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	0	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-25E	2	20.000	1	1.031	1.031	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-26P	52	20.000	1	1.031	1.031	0.000	0.000	0.000	0.00	90	18.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	0.00000	0.00000
FW-01.2B-27R	18	30.000	1	1.260	0.000	0.000	20.000	1.031	0.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	6.51200	0.00000

Line Name : FW-01.3 BFP DISCHARGE HDR

FW-01.3-01T	12	30.000	1	1.260	1.375	0.000	20.000	1.031	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	6.51200	13.02400	6.51200
FW-01.3-02P	62	30.000	1	1.260	1.371	0.000	0.000	0.000	0.00	90	24.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-03E	4	30.000	1	1.260	1.514	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-04E	4	30.000	1	1.260	1.638	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-05P	54	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	111.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-06E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-07P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	0	18.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-08E	4	30.000	1	1.260	1.260	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-09P	54	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	96.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-10E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-11P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	374.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-12E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-13P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	303.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-14E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
FW-01.3-15E	4	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-16P	54	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	6.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.3-17T	15	30.000	1	1.260	1.260	0.000	18.000	0.938	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	13.02400	0.00000
FW-01.3-18P	65	30.000	1	1.260	1.348	0.000	0.000	0.000	0.00	90	48.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	0.00000	0.00000
FW-01.4-01T	14	30.000	1	1.260	1.351	0.000	18.000	0.938	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	13.02400	8.68267	4.34133

Line Name : FW-01.4 BFP DISCHARGE HDR

FW-01.4-02P	63	30.000	1	1.260	1.341	0.000	0.000	0.000	0.00	90	102.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	8.68300	0.00000	0.00000
FW-01.5-01T	14	30.000	1	1.260	1.385	0.000	18.000	0.938	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	8.68267	4.34133	4.34133

Line Name : FW-01.6A BFP HDR to FWH 36A

FW-01.6A-01R	7	30.000	1	1.260	0.000	0.000	18.000	0.938	0.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	4.34133	0.00000
FW-01.6A-02P	57	18.000	80	0.938	1.009	0.000	0.000	0.000	0.00	90	55.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-03E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-04P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	81.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-05E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-06P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	40.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-07V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-08E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-09P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	4.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-10E	3	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-11P	53	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	30	7.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6A-12N	30	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000

Line Name : FW-01.6B BFP HDR to FWH 36B

FW-01.6B-02P	64	18.000	80	0.938	0.930	0.000	0.000	0.000	0.00	0	108.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-03E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-04P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	40.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-06E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-07P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-08E	3	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6B-10N	30	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000

Line Name : FW-01.6C BFP HDR to FWH 36C

FW-01.6C-02P	64	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	108.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6C-03E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6C-04P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	40.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6C-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6C-06E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6C-08E	3	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000
FW-01.6C-10N	30	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	4.34133	0.00000	0.00000

Line Name : FW-02.1A FWH 36A to SG HDR

FW-02.1A-01N	31	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-02E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-03P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	11.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-04E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-06P	58	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-07E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-08P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	38.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-09E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-10P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	90.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-11E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
FW-02.1A-12P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	54.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1A-13R	18	30.000	1	1.260	0.000	0.000	18.000	0.938	0.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	4.34100	0.00000

Line Name : FW-02.3 SG INLET HEADER

FW-02.1B-11T	12	30.000	1	1.260	1.398	0.000	18.000	0.938	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.31433	8.68267	4.36833

Line Name : FW-02.1B FWH 36B to SG HDR

FW-02.1B-01N	31	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-02E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-03P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	11.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-04E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-06P	58	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-07E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-08P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	38.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-09E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1B-10P	52	18.000	80	0.938	0.965	0.000	0.000	0.000	0.00	180	90.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000

Line Name : FW-02.1C FWH 36C to SG HDR

FW-02.1C-01N	31	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-02E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-03P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	11.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-04E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-06P	58	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	30.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-07E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-08P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	38.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-09E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000
FW-02.1C-10P	52	18.000	80	0.938	0.998	0.000	0.000	0.000	0.00	180	90.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	4.34133	0.00000	0.00000

Line Name : FW-02.3 SG INLET HEADER

FW-02.3-01P	62	30.000	1	1.260	1.380	0.000	0.000	0.000	0.00	90	96.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	8.68267	0.00000	0.00000

Line Name : FW-02.4 SG INLET HEADER

FW-02.1C-11T	12	30.000	1	1.260	1.375	0.000	18.000	0.944	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	8.68267	13.02400	4.34133
FW-02.4-02T	15	30.000	1	1.260	1.260	0.000	18.000	0.944	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	13.02400	0.00000
FW-02.4-03P	65	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	156.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-04E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-05E	4	30.000	1	1.260	1.260	0.000	0.000	0.000	1.00	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-06P	54	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	282.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-07E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-08P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	312.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-09E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-10P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	174.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-11E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-12P_1	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	450.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-12P_2	9	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	156.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-13E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-14P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	0	69.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-15E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-16P	52	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	447.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-17E	2	30.000	1	1.260	1.260	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-18P	52	30.000	1	1.260	1.365	0.000	0.000	0.000	0.00	90	90.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	0.00000	0.00000
FW-02.4-19T	14	30.000	1	1.260	1.368	0.000	18.000	0.944	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	13.02400	9.76800	3.25600

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : FW-02.5 SG INLET HEADER																								
FW-02.5-01T	15	30.000	1	1.260	1.372	0.000	6.625	0.432	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	9.76800	9.76800	0.00000
FW-02.5-02P	65	30.000	1	1.260	1.260	0.000	0.000	0.000	0.00	90	12.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	9.76800	0.00000	0.00000
FW-02.5-03T	15	30.000	1	1.260	1.260	0.000	6.625	0.432	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	9.76800	9.76800	0.00000
FW-02.5-06P	65	30.000	1	1.260	1.365	0.000	0.000	0.000	0.00	90	2.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	9.76800	0.00000	0.00000
FW-02.5-04T	14	30.000	1	1.260	1.368	0.000	18.000	0.944	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	9.76800	6.51200	3.25600
Line Name : FW-02.6 SG INLET HEADER																								
FW-02.6-01P	63	30.000	1	1.260	1.361	0.000	0.000	0.000	0.00	90	18.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	6.51200	0.00000	0.00000
FW-02.6-03T	14	30.000	1	1.260	1.361	0.000	18.000	0.944	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	6.51200	3.25600	3.25600
Line Name : FW-02.8A SG HDR to SG 31																								
FW-02.8A-01P	64	18.000	80	0.938	0.968	0.000	0.000	0.000	0.00	180	204.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-02E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-03T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8A-04V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-25R	7	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8A-05V	24	12.750	100	0.844	1.312	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-26R	18	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8A-06E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-07P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	66.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-08T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8A-09P	65	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-10E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-11P_1	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	270.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-11P_2	9	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	126.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-12F	6	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-13P	56	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	114.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-14E	1	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-15P	51	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	84.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-16E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-17P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	93.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-18V	25	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-19V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-20P	58	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-21T	15	18.000	0	0.750	0.750	0.000	4.500	0.337	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8A-22E	4	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-23E	4	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8A-24P	54	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	5.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-01P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	11.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-02E	2	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-03P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	45.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-04B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	43.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-05B	3	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-06P_1	53	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	26	270.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-06P_2	9	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	26	45.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-07B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-08B	4	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1A-09N	30	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	0.00	SA508/3/	0.50	0.00	0.50	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
Line Name : FW-02.8B SG HDR to SG 32																								
FW-02.8B-01P	64	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	180	204.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-02E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-03P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	48.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-04T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8B-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-25R	7	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
FW-02.8B-06V	24	12.750	100	0.844	1.312	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-26R	18	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8B-07E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-08P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	66.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-09T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8B-10P	65	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-11E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-12P_1	54	18.000	80	0.938	0.998	0.000	0.000	0.000	0.00	90	270.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-12P_2	9	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	102.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-13F	6	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-14P	56	18.000	80	0.938	0.990	0.000	0.000	0.000	0.00	90	114.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-15E	1	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-16P	51	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	42.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-17E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-18P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	93.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-19V	25	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-20V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-21P	58	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-22T	15	18.000	60	0.750	0.000	0.000	4.500	0.337	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8B-23E	4	18.000	60	0.750	0.924	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8B-24P	54	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	5.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-01P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	52.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-02E	2	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-03P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	108.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-04B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	41.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-05B	3	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-06P	53	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	21	319.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-07B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-08E	2	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-09P	53	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	134.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-10E	1	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-11E	3	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1B-12N	30	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	0.00	SA508/3/	0.50	0.00	0.50	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000

Line Name : FW-02.8C SG HDR to SG 34

FW-02.8C-01P	64	18.000	80	0.938	0.946	0.000	0.000	0.000	0.00	180	204.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-02E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-03P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	72.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-04T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8C-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-24R	7	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8C-06V	24	12.750	100	0.844	1.312	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-25R	18	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8C-07E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-08P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	66.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-09T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8C-10P	65	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-11E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-12P_1	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	270.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-12P_2	9	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	111.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-13F	6	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-14P	56	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	114.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-15E	1	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-16E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-17P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	93.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-18V	25	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-19V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-20P	58	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-21T	15	18.000	0	0.750	0.750	0.000	4.500	0.337	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8C-22E	4	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8C-23P	54	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	5.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-01P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
FW-03.1C-02E	2	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-03P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	256.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-04B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	40.20	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-16P_1	51	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	270.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-16P_2	9	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	23.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-05B	2	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-06P_1	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	15	270.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-06P_2	9	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	15	102.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-07B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-09P	51	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	45	5.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-10E	4	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-11P	54	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	33.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-12E	1	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-13P	51	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	35	20.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-14E	1	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1C-15N	30	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	0.00	SA508/3/	0.50	0.00	0.50	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000

Line Name : FW-02.8D SG HDR to SG 33

FW-02.6-02T	15	30.000	1	1.260	1.260	0.000	6.625	0.432	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	6.51200	6.51200	0.00000
FW-02.7-01P	63	30.000	1	1.260	1.372	0.000	0.000	0.000	0.00	90	12.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.7-02T	15	30.000	1	1.260	1.260	0.000	6.625	0.432	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.7-03P	65	30.000	1	1.260	1.372	0.000	0.000	0.000	0.00	90	12.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.7-04T	14	30.000	1	1.260	1.395	0.000	18.000	0.944	0.00	90	0.00	A155/KC701/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	3.25600
FW-02.8D-01P	64	18.000	80	0.938	0.964	0.000	0.000	0.000	0.00	180	204.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-02E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-03P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	108.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-04T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8D-05V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-24R	7	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8D-06V	24	12.750	100	0.844	1.312	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-25R	18	18.000	80	0.938	1.312	0.000	12.750	0.844	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8D-07E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-08P	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	66.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-09T	15	18.000	0	0.938	0.938	0.000	6.625	0.432	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8D-10P	65	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-11E	4	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-12P_1	54	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	270.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-12P_2	9	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	162.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-13F	6	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-14P	56	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	90	27.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-15E	2	18.000	0	0.938	0.938	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-16P	52	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	93.00	A106/CC/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-17V	25	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-18V	22	18.000	0	0.938	0.938	0.000	0.000	0.000	0.00	0	0.00	A105/A105A10/	0.00	0.00	0.00	1440	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-19P	58	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	0	12.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-20T	15	18.000	0	0.750	0.750	0.000	4.500	0.337	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	3.25600	0.00000
FW-02.8D-21E	4	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-22E	4	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-02.8D-23P	54	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	5.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-01P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	22.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-02E	2	18.000	0	0.750	0.750	0.000	0.000	0.000	1.50	90	0.00	A234/WPCWPC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-03P	52	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	202.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-04B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	42.30	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-05B	3	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-06P_1	53	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	24	270.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-06P_2	9	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	24	129.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-07B	1	18.000	0	0.750	0.750	0.000	0.000	0.000	5.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-08B	3	18.000	0	0.750	0.750	0.000	0.000	0.000	4.00	90	0.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-09P	53	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	65.00	A106/CC/	0.00	0.00	0.00	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000
FW-03.1D-10N	30	18.000	0	0.750	0.750	0.000	0.000	0.000	0.00	90	22.00	SA508/3/	0.50	0.00	0.50	1085	450	1038	423	0.000	0.000	3.25600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : FW-04.1A BFP 31 RECIRC																								
FW-04.1A-10P	64	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	0	6.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-01E	4	6.625	0	0.864	0.954	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-02P	54	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	59.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-03E	2	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-04P_1	52	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	99.38	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-04P_2	9	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	14.63	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-05E	2	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-06P_1	52	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	99.38	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-06P_2	9	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	86.63	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-07E	2	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-08E	4	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1A-09P	54	6.625	0	0.864	0.896	0.000	0.000	0.000	0.00	90	12.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-01R	17	6.625	0	0.864	0.000	0.000	4.500	0.674	0.00	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	3.88300	0.00000
FW-04.2A-02P	67	4.500	0	0.674	0.709	0.000	0.000	0.000	0.00	90	50.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-03B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-04E	3	4.500	0	0.674	0.674	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-05P	53	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	135	21.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-06E	1	4.500	0	0.674	0.674	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-07P_1	51	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	67.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-07P_2	9	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	456.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-08B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-09P_1	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	67.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-09P_2	9	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	246.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-10B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-11P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	32.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-12B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-13P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	68.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-14B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-15P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	8.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-16B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-17P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	68.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-18B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-19P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	180	26.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-20B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-21P	52	4.500	0	0.674	0.700	0.000	0.000	0.000	0.00	90	17.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-22B	2	4.500	0	0.674	0.782	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-23P	52	4.500	0	0.674	0.724	0.000	0.000	0.000	0.00	90	18.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2A-24R	18	6.625	0	0.864	0.000	0.000	4.500	0.674	0.00	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	3.88300	0.00000
FW-05.1A-01V	24	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
FW-05.1A-02P	58	6.625	0	0.864	0.886	0.000	0.000	0.000	0.00	90	10.00	A335/P22P22/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
FW-05.1A-03V	22	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
FW-05.1A-04R	18	8.625	0	0.875	0.000	0.000	6.625	0.864	0.00	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	3.88300	0.00000
FW-05.2A-01N	30	8.625	0	0.875	0.875	0.000	0.000	0.000	0.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
Line Name : FW-04.1B BFP 32 RECIRC																								
FW-04.1B-10P	64	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	0	6.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-01E	4	6.625	0	0.864	0.979	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-02P	54	6.625	0	0.864	0.912	0.000	0.000	0.000	0.00	90	6.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-03E	4	6.625	0	0.864	1.083	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-04P_1	54	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	99.38	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-04P_2	9	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	156.63	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-05E	2	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-06P_1	52	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	99.38	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-06P_2	9	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	86.63	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-07E	2	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-08E	4	6.625	0	0.864	0.864	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.1B-09P	54	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	12.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-01R	17	6.625	0	0.864	0.000	0.000	4.500	0.674	0.00	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	3.88300	0.00000
FW-04.2B-02P	67	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	67.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
FW-04.2B-03B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-04P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	27.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-05E	1	4.500	0	0.674	0.674	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-06P	51	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	135	21.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-07E	1	4.500	0	0.674	0.674	0.000	0.000	0.000	1.50	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-08P_1	51	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	67.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-08P_2	9	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	495.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-09B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-10P_1	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	67.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-10P_2	9	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	246.50	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-11B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-12P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	32.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-13B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-14P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	68.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-15B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-16P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	8.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-17B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-18P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	90	54.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-19B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-20P	52	4.500	0	0.674	0.674	0.000	0.000	0.000	0.00	180	8.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-21B	2	4.500	0	0.674	0.674	0.000	0.000	0.000	5.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-22P	52	4.500	0	0.674	0.716	0.000	0.000	0.000	0.00	90	26.00	A335/P22P22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	0.00000	0.00000
FW-04.2B-23R	18	6.625	0	0.864	0.000	0.000	4.500	0.674	0.00	90	0.00	A182/F22F22/	0.00	0.00	0.00	1440	450	1038	367	0.000	0.000	3.88300	3.88300	0.00000
FW-05.1B-01V	24	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
FW-05.1B-02P	58	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	10.00	A335/P22P22/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
FW-05.1B-03V	22	6.625	0	0.864	0.864	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000
FW-05.1B-04R	18	8.625	0	0.875	0.000	0.000	6.625	0.864	0.00	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	3.88300	0.00000
FW-05.2B-01N	30	8.625	0	0.875	0.875	0.000	0.000	0.000	0.00	90	0.00	A335/P22P22/	0.00	0.00	0.00	1440	450	-14	0	351.898	0.000	3.88300	0.00000	0.00000

Line Name : HD-01.1A FWH 36A to HD TK

HD-01.1A-01N	31	10.750	0	0.307	0.288	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-02P	61	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	104.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-03E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-04P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	90	151.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-05E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-06P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	90	54.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-07E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-08P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	39.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-09E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1A-10P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	90	4.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.2A-01R	7	10.750	0	0.307	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.50100	0.00000
HD-02.1A 01V	24	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
HD-02.1A-02R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.50100	0.00000
HD-02.2A-01V	22	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
HD-02.2A-02N	30	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000

Line Name : HD-01.1B FWH 36B to HD TK

HD-01.1B-01N	31	10.750	0	0.307	0.288	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1B-02P	61	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	104.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1B-03E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1B-04P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	90	151.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1B-05E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1B-06P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	39.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1B-07E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.2B-01R	7	10.750	0	0.307	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.50100	0.00000
HD-02.1B-01V	24	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
HD-02.1B-02R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.50100	0.00000
HD-02.2B-01V	22	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
HD-02.2B-02N	30	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : HD-01.1C FWH 36C to HD TK																								
HD-01.1C-01N	31	10.750	0	0.307	0.288	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-02P	61	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	68.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-03E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-04P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	90	75.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-05E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-06P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	6.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-07E	4	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-08P	54	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	90	151.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-09E	2	10.750	0	0.307	0.307	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-10P	52	10.750	0	0.307	0.307	0.000	0.000	0.000	0.00	180	39.00	A106/BB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.1C-11E	2	10.750	0	0.421	0.421	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.00000	0.00000
HD-01.2C-01R	7	10.750	0	0.307	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	334	387	0.000	0.000	0.50100	0.50100	0.00000
HD-02.1C-01V	24	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
HD-02.1C-02R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.50100	0.00000
HD-02.2C-01V	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
HD-02.2C-02N	30	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	450	450	171	0	361.299	0.000	0.50100	0.00000	0.00000
Line Name : HD-03.1A FWH 35A to HD TK																								
HD-03.1A-01N	31	10.750	20	0.250	0.240	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-02P	61	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	60.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-03E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-04P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	9.75	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-05E	4	10.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-06P	54	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	26.75	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-07E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-08P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	66.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-09E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-10P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	96.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-11E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-12E	4	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-13P	54	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	0	18.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-14E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-15V	22	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1A-16N	30	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
Line Name : HD-03.1B FWH 35B to HD TK																								
HD-03.1B-01N	31	10.750	20	0.250	0.240	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-02P	61	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	108.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-03E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-04P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	17.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-05E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-06P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	66.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-07E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-08P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	96.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-09E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-10E	4	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-11P	54	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	0	18.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-12E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-13V	22	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1B-14N	30	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
Line Name : HD-03.1C FWH 35C to HD TK																								
HD-03.1C-01N	31	10.750	20	0.250	0.240	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-02P	61	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	60.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-03E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
HD-03.1C-04P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	60.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-05E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-06P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	18.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-07E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-08P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	66.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-09E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-10P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	29.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-11E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-12P	52	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	96.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-13E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-14E	4	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-15P	54	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	0	18.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-16E	2	10.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-17V	22	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000
HD-03.1C-18N	30	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	0.31000	0.00000	0.00000

Line Name : HD-04.1A FWH 34A to FWH 33A

HD-4.1A-01N	31	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-02P	61	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	70.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-03T	15	6.625	0	0.280	0.280	0.000	6.625	0.280	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-4.1A-04P	65	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	33.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-05E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-06E	3	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-07P	53	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	11.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-08E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-09P_1	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-09P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	919.63	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-10E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-11P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	30.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-12E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-13P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	63.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-14E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1A-15P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	57.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.2A-01E	16	6.625	40	0.280	0.000	0.000	4.500	0.237	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-4.2A-02V	22	4.500	0	0.237	0.237	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.3A-01R	7	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-05.1A-01V	24	3.500	0	0.216	0.216	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.1A-02R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.16800	0.00000
HD-05.2A-01T	13	6.625	0	0.280	0.280	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.16800
HD-05.2A-02P	63	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	30.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2A-03E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.399	0.000	0.16800	0.00000	0.00000
HD-05.2A-04E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2A-05P	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	12.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2A-06N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000

Line Name : HD-04.1B FWH 34B to FWH 33B

HD-4.1B-01N	31	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-02P	61	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	56.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-03E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-04P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	135	13.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-06P	60	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	60.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-07E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-08P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	30.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-09E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-10E	3	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-11P_1	53	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-11P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	833.63	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-12E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-13P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	30.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-14E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)	D/S Mn. (Mlbm/hr)	Br. v
HD-4.1B-15P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	18.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-16E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1B-17P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	57.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.2B-01E	16	6.625	40	0.280	0.000	0.000	4.500	0.237	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-4.2B-02V	22	4.500	0	0.237	0.237	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.3B-01R	7	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-05.1B-01V	24	3.500	0	0.216	0.216	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.1B-02R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.16800	0.00000
HD-05.2B-01T	13	6.625	0	0.280	0.280	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.16800
HD-05.2B-02P	63	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	30.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2B-03E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2B-04E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2B-05P	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	12.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2B-06N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000

Line Name : HD-04.1C FWH 34C to FWH 33C

HD-4.1C-01N	31	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-02P	61	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	34.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-03E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-04P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	9.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-05E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-06T	15	6.625	0	0.280	0.280	0.000	6.625	0.280	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-4.1C-07P	65	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	4.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-08E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-09P	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	87.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-10E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-11P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	30.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-12E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-13P_1	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-13P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	272.63	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-14E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-15P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	12.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-16E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-17P_1	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-17P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	511.63	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-18E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-19P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	30.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-20E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-21P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	9.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-22E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.1C-23P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	57.00	A53/BS/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.2C-01E	16	6.625	40	0.280	0.000	0.000	4.500	0.237	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-4.2C-02V	22	4.500	0	0.237	0.237	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.00000	0.00000
HD-4.3C-01R	7	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	250	0.000	0.000	0.16800	0.16800	0.00000
HD-05.1C-01V	24	3.500	0	0.216	0.216	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.1C-02R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.16800	0.00000
HD-05.2C-01T	13	6.625	0	0.280	0.280	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.16800
HD-05.2C-02P	63	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	30.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2C-03E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2C-04E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2C-05P	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	12.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.300	0.000	0.16800	0.00000	0.00000
HD-05.2C-06N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	13	0	221.399	0.000	0.16800	0.00000	0.00000

Line Name : HD-06.1A FWH 33A to FWH 32A

HD-6.1A-01N	31	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-02P	61	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	63.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-03E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-04P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	24.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-05E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-06P_1	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
HD-6.1A-06P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	246.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-07E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-08P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-09E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-10P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	10.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-11E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-12P_1	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-12P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	119.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-13E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-43P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	2.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-14E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-15P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	11.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-16E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-17P_1	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-17P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	372.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-18E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-19P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	18.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-20E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-21P_1	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-21P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	41.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-22E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-23P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	114.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-24E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-25P_1	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-25P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	70.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-26E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-27P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	110.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-28T	15	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-6.1A-29P	65	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	101.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-44T	15	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-6.1A-30E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-31P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	0	115.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-32E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-33P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	60.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-34E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-37E	3	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-38P	53	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	45	19.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-39E	1	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-40P	51	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	7.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-41E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1A-42P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	16	19.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.2A-01E	16	8.625	20	0.250	0.000	0.000	6.625	0.280	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-07.1A-01V	24	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	0	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.1A 02R	18	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.32600	0.00000
HD-07.2A-01V	22	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2A-02P	58	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	44.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2A-03T	13	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.32600
HD-07.2A-04P	63	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	93	45.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2A-05R	18	10.750	20	0.250	0.000	0.000	8.625	0.250	0.00	93	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.32600	0.00000
HD-07.3A-01N	30	10.750	20	0.250	0.365	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000

Line Name : HD-06.1B FWH 33B to FWH 32B

HD-6.1B-01N	31	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-02P	61	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	63.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-03E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-04E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-05P_1	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-05P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	114.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-06E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-07P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-08E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-09P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	8.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
HD-6.1B-10E	3	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-11P_1	53	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-11P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	89.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-12E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-13E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-14P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-15E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-16P_1	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-16P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	355.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-17E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-18P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	44.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-19E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-20P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	18.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-21E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-22P_1	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-22P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	34.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-23T	15	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-6.1B-24P	65	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	101.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-38T	15	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-6.1B-25E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-26P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	0	115.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-27E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-28P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	60.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-29E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-32E	3	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-33P	53	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	45	19.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-34E	1	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-35P	51	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	7.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-36E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1B-37P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	17.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.2B-01E	16	8.625	20	0.250	0.000	0.000	6.625	0.280	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-07.1B-01V	24	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.1B-02R	18	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.32600	0.00000
HD-07.2B-01V	22	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2B-02P	58	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	44.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2B-03T	13	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.32600
HD-07.2B-04P	63	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	93	33.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2B-05R	18	10.750	20	0.250	0.000	0.000	8.625	0.250	0.00	93	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.32600	0.00000
HD-07.3B-01N	30	10.750	20	0.250	0.365	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000

Line Name : HD-06.1C FWH 33C to FWH 32C

HD-6.1C-01N	31	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-02P	61	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	63.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-03E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-04P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	112.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-05E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-06P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-07E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-08P_1	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	129.38	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-08P_2	9	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	42.63	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-09E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-10P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	36.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-11E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-12P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	180	45.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-13E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-14P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	42.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-15E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-16P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	44.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-17E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-18P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	110.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-19T	15	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-6.1C-20P	65	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	96.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
HD-6.1C-34T	15	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-6.1C-35P	65	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-21E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-22P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	0	115.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-23E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-24P	52	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	60.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-25E	2	8.625	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-28E	3	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-29P	53	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	45	19.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-30E	1	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-31P	51	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	7.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-32E	4	8.625	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.1C-33P	54	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	0	17.00	A53/BS/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.00000	0.00000
HD-6.2C-01E	16	8.625	20	0.250	0.000	0.000	6.625	0.280	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	13	197	0.000	0.000	0.32600	0.32600	0.00000
HD-07.1C-01V	24	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.1C-02R	18	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.32600	0.00000
HD-07.2C-01V	22	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2C-02P	58	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	90	44.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2C-03T	13	8.625	0	0.250	0.250	0.000	8.625	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.32600
HD-07.2C-04P	63	8.625	0	0.250	0.250	0.000	0.000	0.000	0.00	93	33.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000
HD-07.2C-05R	18	10.750	20	0.250	0.000	0.000	8.625	0.250	0.00	93	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.32600	0.00000
HD-07.3C-01N	30	10.750	20	0.250	0.365	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	0	170.199	0.000	0.32600	0.00000	0.00000

Line Name : HD-08.1A FWH 32A to FWH 31A

HD-8.1A-01N	31	12.750	20	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-03E	4	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-04P	54	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	158.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-05E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-06P	52	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	59.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-08P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	0	13.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-09E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1A-10V	22	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.2A-01R	7	12.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.46200	0.00000
HD-09.1A-01V	24	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.1A-02R	18	12.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.46200	0.00000
HD-09.2A-01V	22	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2A-02P	58	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	10.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2A-03E	3	12.750	0	0.406	0.406	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2A-04T	13	12.750	0	0.406	0.406	0.000	12.750	0.406	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.23100	0.23100

Line Name : HD-08.1B FWH 32B to FWH 31B

HD-8.1B-01N	31	12.750	20	0.250	0.375	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-03E	4	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-04P	54	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	158.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-05E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-06P	52	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	59.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-08P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	0	13.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-09E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1B-10V	22	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.2B-01R	7	12.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.46200	0.00000
HD-09.1B-01V	24	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.1B-02R	18	12.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.46200	0.00000
HD-09.2B-01V	22	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2B-02P	58	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	10.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2B-03E	3	12.750	0	0.406	0.406	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2B-04T	13	12.750	0	0.406	0.406	0.000	12.750	0.406	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.23100	0.23100

Line Name : HD-08.1C FWH 32C to FWH 31C

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
HD-8.1C-01N	31	12.750	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-03E	4	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-04P	54	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	158.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-05E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-06P	52	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	59.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-08P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	0	13.00	A53/BS/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-09E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.1C-10V	22	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.00000	0.00000
HD-8.2C-01R	7	12.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-4	163	0.000	0.000	0.46200	0.46200	0.00000
HD-09.1C-01V	24	10.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.1C-02R	18	12.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.46200	0.00000
HD-09.2C-01V	22	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2C-02P	58	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	10.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2C-03E	3	12.750	0	0.406	0.406	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.00000	0.00000
HD-09.2C-04T	13	12.750	0	0.406	0.406	0.000	12.750	0.406	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.46200	0.23100	0.23100
Line Name :	**HD-09.3A FWH 32A to FWH 31A**																							
HD-09.3A-01P	64	12.750	40	0.406	0.409	0.000	0.000	0.000	0.00	90	44.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.3A-02N	30	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
Line Name :	**HD-09.3B FWH 32B to FWH 31B**																							
HD-09.3B-01P	64	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	44.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.3B-02N	30	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
Line Name :	**HD-09.3C FWH 32C to FWH 31C**																							
HD-09.3C-01P	64	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	44.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.3C-02N	30	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
Line Name :	**HD-09.4A FWH 32A to FWH 31A**																							
HD-09.4A-01P	63	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	60	5.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4A-02E	4	12.750	40	0.406	0.462	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4A-03P	54	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	44.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4A-04N	30	12.750	40	0.406	0.375	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
Line Name :	**HD-09.4B FWH 32B to FWH 31B**																							
HD-09.4B-01P	63	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	60	5.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4B-02E	4	12.750	0	0.406	0.406	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4B-03P	54	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	44.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4B-04N	30	12.750	40	0.406	0.375	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
Line Name :	**HD-09.4C FWH 32C to FWH 31C**																							
HD-09.4C-01P	63	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	60	5.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4C-02E	4	12.750	0	0.406	0.406	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4C-03P	54	12.750	0	0.406	0.406	0.000	0.000	0.000	0.00	90	44.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
HD-09.4C-04N	30	12.750	40	0.406	0.375	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316WP3/	0.00	0.00	0.00	50	300	-9	0	137.199	0.000	0.23100	0.00000	0.00000
Line Name :	**HD-10.1A HD TK to HD PMP 31**																							
HD-10.1A-01N	31	24.000	20	0.375	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.1A-02P	61	24.000	0	0.375	0.375	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2A-01E	16	24.000	20	0.375	0.000	0.000	18.000	0.312	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	1.83000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
HD-10.2A-02E	3	18.000	0	0.312	0.312	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2A-03P	53	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	6.75	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2A-04V	22	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2A-05P	58	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	80.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2A-07X	6	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2A-06N	30	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000

Line Name : HD-10.1B HD TK to HD PMP 32

HD-10.1B-01N	31	24.000	20	0.375	0.562	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.1B-02P	61	24.000	0	0.375	0.375	0.000	0.000	0.000	0.00	180	5.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2B-01E	16	24.000	20	0.375	0.000	0.000	18.000	0.312	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	1.83000	0.00000
HD-10.2B-02P	54	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	18.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2B-03V	22	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2B-04P	58	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	80.00	A53/BS/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2B-06X	6	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000
HD-10.2B-05N	30	18.000	0	0.312	0.312	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	171	374	0.000	0.000	1.83000	0.00000	0.00000

Line Name : HD-11.1A HD PMP 31 to HDR

HD-11.1A-01N	31	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-11.1A-02V	25	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-11.2A-01R	7	12.750	0	0.500	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	1.83000	0.00000
HD-12.1A-01V	24	8.625	40	0.322	0.500	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.1A-02R	18	12.750	0	0.500	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	1.83000	0.00000
HD-12.2A-01V	22	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2A-02P	58	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	6.75	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2A-03E	4	12.750	0	0.500	0.500	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2A-04T	15	12.750	0	0.500	0.500	0.000	10.750	0.500	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	1.83000	0.00000
HD-12.2A-05P	65	12.750	0	0.500	0.664	0.000	0.000	0.000	0.00	0	132.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2A-06O	6	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	0	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2A-07P	56	12.750	0	0.500	0.569	0.000	0.000	0.000	0.00	0	65.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000

Line Name : HD-11.1B HD PMP 32 to HDR

HD-11.1B-01N	31	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-11.1B-02V	25	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-11.2B-01R	7	12.750	0	0.500	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	1.83000	0.00000
HD-12.1B-01V	24	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.1B-02R	18	12.750	0	0.500	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	1.83000	0.00000
HD-12.2B-01V	22	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2B-02P	58	12.750	0	0.500	0.539	0.000	0.000	0.000	0.00	90	6.75	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2B-03E	4	12.750	0	0.500	0.535	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2B-04T	15	12.750	0	0.500	0.500	0.000	10.750	0.500	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	1.83000	0.00000
HD-12.2B-05P	65	12.750	0	0.500	0.516	0.000	0.000	0.000	0.00	0	132.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2B-06O	6	12.750	0	0.500	0.500	0.000	0.000	0.000	0.00	0	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.2B-07P	56	12.750	0	0.500	0.527	0.000	0.000	0.000	0.00	0	65.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000
HD-12.3-01P	60	16.000	60	0.656	0.654	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	0.00000	0.00000

Line Name : HD-12.2A HD PMP HDR to CD SYS

HD-12.2A-08T	12	16.000	60	0.656	0.700	0.000	12.750	0.500	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	1.83000	3.66000	1.83000
HD-12.4-01E	4	16.000	60	0.656	0.789	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-02P	54	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	180	42.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-03E	2	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-04P	52	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	100.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-05E	1	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-06P	51	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	86.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-07E	2	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-08P	52	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	0	42.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-09E	2	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
HD-12.4-10P_1	52	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	240.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-10P_2	9	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	60.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-11E	2	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-12P	52	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	180	42.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-13E	2	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-14P	52	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	114.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-15T	15	16.000	0	0.656	0.656	0.000	14.000	0.500	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	3.66000	0.00000
HD-12.4-16P	65	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	189.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-17E	2	16.000	0	0.656	0.656	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
HD-12.4-18P	52	16.000	0	0.656	0.656	0.000	0.000	0.000	0.00	90	107.00	A106/BB/	0.00	0.00	0.00	730	400	469	361	0.000	0.000	3.66000	0.00000	0.00000
Line Name : HD-FWH 31A to Condenser 33																								
TEMP01	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : HD-FWH 31B to Condenser 32																								
TEMP02	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : HD-FWH 31C to Condenser 31																								
TEMP03	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"A" Header to MSR 31A & 32A																								
TEMP16	31	37.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"A" Header to MSR 31A																								
TEMP18	31	26.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"A" Header to MSR 32A																								
TEMP19	31	26.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"A" Header to MSR 33A																								
TEMP20	31	26.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"A" MSR Header																								
TEMP14	31	45.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"B" Header to MSR 31B & 32B																								
TEMP17	31	37.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"B" Header to MSR 31B																								
TEMP21	31	26.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"B" Header to MSR 32B																								
TEMP22	31	26.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : MS-"B" Header to MSR 33B																								
TEMP23	31	26.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-"B" MSR Header																								
TEMP15	31	45.500	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-HP Turbine to Presep 1A																								
TEMP06	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-HP Turbine to Presep 1B																								
TEMP07	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-HP Turbine to Presep 2A																								
TEMP08	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-HP Turbine to Presep 2B																								
TEMP09	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-Presep 1A to "A" MSR Header																								
TEMP10	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-Presep 1B to "B" MSR Header																								
TEMP11	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-Presep 2A to "A" MSR Header																								
TEMP12	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MS-Presep 2B to "B" MSR Header																								
TEMP13	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MSD-01.11A_1 MSEP 33A to HDR																								
MSD-01.11A-01N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.11A-03P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.12A MSEP 33A DR HDR																								
MSD-01.12A-01T	12	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.00350
Line Name : MSD-01.11A_2 MSEP 33A to HDR																								
MSD-01.11A-04N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.11A-08P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : MSD-01.11A_3 MSEP 33A to HDR																								
MSD-01.11A-05N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.11A-07P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	44.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.11B_1 MSEP 33B to HDR																								
MSD-01.11B-01N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.11B-03P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.12B MSEP 33B DR HDR																								
MSD-01.12B-01T	12	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.00350
Line Name : MSD-01.11B_2 MSEP 33B to HDR																								
MSD-01.11B-04N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.11B-08P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.11B_3 MSEP 33B to HDR																								
MSD-01.11B-05N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.11B-07P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	44.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.12A MSEP 33A DR HDR																								
MSD-01.12A-02P	62	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	24.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00000	0.00000
Line Name : MSD-01.13A HDR to MSEP TK 33A																								
MSD-01.13A-01T	11	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.01050
Line Name : MSD-01.12B MSEP 33B DR HDR																								
MSD-01.12B-02P	62	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	24.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00000	0.00000
Line Name : MSD-01.13B HDR to MSEP TK 33B																								
MSD-01.13B-01T	11	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00350	0.01050
Line Name : MSD-01.13A HDR to MSEP TK 33A																								
MSD-01.13A-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	32.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-03E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-04V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-05P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	17.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-06V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-07P	58	12.750	20	0.250	0.268	0.000	0.000	0.000	0.00	90	24.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-08E	2	12.750	20	0.250	0.437	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-09P	52	12.750	20	0.250	0.382	0.000	0.000	0.000	0.00	90	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13A-10N	30	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
Line Name : MSD-01.13B HDR to MSEP TK 33B																								
MSD-01.13B-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	32.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
MSD-01.13B-03E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-04V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-05P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	17.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-06V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-07P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	24.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-08E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-09P	52	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.13B-10N	30	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.14A TK 33A to HD TK

MSD-01.14A-01N	31	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.14A-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	23.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.14A-03T	15	8.625	0	0.322	0.322	0.000	6.625	0.280	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.14A-04P	65	8.625	40	0.322	0.324	0.000	0.000	0.000	0.00	180	63.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-01E	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.15A-02V	25	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-03P	58	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	29.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-04E	2	6.625	40	0.280	0.341	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-05E	4	6.625	40	0.280	0.322	0.000	0.000	0.000	1.00	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-06P	54	6.625	40	0.280	0.285	0.000	0.000	0.000	0.00	180	89.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-07E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-08P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-21P	9	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	67.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-09E	2	6.625	40	0.280	0.302	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-10P	52	6.625	40	0.280	0.306	0.000	0.000	0.000	0.00	90	61.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-11E	2	6.625	40	0.280	0.290	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-12P	52	6.625	40	0.280	0.272	0.000	0.000	0.000	0.00	180	55.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-13E	2	6.625	40	0.280	0.334	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-14P	52	6.625	40	0.280	0.281	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-22P	9	6.625	40	0.280	0.281	0.000	0.000	0.000	0.00	90	151.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-15E	2	6.625	40	0.280	0.331	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-16P	52	6.625	40	0.280	0.284	0.000	0.000	0.000	0.00	90	99.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-17E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-18P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	42.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-19E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15A-20N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.14B TK 33B to HD TK

MSD-01.14B-01N	31	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.14B-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	23.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.14B-03T	15	8.625	0	0.322	0.322	0.000	6.625	0.280	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.14B-04P	65	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	24.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-01E	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.15B-02E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-03P	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	30.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-04E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-05V	25	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-06P	58	6.625	40	0.280	0.265	0.000	0.000	0.000	0.00	90	5.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-07E	4	6.625	40	0.280	0.309	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-08P	54	6.625	40	0.280	0.299	0.000	0.000	0.000	0.00	180	62.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-09E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-10P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	13.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-11E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-12P_1	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	41.25	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-12P_2	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	58.13	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-30P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	313.38	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-13E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-14P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	37.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-15E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-16P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
MSD-01.15B-31P_1	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	782.13	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-31P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	92.25	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-17E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-18P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	48.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-19E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-20P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	73.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-21E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-22P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	54.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-23E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-24P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-32P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	137.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-25E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-26P	52	6.625	40	0.280	0.278	0.000	0.000	0.000	0.00	180	42.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-27E	2	6.625	40	0.280	0.341	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-28P	52	6.625	40	0.280	0.282	0.000	0.000	0.000	0.00	90	6.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.15B-29N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.1A_1 MSEP 31A to HDR

MSD-01.1A-01N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.1A-03P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.2A MSEP 31A DR HDR

MSD-01.2A-01T	12	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.00350

Line Name : MSD-01.1A_2 MSEP 31A to HDR

MSD-01.1A-04N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.1A-08P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.1A_3 MSEP 31A to HDR

MSD-01.1A-05N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.1A-07P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	68.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.1B_1 MSEP 31B to HDR

MSD-01.1B-01N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.1B-03P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.2B MSEP 31B DR HDR

MSD-01.2B-01T	12	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.00350

Line Name : MSD-01.1B_2 MSEP 31B to HDR

MSD-01.1B-04N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.1B-08P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.1B_3 MSEP 31B to HDR

MSD-01.1B-05N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.1B-07P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	68.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.3A HDR to MSEP TK 31A

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
MSD-01.3A-01T	11	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00350	0.01050

Line Name : MSD-01.3B HDR to MSEP TK 31B

MSD-01.3B-01T	11	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00350	0.01050

Line Name : MSD-01.3A HDR to MSEP TK 31A

MSD-01.3A-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	32.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3A-03E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3A-04V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3A-05P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3A-06V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3A-07P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3A-08N	30	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.3B HDR to MSEP TK 31B

MSD-01.3B-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	32.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3B-03E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3B-04V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3B-05P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3B-06V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3B-07P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	6.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.3B-08N	30	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.4A TK 31A to HD TK

MSD-01.4A-01N	31	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4A-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	30.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4A-03T	15	8.625	0	0.322	0.322	0.000	6.625	0.280	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.4A-04P	65	8.625	40	0.322	0.349	0.000	0.000	0.000	0.00	180	22.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-01E	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.5A-02P	66	6.625	40	0.280	0.314	0.000	0.000	0.000	0.00	90	40.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-03E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-04P	52	6.625	40	0.280	0.349	0.000	0.000	0.000	0.00	180	10.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-05E	2	6.625	40	0.280	0.319	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-06V	25	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-07P	58	6.625	40	0.280	0.289	0.000	0.000	0.000	0.00	90	6.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-08E	4	6.625	40	0.280	0.319	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-09P	54	6.625	40	0.280	0.317	0.000	0.000	0.000	0.00	180	36.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-10E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-11P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	79.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-12E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-13P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	9.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-14E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-15P_1	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	81.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-15P_2	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	18.38	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-28P_1	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	923.63	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-28P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	138.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-16E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-17P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	31.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-18E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-19P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	55.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-20E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-21P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-29P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	61.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-22E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-23P	52	6.625	40	0.280	0.314	0.000	0.000	0.000	0.00	90	69.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-24E	2	6.625	40	0.280	0.302	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-25P	52	6.625	40	0.280	0.318	0.000	0.000	0.000	0.00	180	42.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
MSD-01.5A-26E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5A-27N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.4B TK 31B to HD TK

MSD-01.4B-01N	31	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4B-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	13.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4B-03E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4B-04P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	26.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4B-05E	2	8.625	0	0.322	0.322	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4B-07P	52	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	2.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.4B-06T	15	8.625	0	0.322	0.322	0.000	6.625	0.280	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.4B-08P	65	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	4.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-01R	7	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	180	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.5B-02P	57	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	55.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-03E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-04V	25	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-05P	58	6.625	40	0.280	0.307	0.000	0.000	0.000	0.00	90	13.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-06E	2	6.625	40	0.280	0.303	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-07P	52	6.625	40	0.280	0.313	0.000	0.000	0.000	0.00	180	48.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-08E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-09P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	6.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-10E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-11P_1	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	81.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-11P_2	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	18.38	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-29P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	1270.63	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-12E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-13P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	37.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-14E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-15P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-30P_1	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	805.13	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-30P_2	9	6.625	0	0.280	0.000	0.000	0.000	0.000	0.00	90	92.25	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-16E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-17P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	48.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-18E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-19P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	73.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-20E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-21P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	30.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-22E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-23P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-31P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	137.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-24E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-25P	52	6.625	40	0.280	0.302	0.000	0.000	0.000	0.00	180	42.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-32P	52	6.625	0	0.280	0.302	0.000	0.000	0.000	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-26E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-27P	52	6.625	40	0.280	0.311	0.000	0.000	0.000	0.00	90	21.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.5B-28N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.6A_1 MSEP 32A to HDR

MSD-01.6A-01N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.6A-03P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Line Name : MSD-01.7A MSEP 32A DR HDR

MSD-01.7A-01T	12	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.00350

Line Name : MSD-01.6A_2 MSEP 32A to HDR

MSD-01.6A-04N	31	12.750	1	1.125	1.125	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.6A-08P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	180	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo.	Design Press. (psig)	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : MSD-01.6A_3 MSEP 32A to HDR																								
MSD-01.6A-05N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.6A-07P	60	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	39.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.6B_1 MSEP 32B to HDR																								
MSD-01.6B-01N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.6B-03P	60	12.750	20	0.250	0.312	0.000	0.000	0.000	0.00	95	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.7B MSEP 32B DR HDR																								
MSD-01.7B-01T	12	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00700	0.00350
Line Name : MSD-01.6B_2 MSEP 32B to HDR																								
MSD-01.6B-04N	31	12.750	1	1.125	1.125	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.6B-08P	61	12.750	20	0.250	0.312	0.000	0.000	0.000	0.00	180	88.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.6B_3 MSEP 32B to HDR																								
MSD-01.6B-05N	31	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
MSD-01.6B-07P	60	12.750	20	0.250	0.264	0.000	0.000	0.000	0.00	95	39.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00350	0.00000	0.00000
Line Name : MSD-01.7A MSEP 32A DR HDR																								
MSD-01.7A-02P	62	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	29.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00000	0.00000
Line Name : MSD-01.8A HDR to MSEP TK 32A																								
MSD-01.8A-01T	11	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00350	0.01050
Line Name : MSD-01.7B MSEP 32B DR HDR																								
MSD-01.7B-02P	62	12.750	20	0.250	0.304	0.000	0.000	0.000	0.00	90	29.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00000	0.00000
Line Name : MSD-01.8B HDR to MSEP TK 32B																								
MSD-01.8B-01T	11	12.750	0	0.250	0.250	0.000	12.750	0.250	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.00700	0.00350	0.01050
Line Name : MSD-01.8A HDR to MSEP TK 32A																								
MSD-01.8A-02P	61	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	95	32.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8A-03E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8A-04V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8A-05P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	17.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8A-06V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8A-07P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	16.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8A-08N	30	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
Line Name : MSD-01.8B HDR to MSEP TK 32B																								
MSD-01.8B-02P	61	12.750	20	0.250	0.285	0.000	0.000	0.000	0.00	95	32.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8B-03E	2	12.750	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8B-04V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
MSD-01.8B-05P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	17.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8B-06V	25	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8B-07P	58	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	16.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.8B-08N	30	12.750	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.9A TK 32A to HD TK

MSD-01.9A-01N	31	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.9A-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	29.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.9A-03T	15	8.625	0	0.322	0.322	0.000	6.625	0.280	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.9A-04P	65	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	17.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-01E	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.10A-02P	66	6.625	40	0.280	0.304	0.000	0.000	0.000	0.00	90	88.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-03E	2	6.625	40	0.280	0.309	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-04P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	21.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-05E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-06V	25	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-07P	58	6.625	40	0.280	0.293	0.000	0.000	0.000	0.00	90	11.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-08E	2	6.625	40	0.280	0.307	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-09P	52	6.625	40	0.280	0.293	0.000	0.000	0.000	0.00	180	66.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-10E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-11P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	135	13.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-12E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-13P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-26P_1	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	11.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-26P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	297.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-26P_3	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	102.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-14E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-15P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	46.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-16E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-17P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	55.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-18E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-19P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-27P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	106.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-20E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-21P	52	6.625	40	0.280	0.294	0.000	0.000	0.000	0.00	90	84.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-22E	2	6.625	0	0.280	0.317	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-23P	52	6.625	40	0.280	0.289	0.000	0.000	0.000	0.00	180	42.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-24E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10A-25N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Line Name : MSD-01.9B TK 32B to HD TK

MSD-01.9B-01N	31	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.9B-02P	61	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	30.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.9B-03T	15	8.625	0	0.322	0.322	0.000	6.625	0.280	0.00	90	0.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.9B-04P	65	8.625	0	0.322	0.322	0.000	0.000	0.000	0.00	180	8.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-01E	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.01050	0.00000
MSD-01.10B-02E	4	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-03P	54	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	30.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-04E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-05V	25	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A217/WC6WC6/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-06P	58	6.625	40	0.280	0.299	0.000	0.000	0.000	0.00	90	13.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-07E	2	6.625	40	0.280	0.328	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-08P	52	6.625	40	0.280	0.289	0.000	0.000	0.000	0.00	180	55.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-09E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-10P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-28P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	785.63	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-11E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-12P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	180	37.00	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-13E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-14P	52	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
MSD-01.10B-29P_1	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	840.13	A53/BS/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-29P_2	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	92.25	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-15E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-16P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	68.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-17E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-18P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	73.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-19E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-20P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	26.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-21E	1	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-22P	51	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	99.38	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-30P	9	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	73.63	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-23E	2	6.625	0	0.280	0.280	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-24P	52	6.625	40	0.280	0.285	0.000	0.000	0.000	0.00	180	42.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-25E	2	6.625	40	0.280	0.316	0.000	0.000	0.000	1.50	90	0.00	A182/F11F11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-26P	52	6.625	40	0.280	0.290	0.000	0.000	0.000	0.00	90	36.00	A335/P11P11/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
MSD-01.10B-27N	30	6.625	0	0.280	0.280	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	250	400	191	0	358.200	0.000	0.01050	0.00000	0.00000
Line Name : MSD-MS Drain Tank 31A to DCT																								
TEMP24	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MSD-MS Drain Tank 31B to DCT																								
TEMP27	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MSD-MS Drain Tank 32A to DCT																								
TEMP25	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MSD-MS Drain Tank 32B to DCT																								
TEMP28	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MSD-MS Drain Tank 33A to DCT																								
TEMP26	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : MSD-MS Drain Tank 33B to DCT																								
TEMP29	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-01.1 PRESEP 1B DR to HDR																								
PD-01.1-01N	31	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.2-01R	7	14.000	0	0.375	0.000	0.000	10.750	0.365	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.2-02B	3	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.2-03P	53	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	169	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.2-04E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.2-05P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	139	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.2-06E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.2-07P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	120	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.2-08E	1	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.2-09V	25	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.2-10O	6	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
Line Name : PD-01.3 PRESEP 1A DR to HDR																								
PD-01.3-01N	31	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
PD-01.4-01R	7	14.000	0	0.375	0.000	0.000	10.750	0.365	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.4-02B	3	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.4-03P	53	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	169	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.4-04E	1	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.4-05P	51	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	149	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.4-06E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.4-07P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	120	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.4-08E	1	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.4-09V	25	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.4-10O	6	10.750	40	0.365	0.380	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000

Line Name : PD-01.5 PRESEP 2B DR to HDR

PD-01.5-01N	31	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-01R	7	14.000	0	0.375	0.000	0.000	10.750	0.365	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.6-02B	3	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.6-03P	53	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	161	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.6-04E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.6-05P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	102	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-06E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.6-07P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-08E	4	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-09P	54	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	134	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-10E	4	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-11P	54	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	120	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-12E	1	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-13V	25	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.6-14O	6	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000

Line Name : PD-01.7 PRESEP 2A DR to HDR

PD-01.7-01N	31	14.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A240/TP321/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-01R	7	14.000	0	0.375	0.000	0.000	10.750	0.365	0.00	180	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.8-02B	3	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.8-03P	53	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	161	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.8-04E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.8-05P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	102	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-06E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-07P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-08E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.8-09P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	128	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-10E	2	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-11P	52	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	120	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-12E	1	10.750	0	0.365	0.365	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000
PD-01.8-13V	25	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	250	400	207	0	364.799	0.000	0.23573	0.23573	0.00000
PD-01.8-14O	6	10.750	0	0.365	0.365	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.23573	0.00000

Line Name : PD-02.2 PRESEP HDR to HD TK

PD-02.2-01T	12	16.000	0	0.375	0.375	0.000	10.000	0.365	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.23573	0.47145	0.23573
PD-02.4-22T	15	16.000	0	0.375	0.375	0.000	2.000	0.154	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.47145	0.47145	0.00000

Line Name : PD-02.3 PRESEP HDR to HD TK

PD-02.3-01T	12	16.000	0	0.375	0.375	0.000	10.000	0.365	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.47145	0.70718	0.23573

Line Name : PD-02.4 PRESEP HDR to HD TK

PD-02.4-01T	12	16.000	0	0.375	0.375	0.000	10.000	0.365	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.70718	0.94290	0.23573
PD-02.4-02E	4	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
PD-02.4-03P	54	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-04E	2	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-05P	52	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	172.00	A106/BB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-22E	2	16.000	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-23R	18	30.000	0	0.625	0.000	0.000	16.000	0.375	0.00	0	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.94290	0.00000
PD-02.4-24P	68	30.000	0	0.625	0.000	0.000	0.000	0.000	0.00	0	78.19	A516/6060/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-25T	13	30.000	0	0.625	0.000	0.000	16.000	0.375	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.94290
PD-02.4-27P	63	16.000	0	0.375	0.000	0.000	0.000	0.000	0.00	90	12.63	A106/BB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-28E	2	16.000	0	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-06E	4	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-07P	54	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	71	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-08E	1	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-09P	51	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-10E	1	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-11P	51	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	118	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-12E	2	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-13P	52	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	109	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-14E	1	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-15P	51	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	96	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-16E	2	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-17P	52	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	96	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-18E	2	16.000	0	0.375	0.375	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-19P	52	16.000	0	0.375	0.375	0.000	0.000	0.000	0.00	96	28.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-29R	17	16.000	40	0.500	0.000	0.000	8.625	0.322	0.00	95	0.00	A234/WPBWPB/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.94290	0.00000
PD-02.4-30V	21	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	95	0.00	A216/WCCWCC/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-31R	18	16.000	0	0.375	0.000	0.000	8.625	0.277	0.00	90	0.00	A234/WP22WP2/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.94290	0.00000
PD-02.4-32P	68	16.000	0	0.375	0.000	0.000	0.000	0.000	0.00	95	24.00	A335/P22P22/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-20O	6	16.000	0	0.375	0.421	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-21N	30	16.000	0	0.375	0.899	0.000	0.000	0.000	0.00	90	0.00	A106/CC/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.94290	0.00000	0.00000
PD-02.4-26P	63	30.000	0	0.625	0.000	0.000	0.000	0.000	0.00	0	79.19	A516/6060/	0.00	0.00	0.00	250	400	207	0	364.800	0.000	0.00000	0.00000	0.00000

Line Name : RHD-01.10A_1 RH 33A to TK 33A

RHD01.10A-01N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-02P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	165	11.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-03N	30	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.10A_2 TK 33A to A HDR

RHD01.10A-04N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-05P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	42.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-06E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-07P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	22.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-08E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-09P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	34.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-10E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-11P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	11.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-12E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-13P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	39.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-14E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-15P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	32.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-16E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-17P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	78.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-18F	6	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-19P	56	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	32.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10A-20R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.11A-01E	4	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11A-02P	54	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	48.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11A-03E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11A-04P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	89.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12A-01T	14	8.625	80	0.500	0.000	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.13000
RHD01.12A-02P	64	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	22.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
RHD01.12A-03E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12A-04E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12A-05P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	93.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12A-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12A-07P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	51.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12A-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.13A-01R	7	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.5A-01V	24	4.500	0	0.337	0.337	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.5A-02R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.6A-01P	57	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	30.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.6A-02E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.6A-03P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	43.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.6A-04E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.6A-05P	51	6.625	0	0.432	0.000	0.000	0.000	0.000	0.00	135	20.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.10B_1 RH 33B to TK 33B

RHD01.10B-01N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-02P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	165	11.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-03N	30	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.10B_2 TK 33B to B HDR

RHD01.10B-04N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-05P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	39.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-06E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-07P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	14.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-09P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	74.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-10E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-11P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	4.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-12E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-13P_1	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-13P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	725.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-14E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-15E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-16P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	67.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-17E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-18P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	57.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-19E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-20P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	14.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-21E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-22E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-23P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	89.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-24E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-25P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-25P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	69.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-26F	6	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-27P	56	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	51.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-28E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-29P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	100.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-30E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-31P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	46.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-32E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-33P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	75.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-34E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-35P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	17.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-36E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-37P_1	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-37P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	156.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-38E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-39P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	17.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
RHD01.10B-40E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-41P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	56.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-42E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-43P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	57.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-44E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-45P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	63.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-46E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-47P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-47P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	167.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-48E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-49P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	54.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-50E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-51P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	147.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-52T	10	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.00000	0.13000	0.13000
RHD01.10B-53P	60	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	30.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-54E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-55P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	16.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-56E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-57P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-57P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	830.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-58E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-59P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	21.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-60E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-61P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-61P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	28.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-62E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-63E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.10B-64R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.11B-01P_1	68	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11B-01P_2	9	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	71.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11B-02E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11B-03P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	180	60.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11B-04E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.11B-05P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	24.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.12B-01R	17	8.625	80	0.500	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.5B-01V	24	4.500	0	0.337	0.337	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.5B-02R	18	8.625	80	0.500	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.6B-01E	4	8.625	80	0.500	0.559	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.6B-02P	54	8.625	80	0.500	0.528	0.000	0.000	0.000	0.00	180	54.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.1A_1 RH 31A to TK 31A

RHD01.1A-01N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-02P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	165	10.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-03N	30	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.1A_2 TK 31A to A HDR

RHD01.1A-04N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-05P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	85.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-07P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-07P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	17.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-09P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-09P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	131.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-10E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-11P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	44.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-12E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-13P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-13P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	23.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-14E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
RHD01.1A-15P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	45	10.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-16E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-17P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	55.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-18E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-19P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	4.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-20E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-21P_1	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-21P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	75.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-22E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-23P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	12.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-24E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-25E	3	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-26P	53	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	5.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-27E	3	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-28P_1	53	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-28P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	67.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-29E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-30P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	75.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-31E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-32P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	4.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-33E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-34P_1	54	6.625	80	0.432	0.475	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-34P_2	9	6.625	80	0.432	0.475	0.000	0.000	0.000	0.00	90	73.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-35F	6	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-36P	56	6.625	80	0.432	0.462	0.000	0.000	0.000	0.00	90	42.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-37T	15	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.1A-38P	65	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	14.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-39E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-40P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	56.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-41E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-42P_1	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-42P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	43.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-43E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-44P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-44P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	37.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-45E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-46P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	53.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-47E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1A-48P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	20.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.2A-01R	17	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.1A-01V	24	4.500	0	0.337	0.337	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.1A-02R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.2A-01P	68	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	12.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2A-02E	2	6.625	80	0.432	0.473	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2A-03P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	33.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2A-04E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2A-05P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	34.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.1B_1 RH 31B to TK 31B

RHD01.1B-01N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-02P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	165	11.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-03N	30	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.1B_2 TK 31B to B HDR

RHD01.1B-04N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-05P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	68.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-07P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	54.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-09P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	18.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
RHD01.1B-10E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-11P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	55.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-12E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-13P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	102.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-14F	6	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-15P	56	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	27.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-16E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-17P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	30.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-18E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-19P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	13.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-20E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-21P_1	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-21P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	388.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-22E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-23P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	57.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-24E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-25P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	23.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-26E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-27P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-27P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	137.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-28E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-29P	52	6.625	80	0.432	0.473	0.000	0.000	0.000	0.00	0	6.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-30E	4	6.625	80	0.432	0.473	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-31P	54	6.625	80	0.432	0.469	0.000	0.000	0.000	0.00	90	72.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-32E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-33P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	93.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-34T	15	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.1B-35E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-36P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	45	30.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-37E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-38P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-38P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	887.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-39E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-40P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	21.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-41E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-42P_1	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-42P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	27.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-43E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-44P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	74.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-45E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-46P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	8.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-47E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-48P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	41.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-49E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-50P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	17.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-51E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.1B-52P	52	6.625	80	0.432	0.476	0.000	0.000	0.000	0.00	90	12.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.2B-01R	17	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.1B-01V	24	4.500	0	0.337	0.337	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.1B-02R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.2B-01P	68	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	24.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2B-02E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2B-03P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	27.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2B-04E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.2B-05P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	52.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.3A_1 RH 32A to TK 32A

RHD01.3A-01N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-02P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	165	11.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-03N	30	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : RHD-01.3A_2 TK 32A to A HDR																								
RHD01.3A-04N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-05P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	69.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-07P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	58.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-09P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	55.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-10E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-11P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	15.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-12E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-13P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	4.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-14E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3A-15R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.4A-01P_1	68	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	129.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.4A-01P_2	9	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	77.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5A-01R	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.5A-02P	67	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	70.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5A-03F	6	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5A-04P	56	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	34.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5A-05R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.6A-01P	68	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	93.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-02T	15	8.625	0	0.500	0.500	0.000	8.000	0.500	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.6A-03P_1	65	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	129.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-03P_2	9	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	49.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-04E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-05P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	0	8.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-06E	4	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-07P	54	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	95.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-08E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-09P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	36.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-10E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-11P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	95.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-12E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-13P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	180	9.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-14E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-15P_1	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	129.38	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6A-15P_2	9	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	250.63	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.7A-01R	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.7A-02E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.7A-03P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	72.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.7A-04E	2	6.625	80	0.432	0.458	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.8A-01R	7	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.8A-02P	57	4.500	80	0.337	0.376	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.3A-01V	24	4.500	0	0.337	0.337	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.3A-02R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.4A-01P	68	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	12.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4A-02E	2	6.625	80	0.432	0.473	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4A-03P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	43.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4A-04E	1	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4A-05P	51	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	135	20.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4A-06L	10	10.750	0	0.594	0.594	0.000	6.000	0.432	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.00000	0.13000	0.13000
RHD02.7A-01P	60	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	25.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
Line Name : RHD-02.8A TK A HDR to FWH 36																								
RHD02.6A-06L	12	10.750	0	0.594	0.594	0.000	6.000	0.432	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.26000	0.13000
Line Name : RHD-01.3B_1 RH 32B to TK 32B																								
RHD01.3B-01N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-02P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	165	11.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
RHD01.3B-03N	30	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-01.3B_2 TK 32B to B HDR

RHD01.3B-04N	31	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-05P	61	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	180	61.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-07P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	63.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-09P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	54.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-10E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-11P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	81.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-12E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-13P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	54.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-14E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-15P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	53.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-16E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-17P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	115	17.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-18E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-19P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	9.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.3B-20R	18	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.4B-01P_1	68	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	161.25	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.4B-01P_2	9	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	71.75	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5B-01R	17	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.5B-02P	67	6.625	80	0.432	0.458	0.000	0.000	0.000	0.00	90	69.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5B-03F	6	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5B-04P	56	6.625	80	0.432	0.475	0.000	0.000	0.000	0.00	90	52.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.5B-05R	18	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.6B-01P	68	10.750	80	0.594	0.634	0.000	0.000	0.000	0.00	90	29.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-02E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-03P_1	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	161.25	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-03P_2	9	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	25.75	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-04E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-05P	51	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	13.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-06E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-07P	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	180	64.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-08E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-09P_1	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	161.25	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-09P_2	9	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	270.75	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-10E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-11E	4	10.750	0	0.594	0.594	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-12P	54	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	18.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-13E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-14P	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	0	38.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-15E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-16P	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	130.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-17T	15	10.750	0	0.594	0.594	0.000	8.000	0.500	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.6B-18P	65	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	130.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-19E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-20P_1	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	161.25	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-20P_2	9	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	228.75	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-21T	15	10.750	0	0.594	0.594	0.000	8.000	0.500	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.6B-22P_1	65	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	161.25	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.6B-22P_2	9	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	73.75	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.7B-01R	17	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.7B-02P	67	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	24.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.7B-03R	18	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD01.8B-01P_1	68	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	161.25	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.8B-01P_2	9	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	678.75	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.8B-02E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.8B-03P	51	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	17.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.8B-04E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.8B-05P	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	180	53.00	A106/BB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)		(psig)	(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
RHD01.8B-06E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.00000	0.00000
RHD01.9B-01R	17	10.750	80	0.594	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	630	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.3B-01V	24	4.500	0	0.337	0.337	0.000	0.000	0.000	0.00	90	0.00	A-217/C5/	5.00	0.00	0.50	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.3B-02R	18	10.750	80	0.594	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.4B-01P	68	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	16.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4B-02E	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4B-03P	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	180	72.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4B-04E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4B-05P	51	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	135	39.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4B-06E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.4B-07P	51	10.750	80	0.594	0.609	0.000	0.000	0.000	0.00	90	12.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.8B TK B HDR to FWH 36

RHD02.7B-08L	12	10.750	80	0.594	0.605	0.000	8.000	0.500	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.39000	0.26000

Line Name : RHD-02.10A TK A HDR to FWH 36

RHD02.10A-01R	7	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.26000	0.00000
RHD02.10A-02P	57	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	75.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-03E	1	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-04P	51	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	135	34.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-05E	1	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-06P	51	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	25.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-07E	1	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-08P	51	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	37.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-09E	1	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-10P	51	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	72.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.10A-11T	14	8.625	0	0.500	0.500	0.000	6.000	0.432	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.13000	0.13000

Line Name : RHD-02.10B B HDR to FWH 36A

RHD02.10B-01R	7	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.10B-02P_1	57	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-02P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	71.63	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-03E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-04P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	3.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-05E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-06P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	90.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-07E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-08P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	14.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-09E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-10P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	60.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-11E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-12V	22	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-13P	58	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-14T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.10B-15P	63	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	30.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.10B-16T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.10B-17R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.11B-01N	30	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.11A A HDR to FWH 36A

RHD02.11A-01R	7	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.11A-02P_1	57	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-02P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	10.63	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-03E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-04P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	3.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
RHD02.11A-05E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-06P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	74.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-07E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-08E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-09P_1	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-09P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	59.63	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-10E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-11P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	43.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-12E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-13P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	33.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-14E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-15V	22	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-16P	58	6.625	80	0.432	0.489	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-17T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.11A-18P	63	6.625	80	0.432	0.473	0.000	0.000	0.000	0.00	0	48.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.11A-19T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.11A-20R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.12A-01N	30	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.12B B HDR to FWH 36B

RHD02.12B-01P	64	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	3.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-02E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-03P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	90.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-04E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-05P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	14.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-07P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	60.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-08E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-09V	22	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-10P	58	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-11T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.12B-12P	63	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	30.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.12B-13T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.12B-14R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.13B-01N	30	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.13A A HDR to FWH 36B

RHD02.13A-01P	64	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	6.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-02E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-03P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	74.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-04E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-05E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-06P_1	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	99.38	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-06P_2	9	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	56.63	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-07E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-08P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	43.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-09E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-10P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	33.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-11E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-12V	22	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-13P	58	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-14T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.13A-15P	63	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	48.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.13A-16T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.13A-17R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.14A-01N	30	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.14B B HDR to FWH 36C

RHD02.14B-01P	64	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	3.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
RHD02.14B-02E	4	6.625	0	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-03P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	90.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-04E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-05E	4	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-06P	54	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	60.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-07E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-08V	22	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-09P	58	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-10T	13	6.625	0	0.432	0.000	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.14B-11P	63	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	30.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-12T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.14B-14P	63	6.625	0	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.14B-13R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.15B-01N	30	8.625	80	0.500	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.15A A HDR to FWH 36C

RHD02.15A-01P	64	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	29.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-02E	2	6.625	0	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-03P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	30.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-04E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-05P	52	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	33.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-06E	2	6.625	0	0.432	0.432	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-07V	22	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-08P	58	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	90	35.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-09T	13	6.625	0	0.432	0.432	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.15A-10P	63	6.625	0	0.432	0.432	0.000	0.000	0.000	0.00	0	48.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-11T	13	6.625	0	0.432	0.000	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.13000
RHD02.15A-13P	63	6.625	0	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000
RHD02.15A-12R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.13000	0.00000
RHD02.16A-01N	30	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	0.00	A105/A105A10/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.13000	0.00000	0.00000

Line Name : RHD-02.7B TK B HDR to FWH 36

RHD02.7B-01P	62	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	180	27.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.7B-02E	2	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.7B-03P	52	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	12.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.7B-04E	1	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.7B-05P	51	8.625	0	0.500	0.500	0.000	0.000	0.000	0.00	90	15.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.7B-06E	1	8.625	0	0.500	0.500	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.7B-07P	51	8.625	80	0.500	0.543	0.000	0.000	0.000	0.00	90	6.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000

Line Name : RHD-02.8A TK A HDR to FWH 36

RHD02.8A-01P	62	10.750	0	0.594	0.000	0.000	0.000	0.000	0.00	90	29.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.8A-02E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.8A-03P	51	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	12.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000

Line Name : RHD-02.9A TK A HDR to FWH 36

RHD02.2A-06L	12	10.750	0	0.594	0.594	0.000	6.000	0.432	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.39000	0.13000

Line Name : RHD-02.8B TK B HDR to FWH 36

RHD02.8B-01P	62	10.750	80	0.594	0.609	0.000	0.000	0.000	0.00	90	29.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.8B-02E	2	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.8B-03P	52	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	0	6.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.8B-04E	4	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.8B-05P	54	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	149.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.8B-06T	14	10.750	0	0.594	0.594	0.000	6.000	0.432	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.26000	0.13000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
Line Name : RHD-02.9A TK A HDR to FWH 36																								
RHD02.9A-01P	62	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	21.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-02E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-03P	51	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	147.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-04E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-05P	51	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	45.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-06E	1	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-07E	3	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-08P	53	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	45	3.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-09E	3	10.750	0	0.594	0.594	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-10P	53	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	23.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.00000	0.00000
RHD02.9A-11T	14	10.750	0	0.594	0.594	0.000	6.000	0.432	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.39000	0.26000	0.13000
Line Name : RHD-02.9B TK B HDR to FWH 36																								
RHD02.9B-01P	64	10.750	0	0.594	0.594	0.000	0.000	0.000	0.00	90	67.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.00000	0.00000
RHD02.9B-02T	14	10.750	0	0.594	0.594	0.000	6.000	0.432	0.00	90	0.00	A106/BB/	0.00	0.00	0.00	1085	600	334	0	495.300	0.000	0.26000	0.13000	0.13000
Line Name : xEX-03.1A LP EXT 12 to FWH 34A																								
EX-03.1A-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-02P	61	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-03E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-42X	6	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	18.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-04P	56	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-05T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1A-06E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-07E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-40P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-08V	22	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-09P	58	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-10V	25	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-11P	58	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-12E	1	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-13P	51	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-14E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-15P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-16E	1	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-17P	51	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	135	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-18E	1	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-20E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-21P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-22T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1A-23P	65	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-24E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-25P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-26E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-27P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-41P	9	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-28E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-29P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-30E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-31P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-32T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1A-33P	65	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-34E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-35P	52	20.000	0	0.250	0.249	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-36E	2	20.000	0	0.250	0.461	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-37P	52	20.000	0	0.250	0.253	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD (in)	Sch.	Tnom (in)	Tinit (in)	Tcrit (in)	Br/Small End OD (in)	Br/Small Tnom (Deg.)	R / D Ratio	Orient Angle (in)	Pipe Length (%)	Spec/Type/ Class	Material Cr. (%)	Cu. (%)	Mo. (psig)	Design Press.	Design Temp. (Deg. F)	Op. Press. (psig)	Op. Temp. (Deg. F)	Op. Enth. (Btu/lbm)	Op. Qual.	Flow Rate U/S Mn. (Mlbm/hr)v	D/S Mn.	Br.
EX-03.1A-38E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1A-39N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000

Line Name : xEX-03.1B LP EXT 12 to FWH 34B

EX-03.1B-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-02P	61	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-03E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-37X	6	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-04P	56	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-05T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1B-06E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-07E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-08P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-09V	22	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-10P	58	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-11V	25	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-12P	58	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-13E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-14P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-15E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-16P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-17E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-18P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-19T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1B-20P	65	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-21E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-22P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-23E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-24P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-25E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-26P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-27E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-28P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-29T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1B-30P	65	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-31E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-32P	52	20.000	0	0.250	0.263	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-33E	2	20.000	0	0.250	0.431	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-34P	52	20.000	0	0.250	0.263	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-35E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1B-36N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000

Line Name : xEX-03.1C LP EXT 12 to FWH 34C

EX-03.1C-01N	31	20.000	0	0.250	0.400	0.000	0.000	0.000	0.00	90	0.00	A516/6060/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-02P	61	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-03E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-41X	6	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	18.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-04P	56	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-05T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1C-06E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-07E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-08P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-09V	22	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-10P	58	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-11V	25	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A216/WCBWCB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-12P	58	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-13E	1	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-14P	51	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-15E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-16P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000

Component Name (in)	Geom Code	Pipe Size OD	Sch.	Tnom	Tinit	Tcrit	Br/Small End OD	Br/Small Tnom	R / D Ratio	Orient Angle	Pipe Length	Spec/Type/ Class	Material Cr.	Cu.	Mo.	Design Press.	Design Temp.	Op. Press.	Op. Temp.	Op. Enth.	Op. Qual.	Flow Rate U/S Mn.	D/S Mn.	Br.
		(in)		(in)	(in)	(in)	(in)	(Deg.)		(in)	(%)		(%)	(%)	(psig)		(Deg. F)	(psig)	(Deg. F)	(Btu/lbm)		(Mlbm/hr)v		
EX-03.1C-17E	3	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-18P	53	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	135	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-19E	1	20.000	0	0.250	0.250	0.000	0.000	0.000	1.50	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-20P	51	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-21E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-22E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-23P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-24T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1C-25P	65	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-26E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-27E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-28P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-29E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-30P	52	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-31E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-32P	54	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-33T	15	20.000	0	0.250	0.250	0.000	6.625	0.280	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.16760	0.00000
EX-03.1C-34P	65	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-35E	4	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-36P	54	20.000	0	0.250	0.263	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-37E	2	20.000	0	0.250	0.439	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-38P	52	20.000	0	0.250	0.259	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-39E	2	20.000	0	0.250	0.250	0.000	0.000	0.000	1.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000
EX-03.1C-40N	30	20.000	0	0.250	0.250	0.000	0.000	0.000	0.00	90	0.00	A234/WPBWPB/	0.00	0.00	0.00	100	400	50	0	1177.400	0.000	0.16760	0.00000	0.00000

Note: This report is based on the assumption that at least the component U/S Main is included in a flow segment.

Company : Entergy Nuclear Operations, Inc.
Plant : Indian Point
Unit : 3
DB Name: IPEC3(v3)

Report Date : 09-Feb-2010
Report Time : 14:30:36

CHECWORKS SFA Version: 3.0 (build 105)

Component History Summary Report

SELECTION CRITERIA:

Line Name: *
Drawing Name: *
Comp. Service Status: *

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
Line Name : EX-01.1 HP EXT to FWH 36 HDR		**Sorted :**	**No**	
EX-01.6-01P	EX-01.6-01P	RO8	01/01/1994	A106/B/B
EX-01.6-01P	EX-01.6-01P	RO9	05/14/1997	A691/EFW/22
EX-01.1-08R	EX-01.1-08R	RO9	05/14/1997	A234/WPB/WPB
EX-01.1-07P	EX-01.1-07P	RO9	05/14/1997	A106/B/B
EX-01.1-06E	EX-01.1-06E	RO9	05/14/1997	A234/WPB/WPB
EX-01.1-05P	EX-01.1-05P	RO9	05/14/1997	A106/B/B
EX-01.1-04E	EX-01.1-04E	RO9	05/14/1997	A234/WPB/WPB
EX-01.1-03P	EX-01.1-03P	RO9	05/14/1997	A106/B/B
EX-01.1-02E	EX-01.1-02E	RO9	05/14/1997	A234/WPB/WPB
Line Name : EX-01.2 HP EXT to FWH 36 HDR		**Sorted :**	**No**	
EX-01.2-09P	EX-01.2-09P	RO8	01/01/1994	A106/B/B
EX-01.2-05P	EX-01.2-05P	RO9	05/14/1997	A106/B/B
EX-01.2-02E	EX-01.2-02E	RO9	05/14/1997	A234/WPB/WPB
EX-01.2-06E	EX-01.2-06E	RO9	05/14/1997	A234/WPB/WPB
EX-01.2-07P	EX-01.2-07P	RO9	05/14/1997	A106/B/B
EX-01.2-08E	EX-01.2-08E	RO9	05/14/1997	A234/WPB/WPB
EX-01.2-09P	EX-01.2-09P	RO9	05/14/1997	A691/EFW/22
EX-01.2-03P	EX-01.2-03P	RO9	05/14/1997	A106/B/B
EX-01.2-04E	EX-01.2-04E	RO9	05/14/1997	A234/WPB/WPB
Line Name : EX-01.3 HP EXT FWH 36 HEADER		**Sorted :**	**No**	
EX-01.2-10L	EX-01.2-10L	RO8	01/01/1994	A106/B/B
EX-01.3-03P	EX-01.3-03P	RO9	05/14/1997	A106/B/B
EX-01.2-10L	EX-01.2-10L	RO9	05/14/1997	A691/EFW/22
EX-01.3-04T	EX-01.3-04T	RO9	05/14/1997	A106/B/B
EX-01.3-05P	EX-01.3-05P	RO9	05/14/1997	A106/B/B
EX-01.3-09E	EX-01.3-09E	RO9	05/14/1997	A234/WPB/WPB
EX-01.3-10P	EX-01.3-10P	RO9	05/14/1997	A106/B/B
EX-01.3-12P	EX-01.3-12P	RO9	05/14/1997	A106/B/B
EX-01.3-13E	EX-01.3-13E	RO9	05/14/1997	A234/WPB/WPB
EX-01.3-14P	EX-01.3-14P	RO9	05/14/1997	A106/B/B
EX-01.3-15E	EX-01.3-15E	RO9	05/14/1997	A234/WPB/WPB
EX-01.3-16P	EX-01.3-16P	RO9	05/14/1997	A106/B/B
EX-01.3-17T	EX-01.3-17T	RO9	05/14/1997	A106/B/B
EX-01.3-19E	EX-01.3-19E	RO9	05/14/1997	A234/WPB/WPB
EX-01.3-20P	EX-01.3-20P	RO9	05/14/1997	A106/B/B
EX-01.3-21E	EX-01.3-21E	RO9	05/14/1997	A234/WPB/WPB
EX-01.3-22P	EX-01.3-22P	RO9	05/14/1997	A106/B/B
EX-01.3-23T	EX-01.3-23T	RO9	05/14/1997	A106/B/B
EX-01.3-02E	EX-01.3-02E	RO9	05/14/1997	A234/WPB/WPB
EX-01.3-01P	EX-01.3-01P	RO9	05/14/1997	A106/B/B
EX-01.3-11T	EX-01.3-11T	RO9	05/14/1997	A106/B/B
Line Name : EX-01.4 HP EXT FWH 36 HEADER		**Sorted :**	**No**	

EX-01.4-02T	EX-01.4-02T	RO9	05/14/1997	A106/B/B
EX-01.4-01P	EX-01.4-01P	RO9	05/14/1997	A106/B/B

Line Name : EX-01.5A HP EX HDR to FWH 36A **Sorted :** **No**

EX-01.5A-16L	EX-01.5A-16L	RO8	04/18/1992	A106/B/B
EX-01.5A-05E	EX-01.5A-05E	RO8	04/18/1992	A234/WPB/WPB
EX-01.5A-04P	EX-01.5A-04P	RO8	04/18/1992	A106/B/B
EX-01.5A-03E	EX-01.5A-03E	RO8	04/18/1992	A234/WPB/WPB
EX-01.5A-06P	EX-01.5A-06P	RO8	04/18/1992	A106/B/B
EX-01.5A-07L	EX-01.5A-07L	RO8	04/18/1992	A106/B/B
EX-01.5A-09E	EX-01.5A-09E	RO8	04/18/1992	A234/WPB/WPB
EX-01.5A-08P	EX-01.5A-08P	RO8	04/18/1992	A106/B/B
EX-01.5A-10P	EX-01.5A-10P	RO9	05/14/1997	A106/B/B
EX-01.5A-12P	EX-01.5A-12P	RO9	05/14/1997	A106/B/B
EX-01.5A-13E	EX-01.5A-13E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5A-17P	EX-01.5A-17P	RO9	05/14/1997	A106/B/B
EX-01.5A-14E	EX-01.5A-14E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5A-15N	EX-01.5A-15N	RO9	05/14/1997	A105/A105/A10
EX-01.5A-07L	EX-01.5A-07L	RO9	05/14/1997	A691/EFW/22
EX-01.5A-16L	EX-01.5A-16L	RO9	05/14/1997	A691/EFW/22
EX-01.5A-05E	EX-01.5A-05E	RO9	05/14/1997	A234/WP22/WP2
EX-01.5A-04P	EX-01.5A-04P	RO9	05/14/1997	A691/EFW/22
EX-01.5A-08P	EX-01.5A-08P	RO9	05/14/1997	A691/EFW/22
EX-01.5A-06P	EX-01.5A-06P	RO9	05/14/1997	A691/EFW/22
EX-01.5A-03E	EX-01.5A-03E	RO9	05/14/1997	A234/WP22/WP2
EX-01.5A-02P	EX-01.5A-02P	RO9	05/14/1997	A106/B/B
EX-01.5A-01R	EX-01.5A-01R	RO9	05/14/1997	A234/WPB/WPB
EX-01.7-01P	EX-01.7-01P	RO9	05/14/1997	A106/B/B
EX-01.5A-09E	EX-01.5A-09E	RO9	05/14/1997	A234/WP22/WP2

Line Name : EX-01.5B HP EX HDR to FWH 36B **Sorted :** **No**

EX-01.5B-08P	EX-01.5B-08P	RO9	05/14/1997	A106/B/B
EX-01.5B-11E	EX-01.5B-11E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5B-10P	EX-01.5B-10P	RO9	05/14/1997	A106/B/B
EX-01.5B-07E	EX-01.5B-07E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5B-06E	EX-01.5B-06E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5B-04L	EX-01.5B-04L	RO9	05/14/1997	A106/B/B
EX.01.5B-14L	EX.01.5B-14L	RO9	05/14/1997	A106/B/B
EX-01.5B-03P	EX-01.5B-03P	RO9	05/14/1997	A106/B/B
EX-01.5B-02E	EX-01.5B-02E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5B-01P	EX-01.5B-01P	RO9	05/14/1997	A106/B/B
EX-01.5B-15P	EX-01.5B-15P	RO9	05/14/1997	A106/B/B
EX-01.5B-05P	EX-01.5B-05P	RO9	05/14/1997	A106/B/B
EX-01.5B-12E	EX-01.5B-12E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5B-13N	EX-01.5B-13N	RO9	05/14/1997	A105/A105/A10

Line Name : EX-01.5C HP EX HDR to FWH 36C **Sorted :** **No**

EX-01.5C-03P	EX-01.5C-03P	RO9	05/14/1997	A106/B/B
EX-01.5C-02E	EX-01.5C-02E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5C-13N	EX-01.5C-13N	RO9	05/14/1997	A105/A105/A10
EX-01.5C-12E	EX-01.5C-12E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5C-15P	EX-01.5C-15P	RO9	05/14/1997	A106/B/B
EX-01.5C-11E	EX-01.5C-11E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5C-01P	EX-01.5C-01P	RO9	05/14/1997	A106/B/B
EX-01.5C-08P	EX-01.5C-08P	RO9	05/14/1997	A106/B/B
EX-01.5C-07E	EX-01.5C-07E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5C-06E	EX-01.5C-06E	RO9	05/14/1997	A234/WPB/WPB
EX-01.5C-05P	EX-01.5C-05P	RO9	05/14/1997	A106/B/B
EX-01.5C-04L	EX-01.5C-04L	RO9	05/14/1997	A106/B/B
EX.01.5C-14L	EX.01.5C-14L	RO9	05/14/1997	A106/B/B
EX-01.5C-10P	EX-01.5C-10P	RO9	05/14/1997	A106/B/B

Line Name : EX-02.1 PSEP 2A 10" to 35 HDR **Sorted : No**

EX-02.5-01P	EX-02.5-01P	RO13	03/13/2005	A53/B/S
EX-02.1-06T	EX-02.1-06T	RO13	03/13/2005	A53/B/S
EX-02.1-05O	EX-02.1-05O	RO13	03/13/2005	A53/B/S
EX-02.1-04P	EX-02.1-04P	RO13	03/13/2005	A53/B/S
EX-02.1-03E	EX-02.1-03E	RO13	03/13/2005	A234/WPB/WPB
EX-02.1-02P	EX-02.1-02P	RO13	03/13/2005	A53/B/S

Line Name : EX-02.11 PSEP1B 14" to 35 HDR **Sorted : No**

EX-02.11-04P	EX-02.11-04P	RO13	03/13/2005	A53/B/S
EX-02.11-03E	EX-02.11-03E	RO13	03/13/2005	A234/WPB/WPB
EX-02.11-02P	EX-02.11-02P	RO13	03/13/2005	A53/B/S
EX-02.11-07P	EX-02.11-07P	RO13	03/13/2005	A53/B/S
EX-02.11-06O	EX-02.11-06O	RO13	03/13/2005	A53/B/S

Line Name : EX-02.12 PSEP 1B&2B to 35 HDR **Sorted : No**

EX-02.9-10T	EX-02.9-10T	RO13	03/13/2005	A53/B/S
EX-02.12-01P	EX-02.12-01P	RO13	03/13/2005	A53/B/S

Line Name : EX-02.13 PSEP 1B&2B to 35 HDR **Sorted : No**

EX-02.13-03P	EX-02.13-03P	RO13	03/11/2005	A53/B/S
EX-02.11-05T	EX-02.11-05T	RO13	03/13/2005	A53/B/S
EX-02.13-01P	EX-02.13-01P	RO13	03/13/2005	A53/B/S
EX-02.13-05P	EX-02.13-05P	RO13	03/13/2005	A53/B/S
EX-02.13-04E	EX-02.13-04E	RO13	03/13/2005	A234/WPB/WPB
EX-02.13-03E	EX-02.13-03E	RO13	03/13/2005	A234/WPB/WPB
EX-02.13-02B	EX-02.13-02B	RO13	03/13/2005	A53/B/S

Line Name : EX-02.14 FWH 35 HEADER **Sorted : No**

EX-02.14-08E	EX-02.14-08E	RO5	05/03/1987	A234/WPB/WPB
EX-02.14-02E	EX-02.14-02E	RO5	05/03/1987	A234/WPB/WPB
EX-02.14-06E	EX-02.14-06E	RO5	05/03/1987	A234/WPB/WPB
EX-02.14-28P	EX-02.14-28P	RO8	01/01/1994	A155/C55/2
EX-02.7-02T	EX-02.7-02T	RO8	01/01/1994	A155/C55/2
EX-02.14-22T	EX-02.14-22T	RO8	01/01/1994	A155/C55/2
EX-02.14-23P	EX-02.14-23P	RO8	01/01/1994	A155/C55/2
EX-02.14-33P	EX-02.14-33P	RO8	01/01/1994	A155/C55/2
EX-02.14-29T	EX-02.14-29T	RO8	01/01/1994	A155/C55/2
EX-02.14-06E	EX-02.14-06E	RO15	03/13/2009	A234/WPB/WPB
EX-02.14-08E	EX-02.14-08E	RO15	03/13/2009	A234/WPB/WPB

Line Name : EX-02.15 FWH 35 HEADER **Sorted : No**

EX-02.15-02T	EX-02.15-02T	RO8	01/01/1994	A155/C55/2
EX-02.15-01P	EX-02.15-01P	RO8	01/01/1994	A155/C55/2

Line Name : EX-02.16 HDR 35 to FWH 35A **Sorted : No**

EX-02.16-08E	EX-02.16-08E	RO4	06/08/1985	A234/WPB/WPB
EX-02.19-01P	EX-02.19-01P	RO8	01/01/1994	A155/C55/2
EX-02.16-01R	EX-02.16-01R	RO8	01/01/1994	A234/WPB/WPB
EX-02.16-02P	EX-02.16-02P	RO11	04/28/2001	A53/B/S
EX-02.16-04P	EX-02.16-04P	RO11	04/28/2001	A53/B/S
EX-02.16-06E	EX-02.16-06E	RO11	04/28/2001	A234/WPB/WPB
EX-02.16-07P	EX-02.16-07P	RO11	04/28/2001	A53/B/S
EX-02.16-03E	EX-02.16-03E	RO11	04/28/2001	A234/WPB/WPB

Line Name : EX-02.17 HDR 35 to FWH 35B **Sorted : No**

EX-02.17-05E	EX-02.17-05E	RO4	06/08/1985	A234/WPB/WPB
EX-02.17-01P	EX-02.17-01P	RO8	01/01/1994	A53/B/S
EX-02.17-04P	EX-02.17-04P	RO8	01/01/1994	A53/B/S
EX-02.17-03E	EX-02.17-03E	RO11	04/28/2001	A234/WPB/WPB
EX-02.17-04P	EX-02.17-04P	RO11	04/28/2001	A691/EFW/22

Line Name : EX-02.18 HDR 35 to FWH 35C **Sorted : No**

EX-02.18-05E	EX-02.18-05E	RO4	06/08/1985	A234/WPB/WPB
EX-02.18-01P	EX-02.18-01P	RO8	01/01/1994	A53/B/S
EX-02.18-04P	EX-02.18-04P	RO8	01/01/1994	A53/B/S
EX-02.18-03E	EX-02.18-03E	RO8	01/01/1994	A234/WPB/WPB

Line Name : EX-02.2 PSEP 1A 10" to 35 HDR **Sorted : No**

EX-02.2-08O	EX-02.2-08O	RO13	03/13/2005	A53/B/S
EX-02.2-02P	EX-02.2-02P	RO13	03/13/2005	A53/B/S
EX-02.2-05E	EX-02.2-05E	RO13	03/13/2005	A234/WPB/WPB
EX-02.2-04P	EX-02.2-04P	RO13	03/13/2005	A53/B/S
EX-02.2-03E	EX-02.2-03E	RO13	03/13/2005	A234/WPB/WPB
EX-02.2-06P	EX-02.2-06P	RO13	03/13/2005	A53/B/S

Line Name : EX-02.4 PSEP2A 14" to 35 HDR **Sorted : No**

EX-02.4-07P	EX-02.4-07P	RO13	03/13/2005	A53/B/S
EX-02.4-03E	EX-02.4-03E	RO13	03/13/2005	A234/WPB/WPB
EX-02.4-02P	EX-02.4-02P	RO13	03/13/2005	A53/B/S
EX-02.4-04P	EX-02.4-04P	RO13	03/13/2005	A53/B/S
EX-02.4-06O	EX-02.4-06O	RO13	03/13/2005	A53/B/S

Line Name : EX-02.6 PSEP 1A&2A to 35 HDR **Sorted : No**

EX-02.6-01P	EX-02.6-01P	RO13	03/13/2005	A53/B/S
EX-02.2-07T	EX-02.2-07T	RO13	03/13/2005	A53/B/S

Line Name : EX-02.7 PSEP 1A&2A to 35 HDR **Sorted : No**

EX-02.4-05T	EX-02.4-05T	RO13	03/13/2005	A53/B/S
EX-02.7-01P	EX-02.7-01P	RO13	03/13/2005	A53/B/S

Line Name : EX-02.8 PSEP 2B 10" to 35 HDR **Sorted : No**

EX-02.8-09P	EX-02.8-09P	RO13	03/13/2005	A53/B/S
EX-02.8-08T	EX-02.8-08T	RO13	03/13/2005	A53/B/S
EX-02.8-07O	EX-02.8-07O	RO13	03/13/2005	A53/B/S
EX-02.8-06E	EX-02.8-06E	RO13	03/13/2005	A234/WPB/WPB
EX-02.8-05P	EX-02.8-05P	RO13	03/13/2005	A53/B/S
EX-02.8-03P	EX-02.8-03P	RO13	03/13/2005	A53/B/S
EX-02.8-04E	EX-02.8-04E	RO13	03/13/2005	A234/WPB/WPB
EX-02.8-02E	EX-02.8-02E	RO13	03/13/2005	A234/WPB/WPB

Line Name : EX-02.9 PSEP 1B 10" to 35 HDR **Sorted : No**

EX-02.9-03E	EX-02.9-03E	RO12	04/15/2003	A234/WPB/WPB
EX-02.9-02P	EX-02.9-02P	RO12	04/15/2003	A53/B/S
EX-02.9-04P	EX-02.9-04P	RO12	04/15/2003	A53/B/S
EX-02.9-05E	EX-02.9-05E	RO12	04/15/2003	A234/WPB/WPB
EX-02.9-06P	EX-02.9-06P	RO12	04/15/2003	A53/B/S
EX-02.9-11O	EX-02.9-11O	RO13	03/13/2005	A53/B/S
EX-02.9-06P	EX-02.9-06P	RO13	03/13/2005	A53/B/S
EX-02.9-08P	EX-02.9-08P	RO13	03/13/2005	A53/B/S
EX-02.9-07E	EX-02.9-07E	RO13	03/13/2005	A234/WPB/WPB
EX-02.9-05E	EX-02.9-05E	RO13	03/13/2005	A234/WPB/WPB
EX-02.9-10P	EX-02.9-10P	RO13	03/13/2005	A53/B/S
EX-02.9-04P	EX-02.9-04P	RO13	03/13/2005	A53/B/S

EX-02.9-03E	EX-02.9-03E	RO13	03/13/2005	A234/WPB/WPB
EX-02.9-09E	EX-02.9-09E	RO13	03/13/2005	A234/WPB/WPB
EX-02.9-02P	EX-02.9-02P	RO13	03/13/2005	A53/B/S

Line Name : FW-02.8A SG HDR to SG 31 **Sorted : No**

FW-02.8A-25R	FW-02.8A-25R	RO15	03/24/2009	A234/WPB/WPB

Line Name : FW-02.8B SG HDR to SG 32 **Sorted : No**

FW-02.8B-26R	FW-02.8B-26R	RO15	03/24/2009	A234/WPB/WPB

Line Name : MSD-01.14A TK 33A to HD TK **Sorted : No**

MSD-01.15A-18P	MSD-01.15A-18P	RO8	04/19/1992	A53/B/S
MSD-01.15A-19E	MSD-01.15A-19E	RO8	04/19/1992	A234/WPB/WPB
MSD-01.14A-03T	MSD-01.14A-03T	RO10	10/01/1999	A53/B/S
MSD-01.15A-18P	MSD-01.15A-18P	RO10	10/01/1999	A53/B/S
MSD-01.15A-17E	MSD-01.15A-17E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-16P	MSD-01.15A-16P	RO10	10/01/1999	A53/B/S
MSD-01.15A-15E	MSD-01.15A-15E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-22P	MSD-01.15A-22P	RO10	10/01/1999	A53/B/S
MSD-01.15A-14P	MSD-01.15A-14P	RO10	10/01/1999	A53/B/S
MSD-01.15A-13E	MSD-01.15A-13E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-12P	MSD-01.15A-12P	RO10	10/01/1999	A53/B/S
MSD-01.15A-11E	MSD-01.15A-11E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-10P	MSD-01.15A-10P	RO10	10/01/1999	A53/B/S
MSD-01.15A-09E	MSD-01.15A-09E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-21P	MSD-01.15A-21P	RO10	10/01/1999	A53/B/S
MSD-01.15A-08P	MSD-01.15A-08P	RO10	10/01/1999	A53/B/S
MSD-01.15A-07E	MSD-01.15A-07E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-06P	MSD-01.15A-06P	RO10	10/01/1999	A53/B/S
MSD-01.15A-05E	MSD-01.15A-05E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-04E	MSD-01.15A-04E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15A-03P	MSD-01.15A-03P	RO10	10/01/1999	A53/B/S
MSD-01.15A-02V	MSD-01.15A-02V	RO10	10/01/1999	A216/WCB/WCB
MSD-01.15A-01E	MSD-01.15A-01E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.14A-04P	MSD-01.14A-04P	RO10	10/01/1999	A53/B/S
MSD-01.14A-02P	MSD-01.14A-02P	RO10	10/01/1999	A53/B/S
MSD-01.15A-19E	MSD-01.15A-19E	RO10	10/01/1999	A234/WPB/WPB

Line Name : MSD-01.14B TK 33B to HD TK **Sorted : No**

MSD-01.15B-23E	MSD-01.15B-23E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-24P	MSD-01.15B-24P	RO10	10/01/1999	A53/B/S
MSD-01.14B-04P	MSD-01.14B-04P	RO10	10/01/1999	A53/B/S
MSD-01.15B-01E	MSD-01.15B-01E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-02E	MSD-01.15B-02E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-03P	MSD-01.15B-03P	RO10	10/01/1999	A53/B/S
MSD-01.15B-04E	MSD-01.15B-04E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-05V	MSD-01.15B-05V	RO10	10/01/1999	A216/WCB/WCB
MSD-01.15B-06P	MSD-01.15B-06P	RO10	10/01/1999	A53/B/S
MSD-01.15B-07E	MSD-01.15B-07E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-08P	MSD-01.15B-08P	RO10	10/01/1999	A53/B/S
MSD-01.15B-09E	MSD-01.15B-09E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-10P	MSD-01.15B-10P	RO10	10/01/1999	A53/B/S
MSD-01.14B-03T	MSD-01.14B-03T	RO10	10/01/1999	A53/B/S
MSD-01.15B-11E	MSD-01.15B-11E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-17E	MSD-01.15B-17E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-18P	MSD-01.15B-18P	RO10	10/01/1999	A53/B/S
MSD-01.15B-19E	MSD-01.15B-19E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-20P	MSD-01.15B-20P	RO10	10/01/1999	A53/B/S
MSD-01.15B-21E	MSD-01.15B-21E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-22P	MSD-01.15B-22P	RO10	10/01/1999	A53/B/S
MSD-01.15B-32P	MSD-01.15B-32P	RO10	10/01/1999	A53/B/S
MSD-01.15B-25E	MSD-01.15B-25E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-26P	MSD-01.15B-26P	RO10	10/01/1999	A53/B/S

MSD-01.15B-27E	MSD-01.15B-27E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.15B-28P	MSD-01.15B-28P	RO10	10/01/1999	A53/B/S
MSD-01.15B-31P	MSD-01.15B-31P_2	RO10	10/01/1999	A53/B/S
MSD-01.14B-02P	MSD-01.14B-02P	RO10	10/01/1999	A53/B/S
MSD-01.15B-12P	MSD-01.15B-12P_1	RO10	10/01/1999	A53/B/S

Line Name : MSD-01.4A TK 31A to HD TK **Sorted : No**

MSD-01.5A-24E	MSD-01.5A-24E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-29P	MSD-01.5A-29P	RO10	10/01/1999	A53/B/S
MSD-01.5A-01E	MSD-01.5A-01E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-02P	MSD-01.5A-02P	RO10	10/01/1999	A53/B/S
MSD-01.5A-03E	MSD-01.5A-03E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-04P	MSD-01.5A-04P	RO10	10/01/1999	A53/B/S
MSD-01.5A-05E	MSD-01.5A-05E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-06V	MSD-01.5A-06V	RO10	10/01/1999	A216/WCB/WCB
MSD-01.5A-07P	MSD-01.5A-07P	RO10	10/01/1999	A53/B/S
MSD-01.5A-08E	MSD-01.5A-08E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-10E	MSD-01.5A-10E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-11P	MSD-01.5A-11P	RO10	10/01/1999	A53/B/S
MSD-01.5A-12E	MSD-01.5A-12E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-13P	MSD-01.5A-13P	RO10	10/01/1999	A53/B/S
MSD-01.5A-14E	MSD-01.5A-14E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-15P	MSD-01.5A-15P_1	RO10	10/01/1999	A53/B/S
MSD-01.5A-16E	MSD-01.5A-16E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-17P	MSD-01.5A-17P	RO10	10/01/1999	A53/B/S
MSD-01.5A-18E	MSD-01.5A-18E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-19P	MSD-01.5A-19P	RO10	10/01/1999	A53/B/S
MSD-01.5A-25P	MSD-01.5A-25P	RO10	10/01/1999	A53/B/S
MSD-01.5A-20E	MSD-01.5A-20E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-21P	MSD-01.5A-21P	RO10	10/01/1999	A53/B/S
MSD-01.5A-28P_2	MSD-01.5A-28P_2	RO10	10/01/1999	A53/B/S
MSD-01.4A-02P	MSD-01.4A-02P	RO10	10/01/1999	A53/B/S
MSD-01.5A-23P	MSD-01.5A-23P	RO10	10/01/1999	A53/B/S
MSD-01.4A-03T	MSD-01.4A-03T	RO10	10/01/1999	A53/B/S
MSD-01.5A-26E	MSD-01.5A-26E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.4A-04P	MSD-01.4A-04P	RO10	10/01/1999	A53/B/S
MSD-01.5A-22E	MSD-01.5A-22E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5A-09P	MSD-01.5A-09P	RO10	10/10/1999	A53/B/S

Line Name : MSD-01.4B TK 31B to HD TK **Sorted : No**

MSD-01.5B-26E	MSD-01.5B-26E	RO8	04/19/1992	A234/WPB/WPB
MSD-01.5B-11P	MSD-01.5B-11P_1	RO10	10/01/1999	A53/B/S
MSD-01.5B-16E	MSD-01.5B-16E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-17P	MSD-01.5B-17P	RO10	10/01/1999	A53/B/S
MSD-01.5B-10E	MSD-01.5B-10E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-19P	MSD-01.5B-19P	RO10	10/01/1999	A53/B/S
MSD-01.5B-09P	MSD-01.5B-09P	RO10	10/01/1999	A53/B/S
MSD-01.5B-08E	MSD-01.5B-08E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-07P	MSD-01.5B-07P	RO10	10/01/1999	A53/B/S
MSD-01.5B-06E	MSD-01.5B-06E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-20E	MSD-01.5B-20E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-05P	MSD-01.5B-05P	RO10	10/01/1999	A53/B/S
MSD-01.5B-04V	MSD-01.5B-04V	RO10	10/01/1999	A216/WCB/WCB
MSD-01.5B-03E	MSD-01.5B-03E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-02P	MSD-01.5B-02P	RO10	10/01/1999	A53/B/S
MSD-01.4B-08P	MSD-01.4B-08P	RO10	10/01/1999	A53/B/S
MSD-01.5B-21P	MSD-01.5B-21P	RO10	10/01/1999	A53/B/S
MSD-01.4B-06T	MSD-01.4B-06T	RO10	10/01/1999	A53/B/S
MSD-01.4B-07P	MSD-01.4B-07P	RO10	10/01/1999	A53/B/S
MSD-01.4B-05E	MSD-01.4B-05E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.4B-04P	MSD-01.4B-04P	RO10	10/01/1999	A53/B/S
MSD-01.4B-03E	MSD-01.4B-03E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.4B-02P	MSD-01.4B-02P	RO10	10/01/1999	A53/B/S
MSD-01.5B-27P	MSD-01.5B-27P	RO10	10/01/1999	A53/B/S
MSD-01.5B-26E	MSD-01.5B-26E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-32P	MSD-01.5B-32P	RO10	10/01/1999	A53/B/S
MSD-01.5B-25P	MSD-01.5B-25P	RO10	10/01/1999	A53/B/S

MSD-01.5B-24E	MSD-01.5B-24E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-31P	MSD-01.5B-31P	RO10	10/01/1999	A53/B/S
MSD-01.5B-23P	MSD-01.5B-23P	RO10	10/01/1999	A53/B/S
MSD-01.5B-01R	MSD-01.5B-01R	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-22E	MSD-01.5B-22E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-18E	MSD-01.5B-18E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.5B-30P_2	MSD-01.5B-30P_2	RO10	10/01/1999	A53/B/S

Line Name : MSD-01.9A TK 32A to HD TK **Sorted : No**

MSD-01.10A-24E	MSD-01.10A-24E	RO8	04/19/1992	A234/WPB/WPB
MSD-01.10A-21P	MSD-01.10A-21P	RO10	10/01/1999	A53/B/S
MSD-01.10A-23P	MSD-01.10A-23P	RO10	10/01/1999	A53/B/S
MSD-01.10A-22E	MSD-01.10A-22E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-20E	MSD-01.10A-20E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-27P	MSD-01.10A-27P	RO10	10/01/1999	A53/B/S
MSD-01.10A-19P	MSD-01.10A-19P	RO10	10/01/1999	A53/B/S
MSD-01.10A-18E	MSD-01.10A-18E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-17P	MSD-01.10A-17P	RO10	10/01/1999	A53/B/S
MSD-01.10A-16E	MSD-01.10A-16E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-15P	MSD-01.10A-15P	RO10	10/01/1999	A53/B/S
MSD-01.10A-14E	MSD-01.10A-14E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-13P	MSD-01.10A-13P	RO10	10/01/1999	A53/B/S
MSD-01.10A-12E	MSD-01.10A-12E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-11P	MSD-01.10A-11P	RO10	10/01/1999	A53/B/S
MSD-01.10A-10E	MSD-01.10A-10E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-09P	MSD-01.10A-09P	RO10	10/01/1999	A53/B/S
MSD-01.10A-08E	MSD-01.10A-08E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-24E	MSD-01.10A-24E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-06V	MSD-01.10A-06V	RO10	10/01/1999	A216/WCB/WCB
MSD-01.10A-07P	MSD-01.10A-07P	RO10	10/01/1999	A53/B/S
MSD-01.10A-26P_3	MSD-01.10A-26P_3	RO10	10/01/1999	A53/B/S
MSD-01.10A-26P_1	MSD-01.10A-26P_1	RO10	10/01/1999	A53/B/S
MSD-01.9A-03T	MSD-01.9A-03T	RO10	10/01/1999	A53/B/S
MSD-01.9A-04P	MSD-01.9A-04P	RO10	10/01/1999	A53/B/S
MSD-01.9A-02P	MSD-01.9A-02P	RO10	10/01/1999	A53/B/S
MSD-01.10A-02P	MSD-01.10A-02P	RO10	10/01/1999	A53/B/S
MSD-01.10A-03E	MSD-01.10A-03E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-04P	MSD-01.10A-04P	RO10	10/01/1999	A53/B/S
MSD-01.10A-05E	MSD-01.10A-05E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10A-01E	MSD-01.10A-01E	RO10	10/01/1999	A234/WPB/WPB

Line Name : MSD-01.9B TK 32B to HD TK **Sorted : No**

MSD-01.9B-02P	MSD-01.9B-02P	RO10	10/01/1999	A53/B/S
MSD-01.9B-03T	MSD-01.9B-03T	RO10	10/01/1999	A53/B/S
MSD-01.9B-04P	MSD-01.9B-04P	RO10	10/01/1999	A53/B/S
MSD-01.10B-01E	MSD-01.10B-01E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-02E	MSD-01.10B-02E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-15E	MSD-01.10B-15E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-03P	MSD-01.10B-03P	RO10	10/01/1999	A53/B/S
MSD-01.10B-04E	MSD-01.10B-04E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-05V	MSD-01.10B-05V	RO10	10/01/1999	A216/WCB/WCB
MSD-01.10B-06P	MSD-01.10B-06P	RO10	10/01/1999	A53/B/S
MSD-01.10B-07E	MSD-01.10B-07E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-08P	MSD-01.10B-08P	RO10	10/01/1999	A53/B/S
MSD-01.10B-09E	MSD-01.10B-09E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-10P	MSD-01.10B-10P	RO10	10/01/1999	A53/B/S
MSD-01.10B-29P	MSD-01.10B-29P_2	RO10	10/01/1999	A53/B/S
MSD-01.10B-16P	MSD-01.10B-16P	RO10	10/01/1999	A53/B/S
MSD-01.10B-30P	MSD-01.10B-30P	RO10	10/01/1999	A53/B/S
MSD-01.10B-25E	MSD-01.10B-25E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-24P	MSD-01.10B-24P	RO10	10/01/1999	A53/B/S
MSD-01.10B-23E	MSD-01.10B-23E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-22P	MSD-01.10B-22P	RO10	10/01/1999	A53/B/S
MSD-01.10B-21E	MSD-01.10B-21E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-20P	MSD-01.10B-20P	RO10	10/01/1999	A53/B/S
MSD-01.10B-19E	MSD-01.10B-19E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-18P	MSD-01.10B-18P	RO10	10/01/1999	A53/B/S

MSD-01.10B-17E	MSD-01.10B-17E	RO10	10/01/1999	A234/WPB/WPB
MSD-01.10B-26P	MSD-01.10B-26P	RO10	10/01/1999	A53/B/S

Line Name : PD-02.4 PRESEP HDR to HD TK **Sorted : No**

PD-02.4-02E	PD-02.4-02E	RO12	03/29/2003	A234/WPB/WPB
PD-02.4-03P	PD-02.4-03P	RO12	03/29/2003	A53/B/S
PD-02.4-04E	PD-02.4-04E	RO12	03/29/2003	A234/WPB/WPB
PD-02.4-05P	PD-02.4-05P	RO12	03/29/2003	A53/B/S
PD-02.4-06E	PD-02.4-06E	RO12	03/29/2003	A234/WPB/WPB

Line Name : RHD-01.10A_2 TK 33A to A HDR **Sorted : No**

RHD02.6A-01P	RHD02.6A-01P	RO7	09/16/1990	A106/B/B
RHD02.5A-02R	RHD02.5A-02R	RO7	09/16/1990	A234/WPB/WPB
RHD02.6A-05P	RHD02.6A-05P	RO14	03/07/2007	A106/B/B

Line Name : RHD-01.10B_2 TK 33B to B HDR **Sorted : No**

RHD02.5B-02R	RHD02.5B-02R	RO7	09/16/1990	A234/WPB/WPB
RHD02.5B-02R	RHD02.5B-02R	RO10	10/18/1999	A234/WPB/WPB
RHD02.6B-01E	RHD02.6B-01E	RO13	03/13/2005	A234/WPB/WPB

Line Name : RHD-01.1A_2 TK 31A to A HDR **Sorted : No**

RHD02.1A-02R	RHD02.1A-02R	RO7	09/16/1990	A234/WPB/WPB
RHD02.2A-01P	RHD02.2A-01P	RO7	09/16/1990	A106/B/B
RHD02.1A-02R	RHD02.1A-02R	RO15	03/24/2009	A234/WPB/WPB

Line Name : RHD-01.1B_2 TK 31B to B HDR **Sorted : No**

RHD02.1B-02R	RHD02.1B-02R	RO7	09/16/1990	A234/WPB/WPB
RHD02.2B-01P	RHD02.2B-01P	RO7	09/16/1990	A106/B/B
RHD02.1B-02R	RHD02.1B-02R	RO11	05/10/2001	A234/WPB/WPB

Line Name : RHD-01.3A_2 TK 32A to A HDR **Sorted : No**

RHD02.4A-01P	RHD02.4A-01P	RO7	09/16/1990	A106/B/B
RHD02.3A-02R	RHD02.3A-02R	RO7	09/16/1990	A234/WPB/WPB

Line Name : RHD-01.3B_2 TK 32B to B HDR **Sorted : No**

RHD02.3B-02R	RHD02.3B-02R	RO7	09/16/1990	A234/WPB/WPB
RHD02.4B-01P	RHD02.4B-01P	RO7	09/16/1990	A106/B/B
RHD02.3B-02R	RHD02.3B-02R	RO13	03/13/2005	A234/WPB/WPB

Line Name : RHD-02.14B B HDR to FWH 36C **Sorted : No**

RHD02.14B-14P	RHD02.14B-14P	RO14	03/07/2007	A106/B/B
RHD02.14B-02E	RHD02.14B-02E	RO14	03/07/2007	A234/WPB/WPB
RHD02.14B-10T	RHD02.14B-10T	RO15	03/24/2009	A234/WPB/WPB

Line Name : RHD-02.15A A HDR to FWH 36C **Sorted : No**

RHD02.15A-11T	RHD02.15A-11T	RO14	03/07/2007	A234/WPB/WPB
RHD02.15A-02E	RHD02.15A-02E	RO14	03/07/2007	A234/WPB/WPB
RHD02.15A-13P	RHD02.15A-13P	RO14	03/07/2007	A106/B/B

Appendix F

UT Inspection Data

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-02P	Entered as U/S Ext. ofCD-02.1 1-03E	RO8		0.322	0.028	Band	No (1)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-02P	Entered as U/S Ext. ofCD-02.1 1-03E	RO9	97UT070	0.322	0.033	Band	No (1)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-04P	Entered as D/S Ext. ofCD-02.1 1-03E	RO8		0.322	0.088	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-04P	Entered as D/S Ext. ofCD-02.1 1-03E	RO9	97UT070	0.322	0.087	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-09P	Entered as U/S Ext of CD-02.1 1-10E	RO12	03UT041	0.322	0.069	Band	No (2)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-11 P	Entered as D/S Ext ofCD-02.1 1-10E	RO12	03UT041	0.322	0.094	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.1 1-11 P	Entered as U/S Ext ofCD-02.1 1-12E	RO12	03UT041	0.322	0.117	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-03E	Main	RO8		0.322	0.068	Blanket	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-03E	Main	RO9	97UT070	0.322	0.060	Blanket	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-05E	Main	RO8		0.322	0.056	Blanket	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-05E	Main	RO9	97UT070	0.322	0.062	Blanket	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-06P	Main	Cycle 13	05UT013	0.322	0.081	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-07E	Main	Cycle 13	05UT013	0.322	0.045	Blanket	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-08P	Main	Cycle 13	05UT013	0.322	0.082	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-10E	Main	RO12	03UT041	0.322	0.064	Blanket	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-12E	Main	RO12	03UT041	0.322	0.061	Blanket	No (8)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-13T	Branch	RO12	03UT041	0.322	0.03	Band	No (1)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-13T	D/S Main	RO12	03UT041	0.562	0.042	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-13T	N/A	RO9	97UT100	0.562	N/A	N/A	No (8)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.11-13T	U/S Main	RO12	03UT041	0.562	0.039	Band	No (6)
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.12-05P	Entered as D/S Ext. ofCD-02.12-04V	RO9	97UT101	0.562	0.044	Band	Yes
CD-02.1 1 SGBD HX3to FWH HDR	CD-02.12-06E	Main	RO9	97UT101	0.562	0.074	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.1 B FWH 32B toHDR	CD-02.1B-09E	Main	RO8		0.438	0.065	Blanket	Yes
CD-02.1 B FWH 32B toHDR	CD-02.1B-09E	Main	RO9	97UT053	0.438	0.065	Blanket	Yes
CD-02.1 B FWH 32B toHDR	CD-02.1B-10P	Entered as Branch ofCD-02.1B-11T	RO12	03UT037	0.438	0.095	Band	Yes
CD-02.1 C FWH 32C toHDR	CD-02.1C-10E	Main	Cycle 10B	99UT074	0.575	0.06	Blanket	Yes
CD-02.1 C FWH 32C toHDR	CD-02.1C-10E	Main	RO8		0.575	0.055	T DAT	Yes
CD-02.1 C FWH 32C toHDR	CD-02.1C-10E	Main	RO9	97UT054	0.575	0.057	Blanket	Yes
CD-02.11 SGBD HX3 to FWH HDR	CD-02.11-03E	D/S Ext	RO15		0.322	0.018	Blanket	Yes
CD-02.11 SGBD HX3 to FWH HDR	CD-02.11-03E	U/S Ext	RO15		0.322	0.046	P2P	No (2)
CD-02.11 SGBD HX3 to FWH HDR	CD-02.11-03E	U/S Main	RO15		0.322	0.076	P2P	Yes
CD-02.1A FWH 32A toHDR	CD-02.1A-13R	D/S Main	RO12	03UT037	0.594	0.039	Band	Yes
CD-02.1A FWH 32A toHDR	CD-02.1A-13R	D/S Main	RO9	97UT053	0.594	0.039	Band	Yes
CD-02.1A FWH 32A toHDR	CD-02.1A-13R	U/S Main	RO12	03UT037	0.438	0.063	Band	Yes
CD-02.1A FWH 32A toHDR	CD-02.1A-13R	U/S Main	RO9	97UT053	0.438	0.088	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1 B-11T	Branch	RO8		0.438	0.103	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1 B-11T	Branch	RO9	97UT053	0.438	0.098	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1 B-11T	D/S Main	RO12	03UT037	0.624	0.052	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1 B-11T	D/S Main	RO9	97UT053	0.624	0.044	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1 B-11T	U/S Main	RO12	03UT037	0.624	0.054	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1 B-11T	U/S Main	RO9	97UT053	0.624	0.05	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1B-11T	D/S Main	RO8		0.624	0.037	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.1B-11T	U/S Main	RO8		0.624	0.041	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.2-01P	Entered as D/S Ext ofCD-02.1B-11T	RO12	03UT037	0.594	0.053	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.2-01P	Entered as D/S Ext. ofCD-02.1B-11T	RO8		0.594	0.082	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.2-01P	Entered as D/S Ext. ofCD-02.1B-11T	RO9	97UT053	0.594	0.061	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.2-02R	D/S Main	Cycle 10B	99UT074	0.688	0.074	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.2 FWH 32 OUTHDR	CD-02.2-02R	D/S Main	RO9	97UT054	0.688	0.015	Band	No (1)
CD-02.2 FWH 32 OUTHDR	CD-02.2-02R	U/S Main	Cycle 10B	99UT074	0.594	0.105	Band	Yes
CD-02.2 FWH 32 OUTHDR	CD-02.2-02R	U/S Main	RO9	97UT054	0.594	0.043	Band	Yes
CD-02.3 FWH 32 OUT HDR	CD-02.1C-12T	CD-02.1C-12T	RO14		0.688	0.043	Max BAND	Yes
CD-02.3 FWH 32 OUT HDR	CD-02.1C-12T	CD-02.1C-12T-BR	RO14		0.438	0.064	Max BAND	Yes
CD-02.3 FWH 32 OUT HDR	CD-02.1C-12T	CD-02.1C-12T-DSX	RO14		0.688	0.047	Max BAND	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	Branch	Cycle 10B	99UT074	0.438	0.078	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	Branch	RO11	01UT051	0.438	0.071	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	Branch	RO8		0.438	0.082	T DAT	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	Branch	RO9	97UT054	0.438	0.093	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	D/S Main	Cycle 10B	99UT074	0.692	0.034	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	D/S Main	RO11	01UT051	0.692	0.033	Band	No (1)
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	D/S Main	RO9	97UT054	0.692	0.037	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	U/S Main	Cycle 10B	99UT074	0.692	0.032	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	U/S Main	RO11	01UT051	0.692	0.044	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	U/S Main	RO8		0.692	0.043	T DAT	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.1C-12T	U/S Main	RO9	97UT054	0.692	0.03	Band	No (1)
CD-02.3 FWH 32 OUTHDR	CD-02.3-01P	Entered as D/S Ext. ofCD-02.1C-12T	Cycle 10B	99UT074	0.736	0.077	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.3-01P	Entered as D/S Ext. ofCD-02.1C-12T	RO11	01UT051	0.736	0.09	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.3-01P	Entered as D/S Ext. ofCD-02.1C-12T	RO8		0.736	0.044	Band	Yes
CD-02.3 FWH 32 OUTHDR	CD-02.3-01P	Entered as D/S Ext. ofCD-02.1C-12T	RO9	97UT054	0.736	0.086	T DAT	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.4 FWH 32 OUT HDR	CD-02.5-02E	D/S Ext	RO15		0.688	0.055	Band	Yes
CD-02.4 FWH 32 OUT HDR	CD-02.5-02E	U/S Ext	RO15		0.688	0.026	Band	No (2)
CD-02.4 FWH 32 OUT HDR	CD-02.5-02E	U/S Main	RO15		0.688	0.181	Blanket	Yes
CD-02.4 FWH 32 OUTHDR	CD-02.4-04E	U/S Main	RO8		0.864	0.125	T DAT	No (17)
CD-02.4 FWH 32 OUTHDR	CD-02.5-01P	Main	RO8		0.754	0.125	T DAT	No (8)
CD-02.4 FWH 32 OUTHDR	CD-02.5-02E	Main	RO8		0.994	0.279	T DAT	No (3)
CD-02.5 FWH 32 OUT HDR	CD-02.5-04T	Branch	RO15		0.438	0.229	Band	Yes
CD-02.5 FWH 32 OUT HDR	CD-02.5-04T	D/S Main	RO15		0.688	0.059	Band	Yes
CD-02.5 FWH 32 OUT HDR	CD-02.5-04T	U/S Main	RO15		0.688	0.036	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-03T	D/S Main	RO8		0.688	0.038	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-03T	U/S Main	RO8		0.688	0.046	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	Branch	Cycle 10B	99UT078	0.438	0.25	Band	No (3)
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	Branch	RO8		0.438	0.252	Band	No (3)
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	Branch	RO9	97UT047	0.438	0.245	Band	No (3)
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	D/S Main	RO12	03UT039	0.73	0.081	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	D/S Main	RO8		0.73	0.066	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	D/S Main	RO9	97UT045	0.73	0.08	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	U/S Main	RO12	03UT039	0.73	0.076	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	U/S Main	RO8		0.73	0.07	Band	Yes
CD-02.5 FWH 32 OUTHDR	CD-02.5-04T	U/S Main	RO9	97UT045	0.73	0.077	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	Branch	RO12	03UT038	0.406	0.062	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	Branch	RO9	97UT045	0.406	0.053	Band	No (6)
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	D/S Main	RO12	03UT038	0.693	0.067	Max PTP	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	D/S Main	RO8		0.693	0.039	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	D/S Main	RO9	97UT045	0.693	0.044	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	N/A	RO8		0.693	0.056	T DAT	No (13)
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	U/S Main	RO12	03UT038	0.693	0.077	Max PTP	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	U/S Main	RO8		0.693	0.054	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-01T	U/S Main	RO9	97UT045	0.693	0.059	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.6 FWH 32 OUTHDR	CD-02.6-02P	Entered as D/S Ext. ofCD-02.6-01T	RO8		0.693	0.062	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-02P	Entered as D/S Ext. ofCD-02.6-01T	RO9	97UT045	0.693	0.063	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-02P	Entered as U/S Ext. ofCD-02.6-03T	RO9	97UT044	0.693	0.05	Band	No (2)
CD-02.6 FWH 32 OUTHDR	CD-02.6-02P	N/A	RO8		0.693	0.052	T DAT	No (13)
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	Branch	RO11	01UT071	0.438	0.095	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	Branch	RO8		0.438	0.073	T DAT	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	Branch	RO9	97UT044	0.438	0.084	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	D/S Main	RO11	01 UT071	0.694	0.094	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	D/S Main	RO9	97UT044	0.694	0.063	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	U/S Main	RO11	01 UT071	0.694	0.058	Band	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	U/S Main	RO8		0.694	0.061	T DAT	Yes
CD-02.6 FWH 32 OUTHDR	CD-02.6-03T	U/S Main	RO9	97UT044	0.694	0.032	Band	Yes
CD-02.8A HDR to FWH 33A	CD-02.7-02T	Branch	RO15		0.438	0.084	Band	Yes
CD-02.8A HDR to FWH 33A	CD-02.7-02T	D/S Ext	RO15		0.688	0.037	Band	Yes
CD-02.8A HDR to FWH 33A	CD-02.7-02T	D/S Main	RO15		0.688	0.030	Band	Yes
CD-02.8A HDR to FWH 33A	CD-02.7-02T	U/S Main	RO15		0.688	0.041	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.7-01 P	Entered as U/S Ext. ofCD-02.7-02T	RO8		0.675	0.035	Band	No (2)
CD-02.8A HDR toFWH 33A	CD-02.7-01 P	Entered as U/S Ext. ofCD-02.7-02T	RO9	97UT048	0.675	0.052	Band	No (2)
CD-02.8A HDR toFWH 33A	CD-02.7-01P	Entered as D/S Ext. ofCD-02.6-03T	RO11	01UT071	0.675	0.071	Band	No (17)
CD-02.8A HDR toFWH 33A	CD-02.7-01P	Entered as D/S Ext. ofCD-02.6-03T	RO8		0.675	0.034	T DAT	Yes
CD-02.8A HDR toFWH 33A	CD-02.7-01P	Entered as D/S Ext. ofCD-02.6-03T	RO9	97UT044	0.675	0.047	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.7-02T	Branch	RO8		0.438	0.082	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.7-02T	Branch	RO9	97UT048	0.438	0.087	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.8A HDR toFWH 33A	CD-02.7-02T	D/S Ext.	RO9	97UT048	0.688	0.064	Band	No (14)
CD-02.8A HDR toFWH 33A	CD-02.7-02T	D/S Main	RO8		0.688	0.016	Band	No (1)
CD-02.8A HDR toFWH 33A	CD-02.7-02T	D/S Main	RO9	97UT048	0.688	0.019	Band	No (1)
CD-02.8A HDR toFWH 33A	CD-02.7-02T	U/S Main	RO8		0.688	0.035	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.7-02T	U/S Main	RO9	97UT048	0.688	0.045	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-02E	Main	RO8		0.438	0.231	Blanket	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-02E	Main	RO9	97UT049	0.438	0.171	Blanket	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-03P	Entered as D/S Ext. ofCD-02.8A-02E	RO11	01 UT059	0.438	0.082	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-03P	Entered as D/S Ext. ofCD-02.8A-02E	RO13	05UT044	0.438	0.091	Max PTP	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-03P	Entered as D/S Ext. ofCD-02.8A-02E	RO9	97UT049	0.438	0.084	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-05E	Main	RO11	01UT130	0.438	0.081	Blanket	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-06P	Entered as D/S Ext. ofCD-02.8A-05E	RO11	01UT130	0.438	0.073	Band	Yes
CD-02.8A HDR toFWH 33A	CD-02.8A-07E	D/S Ext.	RO11	01UT130	0.438	0.074	Band	No (14)
CD-02.8A HDR toFWH 33A	CD-02.8A-07E	Main	RO11	01UT130	0.438	0.079	Blanket	Yes
CD-02.8B HDR to FWH 33B	CD-02.8B-01P	CD-02.8B-01P	RO14		0.438	0.072	Max BAND	Yes
CD-02.8B HDR to FWH 33B	CD-02.8B-02E	CD-02.8B-02E	RO14		0.438	0.238	Max BAND	Yes
CD-02.8B HDR to FWH 33B	CD-02.8B-02E	CD-02.8B-02E-DSX	RO14		0.438	0.097	Max BAND	Yes
CD-02.8B HDR toFWH 33B	CD-02.8B-01 P	Main	RO8		0.445	0.081	T DAT	Yes
CD-02.8B HDR toFWH 33B	CD-02.8B-02E	Main	RO11	01UT071	0.438	0.195	Blanket	Yes
CD-02.8B HDR toFWH 33B	CD-02.8B-02E	Main	RO8		0.438	0.234	T DAT	Yes
CD-02.8B HDR toFWH 33B	CD-02.8B-02E	Main	RO9	97UT042	0.438	0.219	Blanket	Yes
CD-02.8B HDR toFWH 33B	CD-02.8B-03P	Entered as D/S Ext. ofCD-02.8B-02E	RO11	01 UT071	0.438	0.083	Band	Yes
CD-02.8B HDR toFWH 33B	CD-02.8B-03P	Entered as D/S Ext. ofCD-02.8B-02E	RO9	97UT043	0.438	0.084	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-02.8C HDR to FWH 33C	CD-02.8C-02E	CD-02.8C-02E	RO14		0.438	0.089	Blanket	Yes
CD-02.8C HDR to FWH 33C	CD-02.8C-02E	CD-02.8C-02E-DSX	RO14		0.438	0.035	Band	Yes
CD-02.8C HDR to FWH 33C	CD-02.8C-05E	U/S Ext	RO15		0.438	0.067	Band	No (2)
CD-02.8C HDR to FWH 33C	CD-02.8C-05E	U/S Main	RO15		0.438	0.125	Blanket	Yes
CD-02.8C HDR toFWH 33C	CD-02.8C-01P	Entered as Branch ofCD-02.5-04T	RO12	03UT039	0.438	0.248	Band	No (3)
CD-02.8C HDR toFWH 33C	CD-02.8C-01P	Entered as U/S Ext. ofCD-02.8C-02E	RO11	01 UT052	0.629	0.248	Band	No (2)
CD-02.9 FWH HDR to SGBD HX3	CD-02.10-02O	D/S Ext	RO15		0.322	0.081	Band	No (10)
CD-02.9 FWH HDR to SGBD HX3	CD-02.10-02O	U/S Ext	RO15		0.322	0.112	Band	No (2)
CD-02.9 FWH HDR to SGBD HX3	CD-02.10-02O	U/S Main	RO15		0.322	0.173	Band	No (10)
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-02O	Main	RO9	97UT072	0.322	0.147	Band	No (10)
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-03P	Entered as D/S Ext. ofCD-02.10-02O	RO9	97UT071	0.322	0.097	Band	Yes
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-04E	Main	RO9	97UT071	0.322	0.053	Blanket	Yes
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-07P	Entered as U/S Ext. ofCD-02.10-08E	RO8		0.322	0.098	Band	No (2)
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-08E	Main	RO8		0.322	0.035	Blanket	Yes
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-09P	Entered as D/S Ext. ofCD-02.10-08E	RO8		0.322	0.059	Band	Yes
CD-02.9 FWH HDR toSGBD HX3	CD-02.10-10E	Main	RO8		0.322	0.05	Blanket	Yes
CD-03.1 B FWH 33B toFWH 34B	CD-03.1B-02E	Main	RO9	97UT094	0.438	0.041	Blanket	Yes
CD-03.1 B FWH 33B toFWH 34B	CD-03.1B-03E	Main	RO9	97UT094	0.438	0.052	Blanket	Yes
CD-03.1 B FWH 33B toFWH 34B	CD-03.1B-04P	Entered as D/S Ext. ofCD-03.1B-03E	RO9	97UT094	0.438	0.074	Band	Yes
CD-03.1 B FWH 33B toFWH 34B	CD-03.1B-05E	Main	RO8		0.547	0.066	Blanket	Yes
CD-03.1 B FWH 33B toFWH 34B	CD-03.1B-06E	Main	RO8		0.555	0.095	Blanket	Yes
CD-03.1 B FWH 33B toFWH 34B	CD-03.1B-07P	Entered as D/S Ext. ofCD-03.1B-06E	RO8		0.477	0.066	Band	Yes
CD-03.1A FWH 33A toFWH 34A	CD-03.1A-01N	Main	RO12	03UT077	0.438	0.108	Band	Yes
CD-03.1A FWH 33A toFWH 34A	CD-03.1A-02E	Main	RO12	03UT077	0.438	0.1	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-03.1A FWH 33A toFWH 34A	CD-03.1A-03E	Main	RO12	03UT077	0.438	0.07	Blanket	Yes
CD-03.1A FWH 33A toFWH 34A	CD-03.1A-04P	Entered as D/S Ext ofCD-03.1A-03E	RO12	03UT077	0.438	0.85	Band	Yes
CD-03.1B FWH 33B to FWH 34B	CD-03.1B-03E	D/S Ext	RO15		0.438	0.063	Band	Yes
CD-03.1B FWH 33B to FWH 34B	CD-03.1B-03E	U/S Main	RO15		0.438	0.076	Blanket	Yes
CD-03.1B FWH 33B to FWH 34B	CD-03.1B-03E	U/S Main	RO15		0.438	0.076	Band	No (2)
CD-03.1B FWH 33B to FWH 34B	CD-03.1B-06E	U/S Main	RO15		0.438	0.079	Band	Yes
CD-03.1C FWH 33C to FWH 34C	CD-03.1C-01N	CD-03.1C-01N	RO14		0.438	0.084	Max BAND	Yes
CD-03.1C FWH 33C to FWH 34C	CD-03.1C-02E	CD-03.1C-02E	RO14		0.438	0.083	BLANKET	Yes
CD-04.1 B FWH 34B toFWH 35B	CD-04.1B-01N	Main	RO12	03UT100	0.438	0.117	Band	Yes
CD-04.1 B FWH 34B toFWH 35B	CD-04.1B-02E	Main	RO12	03UT099	0.438	0.067	Blanket	Yes
CD-04.1 B FWH 34B toFWH 35B	CD-04.1B-03E	Main	RO12	03UT099	0.438	0.14	Blanket	Yes
CD-04.1 B FWH 34B toFWH 35B	CD-04.1B-04P	Entered as D/S Ext ofCD-04.1B-03E	RO12	03UT101	0.438	0.062	Band	Yes
CD-04.1 C FWH 34C toFWH 35C	CD-04.1C-02E	Main	RO8		0.594	0.094	Blanket	Yes
CD-04.1 C FWH 34C toFWH 35C	CD-04.1C-03E	Main	RO8		0.57	0.085	Blanket	Yes
CD-04.1A FWH 34A to FWH 35A	CD-04.1A-04P	CD-04.1A-04P	RO14		0.438	0.096	Max BAND	Yes
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-01N	Entered as U/S Ext. ofCD-04.1A-02E	RO11	01UT073	0.438	0.035	Band	No (2)
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-01N	Main	Cycle 10B	01126-13.DAT	0.438	0.048	Band	No (8)
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-02E	Main	Cycle 10B	01126-13.DAT	0.438	0.07	Blanket	Yes
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-02E	Main	RO11	01UT073	0.438	0.117	Blanket	Yes
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-03E	Main	Cycle 10B	01126-14.DAT	0.438	0.083	Blanket	Yes
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-03E	Main	RO11	01 UT073	0.438	0.067	Blanket	Yes
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-04P	Entered as D/S Ext. ofCD-04.1A-03E	RO10	01126-14A.DAT	0.438	0.044	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-04.1A FWH 34A toFWH 35A	CD-04.1A-04P	Entered as D/S Ext. ofCD-04.1A-03E	RO11	01UT073	0.438	0.094	Band	Yes
CD-04.1C FWH 34C to FWH 35C	CD-04.1C-01N	CD-04.1C-01N	RO14		0.438	0.06	Max BAND	No (8)
CD-04.1C FWH 34C to FWH 35C	CD-04.1C-05E	CD-04.1C-05E	RO14		0.438	0.079	BLANKET	Yes
CD-04.1C FWH 34C to FWH 35C	CD-04.1C-05E	CD-04.1C-05E-DSX	RO14		0.438	0.044	Max BAND	Yes
CD-04.1C FWH 34C to FWH 35C	CD-04.1C-05E	CD-04.1C-05E-USX	RO14		0.438	0.067	Max BAND	No(2)
CD-04.1C FWH 34C to FWH 35C	CD-04.1C-07E	CD-04.1C-07E	RO14		0.438	0.073	BLANKET	Yes
CD-04.1C FWH 34C to FWH 35C	CD-04.1C-07E	CD-04.1C-07E-DSX	RO14		0.438	0.08	Max BAND	Yes
CD-05.1 B FWH 35B toHDR	CD-05.1B-03E	Main	RO10	01126-17.DAT	0.438	0.083	Blanket	Yes
CD-05.1 B FWH 35B toHDR	CD-05.1B-03E	Main	RO11	01UT095	0.438	0.078	Blanket	Yes
CD-05.1 B FWH 35B toHDR	CD-05.1B-04P	Entered as D/S Ext. ofCD-05.1B-03E	RO11	01UT095	0.438	0.081	Band	Yes
CD-05.1 B FWH 35B toHDR	CD-05.1B-07E	Main	RO8		0.575	0.094	T DAT	Yes
CD-05.1 B FWH 35B toHDR	CD-05.1B-08P	Main	RO8		0.465	0.035	T DAT	Yes
CD-05.1 C FWH 35C toHDR	CD-05.1C-08E	Main	RO8		0.438	0.059	Blanket	Yes
CD-05.1 C FWH 35C toHDR	CD-05.1C-08E	Main	RO9	97UT092	0.438	0.06	Blanket	Yes
CD-05.1A FWH 35A toHDR	CD-05.1A-02E	Main	Cycle 10B	01126-15.DAT	0.438	0.054	Blanket	Yes
CD-05.1A FWH 35A toHDR	CD-05.1A-03E	Main	Cycle 10B	01126-15A.DAT	0.438	0.073	Blanket	Yes
CD-05.1B FWH 35B to HDR	CD-05.1B-03E	CD-05.1B-03E-DSX	RO14		0.438	0.073	Max BAND	Yes
CD-05.1B FWH 35B toHDR	CD-05.1B-01N	Entered as U/S Ext. ofCD-05.1B-02E	RO11	01UT125	0.438	0.195	Band	No (2)
CD-05.1B FWH 35B toHDR	CD-05.1B-02E	Main	Cycle 10B	01126-16.DAT	0.438	0.046	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-05.1B FWH 35B toHDR	CD-05.1B-02E	Main	RO11	01UT095	0.438	0.075	Blanket	Yes
CD-05.1C FWH 35C to HDR	CD-05.1C-01N	U/S Main	RO15		0.438	0.051	Band	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.1 B-09T	Branch	RO8		0.438	0.039	T DAT	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.1 B-09T	U/S Main	RO8		0.724	0.051	T DAT	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.1B-09T	Branch	RO13	05UT063	0.438	0.035	Band	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.1B-09T	DS Main	RO13	05UT063	0.724	0.295	Band	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.1B-09T	US Main	RO13	05UT063	0.724	0.076	Band	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.3-01P	Entered as U/S Ext. ofCD-05.1C-10T	RO8		0.724	0.058	Band	No (2)
CD-05.3 FWH 35 OUTHDR	CD-05.3-01P	Entered as U/S Ext. ofCD-05.1C-10T	RO9	97UT092	0.724	0.057	Band	No (2)
CD-05.3 FWH 35 OUTHDR	CD-05.3-01P	Main	RO13	05UT063	0.724	0.056	Band	Yes
CD-05.3 FWH 35 OUTHDR	CD-05.3-01P	Main	RO8		0.724	0.055	T DAT	Yes
CD-05.4 FWH 35 OUT HDR	CD-05.1C-10T	Branch	RO15		0.438	0.059	Band	Yes
CD-05.4 FWH 35 OUT HDR	CD-05.1C-10T	D/S Main	RO15		0.688	0.029	Band	No (1)
CD-05.4 FWH 35 OUT HDR	CD-05.1C-10T	U/S Main	RO15		0.688	0.031	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.1C-10T	Branch	RO8		0.438	0.074	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.1C-10T	Branch	RO9	97UT092	0.438	0.056	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.1C-10T	D/S Main	RO8		0.688	0.089	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.1C-10T	D/S Main	RO9	97UT092	0.688	0.033	Band	No (1)
CD-05.4 FWH 35 OUTHDR	CD-05.1C-10T	U/S Main	RO8		0.688	0.032	Band	No (1)
CD-05.4 FWH 35 OUTHDR	CD-05.1C-10T	U/S Main	RO9	97UT092	0.688	0.027	Band	No (1)
CD-05.4 FWH 35 OUTHDR	CD-05.4-01E	Main	RO9	97UT092	0.688	0.099	Blanket	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.4-02P	Entered as Br. Ext ofCD-05.4-03T	RO12	03UT082	0.688	0.062	Band	No (2)
CD-05.4 FWH 35 OUTHDR	CD-05.4-02P	Entered as Br. Ext. ofCD-05.4-03T	RO9	97UT065	0.722	0.067	Band	No (2)
CD-05.4 FWH 35 OUTHDR	CD-05.4-02P	Main	RO8		0.722	0.089	T DAT	No (8)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	Branch	RO12	03UT082	0.696	0.044	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	Branch	RO13	05UT051	0.696	0.045	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	Branch	RO8		0.696	0.052	T DAT	No (17)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	Branch	RO9	97UT065	0.696	0.061	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	D/S Main	RO12	03UT082	0.696	0.02	Band	No (1)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	D/S Main	RO9	97UT065/66	0.696	0.036	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	DS Main	RO13	05UT051	0.696	0.026	Band	No(2)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	U/S Main	RO12	03UT082	0.696	0.019	Band	No (1)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	U/S Main	RO8		0.696	0.022	T DAT	No (6)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	U/S Main	RO9	97UT065/66	0.696	0.065	Band	No (6)
CD-05.4 FWH 35 OUTHDR	CD-05.4-03T	US Main	RO13	05UT051	0.696	0.031	Band	No(17)
CD-05.4 FWH 35 OUTHDR	CD-05.4-04P	Entered as D/S Ext. ofCD-05.1C-10T	RO8		0.688	0.176	Band	Yes
CD-05.4 FWH 35 OUTHDR	CD-05.4-05P	Entered as D/S Ext ofCD-05.4-03T	RO12	03UT082	0.625	0.015	Band	No (1)
CD-05.4 FWH 35 OUTHDR	CD-05.4-05P	Entered as U/S Ext. ofCD-06.1-01T	RO8		0.625	0.012	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	Branch	RO8		0.5	0.085	Band	Yes
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	Branch	RO9	97UT066	0.5	0.114	Band	Yes
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	D/S Main	RO8		0.659	0.031	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	D/S Main	RO9	97UT066	0.659	0.02	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	N/A	RO8		0.659	0.029	T DAT	No (13)
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	U/S Main	RO8		0.659	0.031	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-01T	U/S Main	RO9	97UT066	0.659	0.022	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-02P	Entered as D/S Ext. ofCD-06.1-01T	RO8		0.663	0.024	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-02P	Entered as D/S Ext. ofCD-06.1-01T	RO9	97UT066	0.663	0.031	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-02P	Entered as U/S Ext ofCD-05.4-03T	RO12	03UT082	0.625	0.024	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-02P	N/A	RO8		0.663	0.026	T DAT	No (13)
CD-06.1 FWH 35 OUTHDR	CD-06.1-03T	Branch	RO8		0.721	0.062	T DAT	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-06.1 FWH 35 OUTHDR	CD-06.1-03T	Branch	RO9	97UT066	0.721	0.086	Band	Yes
CD-06.1 FWH 35 OUTHDR	CD-06.1-03T	D/S Main	RO9	97UT066	0.702	0.029	Band	No (1)
CD-06.1 FWH 35 OUTHDR	CD-06.1-03T	U/S Main	RO8		0.702	0.028	T DAT	Yes
CD-06.1 FWH 35 OUTHDR	CD-06.1-03T	U/S Main	RO9	97UT066	0.702	0.033	Band	Yes
CD-06.2A HDR to BFP 31	CD-06.3A-01R	D/S Main	RO15		0.562	0.040	Band	Yes
CD-06.2A HDR to BFP 31	CD-06.3A-01R	U/S Main	RO15		0.688	0.064	Band	Yes
CD-06.2A HDR to BFP31	CD-06.2A-01 P	Main	RO8		0.721	0.05	T DAT	Yes
CD-06.2A HDR to BFP31	CD-06.2A-01P	Entered as Br. Ext. ofCD-06.1-03T	RO9	97UT066	0.721	0.066	Band	No (2)
CD-06.2A HDR to BFP31	CD-06.2A-02E	Main	RO8		0.729	0.055	T DAT	Yes
CD-06.2A HDR to BFP31	CD-06.2A-23P	Entered as US Ext ofCD-06.2A-24O	RO13	05UT068	0.688	0.043	Band	No(1)
CD-06.2A HDR to BFP31	CD-06.2A-25P	Entered as DS Ext ofCD-06.2A-24O	RO13	05UT068	0.688	0.043	Band	Yes
CD-06.2A HDR to BFP31	CD-06.3A-01 R	D/S Main	RO8		0.562	0.04	Band	Yes
CD-06.2A HDR to BFP31	CD-06.3A-01 R	U/S Main	RO8		0.688	0.064	Band	Yes
CD-06.2A HDR to BFP31	CD-06.3A-02N	U/S Main	RO8		0.562	0.118	Band	Yes
CD-06.2B HDR to BFP 32	CD-06.2B-04T	Branch	RO15		0.688	0.162	Band	Yes
CD-06.2B HDR to BFP 32	CD-06.2B-04T	D/S Main	RO15		0.688	0.351	Band	Yes
CD-06.2B HDR to BFP 32	CD-06.2B-04T	U/S Main	RO15		0.688	0.196	Band	Yes
CD-06.2B HDR to BFP 32	CD-06.2B-06E	D/S Ext	RO15		0.688	0.063	Band	Yes
CD-06.2B HDR to BFP 32	CD-06.2B-06E	U/S Main	RO15		0.688	0.069	Blanket	Yes
CD-06.2B HDR to BFP 32	CD-06.3B-02N	CD-06.3B-02N	RO14		0.562	0.417	Max BAND	No (9)
CD-06.2B HDR to BFP32	CD-06.2B-01 R	D/S Main	RO11	01 UT062	0.688	0.075	Band	Yes
CD-06.2B HDR to BFP32	CD-06.2B-01 R	U/S Ext.	RO11	01 UT062	0.625	0.013	Band	No (2)
CD-06.2B HDR to BFP32	CD-06.2B-01R	U/S Main	RO11	01UT062	0.625	0.171	Band	Yes
CD-06.2B HDR to BFP32	CD-06.2B-02P	Entered as D/S Ext. ofCD-06.2B-01 R	RO11	01 UT062	0.688	0.051	Band	Yes
CD-06.2B HDR to BFP32	CD-06.2B-02P	Entered as D/S Ext. ofCD-06.2B-01 R	RO8		0.702	0.063	T DAT	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
CD-06.2B HDR to BFP32	CD-06.2B-07P	Imported as US Ext ofCD-06.2B-08O	RO13	05UT059	0.688	0.056	Band	No(1)
CD-06.2B HDR to BFP32	CD-06.2B-08O	N/A	RO9	97UT099	0.688	N/A	N/A	No (15)
CD-06.2B HDR to BFP32	CD-06.2B-09P	Imported as DS Ext ofCD-06.2B-08O	RO13	05UT059	0.688	0.087	Band	Yes
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-01N	Main	RO12	03UT136	0.33	0.038	Band	No(9)
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-02E	Main	RO8		0.446	0.133	Blanket	Yes
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-03P	Entered as D/S Ext. ofEX-01.1-02E	RO8		0.352	0.131	Band	Yes
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-04E	Main	RO8		0.45	0.127	Blanket	Yes
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-05P	Main	RO8		0.368	0.037	T DAT	Yes
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-07P	Entered as U/S Ext. ofEX-01.1-08R	RO8		0.33	0.206	Band	No (2)
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-08R	D/S Main	RO8		0.438	0.218	Band	Yes
EX-01.1 HP EXT toFWH 36 HDR	EX-01.1-08R	U/S Main	RO8		0.33	0.161	Band	Yes
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-01N	N/A	RO8		0.33	0.142	T DAT	No (3)
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-02E	Main	RO8		0.33	0.285	Blanket	Yes
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-03P	Entered as D/S Ext. ofEX-01.2-02E	RO8		0.385	0.07	Band	Yes
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-04E	Main	RO8		0.33	0.08	Blanket	Yes
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-05P	Entered as D/S Ext. ofEX-01.2-04E	RO8		0.33	0.037	Band	Yes
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-09P	Entered as U/S Ext. ofEX-01.2-10L	RO8		0.357	0.09	Band	No (2)
EX-01.2 HP EXT toFWH 36 HDR	EX-01.2-09P	N/A	RO8		0.357	0.224	T DAT	No (13)
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	Branch	RO8		0.391	0.226	Band	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	Branch	RO8		0.391	0.192	T DAT	No (13)
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	Branch	RO9		0.391	0	Baseline	No (5)
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	Branch Ext.	RO8		0.391	0.14	Band	No (2)
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	D/S Main	RO8		0.482	0.228	Band	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	D/S Main	RO9		0.482	0	Baselin	No (5)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
							e	
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	Run	RO8		0.482	0.187	T DAT	No (13)
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	U/S Main	RO8		0.482	0.158	Band	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.2-10L	U/S Main	RO9		0.482	0	Baseline	No (5)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-01P	Entered as D/S Ext. ofEX-01.2-10L	RO8		0.456	0.152	Band	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-03P	Entered as U/S Ext. ofEX-01.3-04T	RO8		0.438	0.047	T DAT	No (2)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-04T	Branch	RO8		0.28	0.036	T DAT	No (14)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-04T	U/S Main	RO8		0.468	0.098	T DAT	No (17)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-05P	Main	RO8		0.464	0.094	T DAT	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-16P	Entered as U/S Ext. ofEX-01.3-17T	RO8		0.46	0.123	Band	No (2)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-17T	Branch	RO8		0.28	0.037	Band	No (6)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-17T	D/S Main	RO8		0.501	0.156	Band	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-17T	U/S Main	RO8		0.501	0.169	Band	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-19E	Main	RO8		0.438	0.277	Blanket	Yes
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-22P	Entered as U/S Ext. ofEX-01.3-23T	RO8		0.528	0.163	Band	No (2)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-23T	Branch	RO8		0.566	0.333	Band	No (3)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-23T	D/S Main	RO8		0.539	0.042	Band	No (3)
EX-01.3 HP EXT FWH36 HEADER	EX-01.3-23T	U/S Main	RO8		0.539	0.042	Band	No (3)
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-01P	Entered as D/S Ext. ofEX-01.3-23T	RO8		0.528	0.039	Band	No (18)
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-01P	N/A	RO8		0.528	0.047	T DAT	No (13)
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-02T	Branch	RO8		0.363	0.082	T DAT	Yes
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-02T	Branch	RO9		0.363	0	Baseline	No (5)
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-02T	D/S Main	RO9		0.439	0	Baseline	No (5)
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-02T	U/S Main	RO8		0.439	0.235	T DAT	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-01.4 HP EXT FWH36 HEADER	EX-01.4-02T	U/S Main	RO9		0.439	0	Baseline	No (5)
EX-01.5A HP EX HDR to FWH 36A	EX-01.5A-15N	EX-01.5A-15N	RO14		0.309	0.165	Max BAND	Yes
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-01R	N/A	RO8		0.438	0.184	T DAT	No (3)
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-02P	Main	RO8		0.374	0.057	T DAT	Yes
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-03E	Main	RO8		0.33	0.158	Blanket	No (3)
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-04P	Entered as D/S Ext. ofEX-01.5A-03E	RO8		0.411	0.19	Band	No (3)
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-05E	Main	RO8		0.419	0.167	Blanket	No (3)
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-12P	Main	RO8		0.387	0.166	T DAT	Yes
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-13E	Main	RO8		0.426	0.106	T DAT	Yes
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-14E	Main	RO8		0.47	0.17	T DAT	Yes
EX-01.5A HP EX HDRto FWH 36A	EX-01.5A-17P	Main	RO8		0.335	0.09	T DAT	Yes
EX-01.5B HP EX HDR to FWH 36B	EX-01.5B-13N	EX-01.5B-13N	RO14		0.309	0.196	Max BAND	Yes
EX-01.5B HP EX HDRto FWH 36B	EX-01.5B-01P	N/A	RO8		0.363	0.129	T DAT	No (3)
EX-01.5B HP EX HDRto FWH 36B	EX-01.5B-02E	N/A	RO8		0.477	0.137	T DAT	No (3)
EX-01.5B HP EX HDRto FWH 36B	EX-01.5B-10P	Main	RO8		0.374	0.123	T DAT	Yes
EX-01.5B HP EX HDRto FWH 36B	EX-01.5B-11E	Main	RO8		0.452	0.107	T DAT	Yes
EX-01.5B HP EX HDRto FWH 36B	EX-01.5B-12E	N/A	RO8		0.543	0.321	T DAT	No (3)
EX-01.5B HP EX HDRto FWH 36B	EX-01.5B-15P	Main	RO8		0.386	0.127	T DAT	Yes
EX-01.5C HP EX HDR to FWH 36C	EX-01.5C-13N	EX-01.5C-13N	RO14		0.309	0.157	Max BAND	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-0 1 P	Entered as U/S Ext. ofEX-01.5C-02E	RO8		0.45	0.307	Band	No (2)
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-02E	Main	RO8		0.423	0.053	Blanket	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-03P	N/A	RO8		0.377	0.13	T DAT	No (3)
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-04L	U/S Main	RO8		0.364	0.109	T DAT	No (17)
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-05P	Main	RO8		0.373	0.084	T DAT	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-06E	Main	RO8		0.431	0.146	T DAT	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-07E	Main	RO8		0.416	0.104	T DAT	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-08P	Main	RO8		0.356	0.101	T DAT	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-1 0P	Main	RO8		0.358	0.07	T DAT	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-11E	Main	RO8		0.448	0.107	T DAT	Yes
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-12E	N/A	RO8		0.485	0.201	T DAT	No (3)
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-14L	U/S Main	RO8		0.373	0.067	T DAT	No (17)
EX-01.5C HP EX HDRto FWH 36C	EX-01.5C-15P	Main	RO8		0.337	0.074	T DAT	Yes
EX-02. 14 FWH 35HEADER	EX-02.14-12P	Entered as D/S Ext. ofEX-02.14-11V	RO9		0.375	0.185	Band	Yes
EX-02. 14 FWH 35HEADER	EX-02.14-19P	Entered as D/S Ext ofEX-02.14-18E	RO12	03UT104	0.375	0.029	Band	No(1)
EX-02. 14 FWH 35HEADER	EX-02.14-21P	Entered as D/S Ext ofEX-02.14-20E	RO12	03UT104	0.375	0.038	Band	No(3)
EX-02. 14 FWH 35HEADER	EX-02.14-23P	Entered as U/S Ext ofEX-02.14-24E	RO12	03UT148	0.375	0.024	Band	No(1)
EX-02. 14 FWH 35HEADER	EX-02.14-26P	Entered as D/S Ext ofEX-02.14-25E	RO12	03UT148	0.375	0.026	Band	No(1)
EX-02. 14 FWH 35HEADER	EX-02.14-26P	Entered as U/S Ext. ofEX-02.14-27E	RO8		0.375	0.023	Band	No(1)
EX-02. 14 FWH 35HEADER	EX-02.14-28P	Entered as D/S Ext ofEX-02.14-27E	RO12	03UT148	0.375	0.011	Band	No(1)
EX-02. 14 FWH 35HEADER	EX-02.14-28P	Entered as D/S Ext. ofEX-02.14-27E	RO8		0.375	0.279	Band	No (3)
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-02P	Main	RO8		0.378	0.067	T DAT	Yes
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-03E	Main	RO12	03UT142	0.425	0.164	Blanket	Yes
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-03E	Main	RO8		0.425	0.11	T DAT	Yes
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-06T	Branch	RO12	03UT130	0.365	0.094	Blanket	Yes
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-06T	D/S Main	RO12	03UT130	0.5	0.204	Blanket	Yes
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-06T	Entered as U/S Ext ofEX-02.1-06T	RO12	03UT130	0.5	0.046	Band	No(2)
EX-02.1 PSEP 2A 10"to 35 HDR	EX-02.1-06T	U/S Main	RO12	03UT130	0.5	0.24	Blanket	No(6)
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-02B	Main	RO11	01UT108	0.501	0.13	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-02B	Main	RO12	03UT085	0.5	0.127	Blanket	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-03E	D/S Ext.	RO11	01UT108	0.312	0.069	Band	No (14)
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-03E	Main	RO11	01UT108	0.501	0.143	Blanket	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-03E	Main	RO12	03UT085	0.375	0.156	Blanket	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-03P	Entered as D/S Ext ofEX-02.13-03E	RO12	03UT086	0.375	0.071	Band	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-04E	Main	RO11	01UT108	0.375	0.117	Blanket	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-04E	Main	RO12	03UT086	0.375	0.12	Blanket	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-05P	Main	RO11	01UT108	0.375	0.072	Band	Yes
EX-02.13 PSEP1B&2B to 35 HDR	EX-02.13-05P	Main	RO12	03UT086	0.375	0.062	Band	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-01P	U/S Main	RO15		0.375	0.019	Band	No (1)
EX-02.14 FWH 35 HEADER	EX-02.14-02E	EX-02.14-02E	RO14		0.375	0.049	BLANKET	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-06E	EX-02.14-06E	RO14		0.375	0.223	BLANKET	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-06E	U/S Main	RO15		0.375	0.198	BLANKET	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-07P	EX-02.14-07P	RO14		0.375	0.033	Max BAND	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-08E	EX-02.14-08E	RO14		0.375	0.211	BLANKET	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-08E	EX-02.14-08E-DSX	RO14		0.375	0.026	Max BAND	No(1)
EX-02.14 FWH 35 HEADER	EX-02.14-08E	U/S Main	RO15		0.375	0.139	BLANKET	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-17P	U/S Main	RO15		0.375	0.056	Band	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-20E	D/S Ext	RO15		0.375	0.026	Band	No (1)
EX-02.14 FWH 35 HEADER	EX-02.14-24E	U/S Main	RO15		0.375	0.197	Blanket	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-25E	D/S Ext	RO15		0.375	0.017	Band	No (1)
EX-02.14 FWH 35 HEADER	EX-02.14-25E	U/S Main	RO15		0.375	0.242	Blanket	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-27E	U/S Main	RO15		0.375	0.271	Blanket	Yes
EX-02.14 FWH 35 HEADER	EX-02.14-31P	U/S Main	RO15		0.375	0.030	Band	No (1)
EX-02.14 FWH 35HEADER	EX-02.14-04T	Branch	RO13	05UT032	0.28	0.026	Band	No(2)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-02.14 FWH 35HEADER	EX-02.14-04T	DS Main	RO13	05UT032	0.375	0.009	Band	No(2)
EX-02.14 FWH 35HEADER	EX-02.14-04T	US Main	RO13	05UT032	0.375	0.027	Band	No(2)
EX-02.14 FWH 35HEADER	EX-02.14-14E	Main	RO9		0.375	0.153	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-16E	Main	RO9		0.375	0.157	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-18E	Main	RO12	03UT104	0.375	0.146	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-20E	Main	RO12	03UT104	0.375	0.186	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-24E	Main	RO12	03UT148	0.375	0.177	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-25E	Main	RO12	03UT148	0.375	0.21	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-27E	Main	RO12	03UT148	0.375	0.266	Max P-P+ PastWear	Yes
EX-02.14 FWH 35HEADER	EX-02.14-27E	Main	RO8		0.375	0.192	Blanket	Yes
EX-02.14 FWH 35HEADER	EX-02.14-32T	Branch	RO12	03UT072	0.25	0.07	Band	No(6)
EX-02.14 FWH 35HEADER	EX-02.14-32T	D/S Main	RO12	03UT072	0.375	0.024	Band	No(1)
EX-02.14 FWH 35HEADER	EX-02.14-32T	N/A	RO9		N/A	N/A	N/A	No (15)
EX-02.14 FWH 35HEADER	EX-02.14-32T	U/S Main	RO12	03UT072	0.375	0.03	Band	No(1)
EX-02.14 FWH 35HEADER	EX-02.7-02T	N/A	RO9		N/A	N/A	N/A	No (15)
EX-02.16 HDR 35 to FWH 35A	EX-02.16-01R	D/S Ext	RO15		0.375	0.147	Band	No (11)
EX-02.16 HDR 35 to FWH 35A	EX-02.16-01R	D/S Main	RO15		0.312	0.311	Band	No (11)
EX-02.16 HDR 35 to FWH 35A	EX-02.16-01R	U/S Ext	RO15		0.312	0.028	Band	No (11)
EX-02.16 HDR 35 to FWH 35A	EX-02.16-01R	U/S Main	RO15		0.375	0.308	Band	No (11)
EX-02.16 HDR 35 to FWH 35A	EX-02.16-07P	U/S Main	RO15		0.375	0.035	Band	No (11)
EX-02.16 HDR 35 to FWH 35A	EX-02.16-08E	U/S Main	RO15		0.312	0.165	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-01R	D/S Main	RO10		0.312	0.444	Blanket	No (11)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-01R	D/S Main	RO8		0.312	0.126	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-01R	U/S Main	RO10		0.375	0.326	Blanket	No (11)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-01R	U/S Main	RO8		0.375	0.284	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-02P	Main	RO10		0.284	0.102	Band	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-02P	Main	RO8		0.284	0.077	Band	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-02P	N/A	RO8		0.284	0.046	T DAT	No (13)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-03E	Main	RO10		0.455	0.274	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-03E	Main	RO8		0.455	0.242	T DAT	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-03E	U/S Ext.	RO10		0.284	0.106	Band	No (2)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-04P	Entered as D/S Ext. ofEX-02.16-03E	RO10		0.346	0.06	Band	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-04P	Entered as D/S Ext. ofEX-02.16-03E	RO8		0.346	0.037	T DAT	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-06E	Main	RO10		0.312	0.249	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-06E	Main	RO8		0.312	0.176	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-06E	Main	RO9		0.312	0.199	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-06E	N/A	RO8		0.312	0.255	T DAT	No (13)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-07P	Entered as D/S Ext. ofEX-02.16-06E	RO10		0.38	0.196	Band	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-07P	Entered as D/S Ext. ofEX-02.16-06E	RO8		0.38	0.208	Band	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-07P	Entered as D/S Ext. ofEX-02.16-06E	RO9		0.38	0.187	Band	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-07P	N/A	RO8		0.38	0.196	T DAT	No (13)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-08E	Main	RO10		0.924	0.181	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-08E	Main	RO8		0.924	0.165	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.16-08E	Main	RO8		0.924	0.194	T DAT	No (17)
EX-02.16 HDR 35 toFWH 35A	EX-02.16-08E	Main	RO9		0.924	0.174	Blanket	Yes
EX-02.16 HDR 35 toFWH 35A	EX-02.19-01P	N/A	RO8		0.375	0.389	Band	No (3)
EX-02.17 HDR 35 toFWH 35B	EX-02.17-03E	Main	RO10		0.497	0.313	Blanket	Yes
EX-02.17 HDR 35 toFWH 35B	EX-02.17-03E	Main	RO8		0.497	0.268	T DAT	Yes
EX-02.17 HDR 35 toFWH 35B	EX-02.17-04P	Main	RO10		0.378	0.285	Band	No (11)
EX-02.17 HDR 35 toFWH 35B	EX-02.17-04P	Main	RO8		0.378	0.178	T DAT	Yes
EX-02.17 HDR 35 toFWH 35B	EX-02.17-05E	Main	RO10		0.968	0.247	Blanket	Yes
EX-02.17 HDR 35 toFWH 35B	EX-02.17-05E	Main	RO9		0.968	0.184	Blanket	Yes
EX-02.17 HDR 35 toFWH 35B	EX-02.17-05E	N/A	RO8		0.968	0.226	T DAT	No (13)
EX-02.17 HDR 35 toFWH 35B	EX-02.17-06N	Main	RO9		0.293	0.13	Band	Yes
EX-02.18 HDR 35 to FWH 35C	EX-02.18-03E	U/S Main	RO15		0.375	0.155	Blanket	No (11)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-02.18 HDR 35 to FWH 35C	EX-02.18-04P	U/S Main	RO15		0.375	0.051	Band	No (11)
EX-02.18 HDR 35 to FWH 35C	EX-02.18-05E	U/S Main	RO15		0.312	0.188	Blanket	Yes
EX-02.18 HDR 35 to FWH 35C	EX-02.18-06N	U/S Main	RO15		0.312	0.158	Band	Yes
EX-02.18 HDR 35 toFWH 35C	EX-02.18-03E	Main	RO10		0.375	0.16	Blanket	No (11)
EX-02.18 HDR 35 toFWH 35C	EX-02.18-03E	Main	RO8		0.48	0.154	T DAT	Yes
EX-02.18 HDR 35 toFWH 35C	EX-02.18-04P	Main	RO10		0.375	0.024	Band	No (1)
EX-02.18 HDR 35 toFWH 35C	EX-02.18-04P	Main	RO8		0.346	0.129	T DAT	Yes
EX-02.18 HDR 35 toFWH 35C	EX-02.18-05E	Main	RO10		0.312	0.166	Blanket	Yes
EX-02.18 HDR 35 toFWH 35C	EX-02.18-05E	N/A	RO8		0.312	0.207	T DAT	No (3)
EX-02.2 PSEP 1A 10"to 35 HDR	EX-02.2-01N	Main	RO11	01UT124	0.365	0.013	Band	No (1)
EX-02.2 PSEP 1A 10"to 35 HDR	EX-02.2-02P	Entered as D/S Ext. ofEX-02.2-01N	RO11	01UT117	0.365	0.191	Band	Yes
EX-02.2 PSEP 1A 10"to 35 HDR	EX-02.2-02P	Entered as U/S Ext. ofEX-02.2-03E	RO11	01 UT1 17	0.365	0.06	Band	No (2)
EX-02.2 PSEP 1A 10"to 35 HDR	EX-02.2-03E	Main	RO11	01 UT1 13	0.365	0.202	Blanket	Yes
EX-02.2 PSEP 1A 10"to 35 HDR	EX-02.2-04P	Entered as D/S Ext. ofEX-02.2-03E	RO11	01UT113	0.365	0.127	Band	Yes
EX-02.6 PSEP 1A&2Ato 35 HDR	EX-02.2-07T	Branch	RO12	03UT130	0.365	0.043	Blanket	No (3)
EX-02.6 PSEP 1A&2Ato 35 HDR	EX-02.2-07T	D/S Main	RO12	03UT130	0.5	0.166	Blanket	Yes
EX-02.6 PSEP 1A&2Ato 35 HDR	EX-02.2-07T	U/S Main	RO12	03UT130	0.5	0.162	Blanket	Yes
EX-02.7 PSEP 1A&2Ato 35 HDR	EX-02.4-05T	Br. Ext.	RO12	03UT130	0.375	0.048	Band	No(2)
EX-02.7 PSEP 1A&2Ato 35 HDR	EX-02.4-05T	Branch	RO12	03UT130	0.375	0.036	Blanket	No(3)
EX-02.7 PSEP 1A&2Ato 35 HDR	EX-02.4-05T	D/S Main	RO12	03UT130	0.5	0.092	Blanket	No(3)
EX-02.7 PSEP 1A&2Ato 35 HDR	EX-02.4-05T	U/S Main	RO12	03UT130	0.5	0.043	Blanket	No(3)
EX-02.9 PSEP 1 B 10"to 35 HDR	EX-02.9-02P	Entered as U/S Ext ofEX-02.9-03E	RO12	03UT084	0.365	0.124	Band	No(2)
EX-02.9 PSEP 1 B 10"to 35 HDR	EX-02.9-04P	Entered as D/S Ext ofEX-02.9-03E	RO12	03UT084	0.365	0.126	Band	Yes
EX-02.9 PSEP 1 B 10"to 35 HDR	EX-02.9-06P	Entered as D/S Ext ofEX-02.9-05E	RO12	03UT084	0.365	0.107	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-02.9 PSEP 1 B 10"to 35 HDR	EX-02.9-07P	Entered as U/S Ext ofEX-02.9-07E	RO12	03UT141	0.365	0.054	Band	No(2)
EX-02.9 PSEP 1 B 10"to 35 HDR	EX-02.9-08P	Entered as D/S Ext ofEX-02.9-07E	RO12	03UT141	0.365	0.083	Band	Yes
EX-02.9 PSEP 1 B 10"to 35 HDR	EX-02.9-10P	Entered as D/S Ext ofEX-02.9-09E	RO12	03UT141	0.365	0.033	Band	Yes
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-02P	Main	RO12	03UT151	0.365	N/A	Baseline	No(5)
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-03E	Main	RO12	03UT084	0.365	0.253	Blanket	Yes
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-03E	Main	RO12	03UT151	0.365	N/A	Baseline	No(5)
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-04P	Main	RO12	03UT151	0.365	N/A	Baseline	No(5)
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-05E	Main	RO12	03UT084	0.365	0.115	Blanket	Yes
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-05E	Main	RO12	03UT151	0.365	N/A	Baseline	No(5)
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-06P	Main	RO12	03UT151	0.365	N/A	Baseline	No(5)
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-07E	Main	RO12	03UT141	0.365	0.191	Blanket	Yes
EX-02.9 PSEP 1B 10"to 35 HDR	EX-02.9-09E	Main	RO12	03UT141	0.365	0.19	Blanket	Yes
EX-03. 1 B LP EXT 12to FWH 34B	EX-03.1 B-04P	Entered as U/S Ext. ofEX-03.1 B-05T	RO9		0.25	0.111	Band	No (2)
EX-03. 1 C LP EXT 12to FWH 34C	EX-03.1C-12P	Entered as D/S Ext. ofEX-03.1C-11V	RO9		0.25	0.049	Band	Yes
EX-03. 1 C LP EXT 12to FWH 34C	EX-03.1C-14P	Entered as D/S Ext. ofEX-03.1C-13E	RO9		0.25	0.04	Band	Yes
EX-03.1A LP EXT 12 to FWH 34A	EX-03.1A-14E	EX-03.1A-14E	RO14		0.25	0.098	BLANKET	Yes
EX-03.1A LP EXT 12 to FWH 34A	EX-03.1A-14E	EX-03.1A-14E-DSX	RO14		0.25	0.02	Max BAND	No(1)
EX-03.1A LP EXT 12 to FWH 34A	EX-03.1A-14E	EX-03.1A-14E-USX	RO14		0.25	0.023	Max BAND	No(2)
EX-03.1A LP EXT 12 to FWH 34A	EX-03.1A-36E	D/S Ext	RO15		0.250	0.019	Band	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-03.1A LP EXT 12 to FWH 34A	EX-03.1A-36E	U/S Ext	RO15		0.250	0.015	Band	No (1,2)
EX-03.1A LP EXT 12 to FWH 34A	EX-03.1A-36E	U/S Main	RO15		0.250	0.064	Blanket	Yes
EX-03.1A LP EXT 12to FWH 34A	EX-03.1A-35P	N/A	RO8		0.249	0.012	T DAT	No (1)
EX-03.1A LP EXT 12to FWH 34A	EX-03.1A-36E	Main	RO8		0.461	0.079	T DAT	Yes
EX-03.1A LP EXT 12to FWH 34A	EX-03.1A-37P	N/A	RO8		0.253	0.02	T DAT	No (1)
EX-03.1B LP EXT 12to FWH 34B	EX-03. 1 B-05T	D/S Main	Cycle 1 0B		0.25	0.053	Band	No (11)
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-05T	Branch	RO9		0.28	0.076	Band	No (6)
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-05T	Branch Ext.	RO9		0.28	0.105	Band	No (2)
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-05T	D/S Main	RO9		0.25	0.042	Band	Yes
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-05T	U/S Main	Cycle 10B		0.25	0.036	Band	No (11)
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-05T	U/S Main	RO9		0.25	0.081	Band	Yes
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-06E	Main	RO9		0.25	0.059	Blanket	Yes
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-32P	N/A	RO8		0.263	0.025	T DAT	No (1)
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-33E	Main	RO8		0.431	0.046	T DAT	Yes
EX-03.1B LP EXT 12to FWH 34B	EX-03.1B-34P	N/A	RO8		0.263	0.025	T DAT	No (1)
EX-03.1C LP EXT 12to FWH 34C	EX-03.1C-13E	Main	RO9		0.25	0.056	Blanket	Yes
EX-03.1C LP EXT 12to FWH 34C	EX-03.1C-36P	N/A	RO8		0.263	0.025	T DAT	No (1)
EX-03.1C LP EXT 12to FWH 34C	EX-03.1C-37E	Main	RO8		0.439	0.096	T DAT	Yes
EX-03.1C LP EXT 12to FWH 34C	EX-03.1C-38P	N/A	RO8		0.259	0.025	T DAT	No (1)
EX-04. 13 LP EXT 32to FWH 33B	EX-04.12-01P	N/A	RO8		0.313	0.021	T DAT	No (1)
EX-04. 13 LP EXT 32to FWH 33B	EX-04.13-01R	D/S Main	RO11	01UT088	0.25	0.576	Band	No (3)
EX-04. 13 LP EXT 32to FWH 33B	EX-04.13-01R	N/A	RO8		0.313	0.759	T DAT	No (3)
EX-04. 13 LP EXT 32to FWH 33B	EX-04.13-01R	U/S Main	RO11	01UT088	0.313	0.116	Band	Yes
EX-04. 13 LP EXT 32to FWH 33B	EX-04.13-02P	Main	RO11	01UT088	0.255	0.076	Band	Yes
EX-04. 13 LP EXT 32to FWH 33B	EX-04.13-02P	Main	RO8		0.255	0.058	T DAT	Yes
EX-04. 14 LP EXT 32to FWH 33B	EX-04.14-01P	Main	RO11	01UT088	0.276	0.046	Band	Yes
EX-04. 14 LP EXT 32to FWH 33B	EX-04.14-01P	Main	RO8		0.276	0.042	T DAT	Yes
EX-04. 14 LP EXT 32to FWH 33B	EX-04.14-01P	Main	RO9		0.276	0.054	Band	Yes
EX-04. 14 LP EXT 32to FWH 33B	EX-04.14-02E	Main	RO9		0.25	0.073	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-04.11 LPEX FWH 33B IN HDR	EX-04.11-08E	EX-04.11-08E	RO14		0.313	0.087	BLANKET	Yes
EX-04.11 LPEX FWH 33B IN HDR	EX-04.11-08E	EX-04.11-08E-USX	RO14		0.313	0.075	Max BAND	No(2)
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-18P	N/A	RO8		0.313	0.016	T DAT	No (1)
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-19T	Branch	RO11	01UT088	0.259	0.047	Blanket	Yes
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-19T	Branch	RO8		0.259	0.041	T DAT	No (13)
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-19T	Branch	RO9		0.259	0.057	Band	Yes
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-19T	D/S Main	RO11	01UT088	0.313	0.026	Blanket	No (1)
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-19T	N/A	RO8		0.313	0.026	T DAT	No (1)
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-19T	U/S Main	RO11	01UT088	0.313	0.02	Blanket	No (1)
EX-04.11 LPEX FWH33B IN HDR	EX-04.11-20P	Main	RO11	01UT088	0.313	0.023	Band	No (1)
EX-04.13 LP EXT 32 to FWH 33B	EX-04.13-01R	D/S Main	RO15		0.250	0.345	Max PTP	No (3)
EX-04.13 LP EXT 32 to FWH 33B	EX-04.13-01R	U/S Main	RO15		0.313	0.011	Max PTP	No (1)
EX-04.13 LP EXT 32 to FWH 33B	EX-04.13-07T	EX-04.13-07T	RO14		0.25	0.036	Max BAND	Yes
EX-04.13 LP EXT 32 to FWH 33B	EX-04.13-07T	EX-04.13-07T-BR	RO14		0.154	0.007	SCAN/ RT/VT	No(1)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-15P	N/A	RO8		0.313	0.025	T DAT	No (1)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	Branch	Cycle 10B		0.25	0.073	Band	No (3)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	Branch	RO8		0.25	0.034	T DAT	No (17)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	Branch Ext.	Cycle 10B		0.271	0.048	Band	No (2)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	D/S Main	Cycle 10B		0.384	0.051	Band	No (3)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	Run	RO8		0.384	0.046	T DAT	No (3)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	U/S Ext.	Cycle 10B		0.313	0.025	Band	No (2)
EX-04.18 LPEX FWH33C IN HDR	EX-04.20-16T	U/S Main	Cycle 10B		0.384	0.041	Band	No (3)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-04.21 LP EXT 31 to FWH 33C	EX-04.21-01R	D/S Ext	RO15		0.313	0.038	Band	Yes
EX-04.21 LP EXT 31 to FWH 33C	EX-04.21-01R	D/S Main	RO15		0.250	0.605	Band	No (3)
EX-04.21 LP EXT 31 to FWH 33C	EX-04.21-01R	EX-04.21-01R-DSX	RO14		0.25	0.098	SCAN/ RT/VT	Yes
EX-04.21 LP EXT 31 to FWH 33C	EX-04.21-01R	U/S Ext	RO15		0.250	0.110	Band	Yes
EX-04.21 LP EXT 31 to FWH 33C	EX-04.21-01R	U/S Main	RO15		0.313	0.082	Band	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.20-17P	N/A	RO8		0.313	0.008	T DAT	No (1)
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-01R	D/S Main	Cycle 10B		0.25	0.546	Blanket	No (3)
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-01R	N/A	RO8		0.313	0.643	T DAT	No (3)
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-01R	U/S Main	Cycle 10B		0.313	0.109	Blanket	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-02P	Entered as D/S Ext. ofEX-04.21-01R	Cycle 10B		0.267	0.069	Band	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-02P	Entered as D/S Ext. ofEX-04.21-01R	RO8		0.267	0.058	T DAT	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-03E	Main	Cycle 10B		0.25	0.118	Blanket	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-04P	Entered as U/S Ext. ofEX-04.21-05E	RO9		0.25	0.054	Band	No (2)
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-04P	Main	Cycle 13	05UT003	0.25	0.05	Band	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-05E	Main	RO9		0.25	0.07	Blanket	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-07T	D/S Main	Cycle 10B		0.25	0.037	Band	Yes
EX-04.21 LP EXT 31to FWH 33C	EX-04.21-07T	U/S Main	Cycle 10B		0.25	0.073	Band	Yes
EX-04.22 LP EXT 31 to FWH 33C	EX-04.22-03N	U/S Main	RO15		0.250	0.219	Band	Yes
EX-04.22 LP EXT 31to FWH 33C	EX-04.22-01 P	Main	RO8		0.271	0.037	T DAT	Yes
EX-04.4 LPEX FWH 33A IN HDR	EX-04.2-09T	EX-04.2-09T	RO14		0.313	0.05	Max BAND	Yes
EX-04.4 LPEX FWH 33A IN HDR	EX-04.2-09T	EX-04.2-09T-BR	RO14		0.25	0.075	Max BAND	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-04.4 LPEX FWH 33A IN HDR	EX-04.4-08E	EX-04.4-08E	RO14		0.313	0.094	BLANKET	Yes
EX-04.4 LPEX FWH 33A IN HDR	EX-04.4-08E	EX-04.4-08E-USX	RO14		0.313	0.027	Max BAND	No(2)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-21P	N/A	RO8		0.313	0.021	T DAT	No (1)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	Branch	Cycle 10B		0.259	0.089	Band	No (3)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	Branch	RO13	05UT031	0.259	0.113	Band	No(17)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	Branch	RO8		0.259	0.05	T DAT	No (17)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	Branch Ext.	Cycle 10B		0.264	0.044	Band	No (2)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	D/S Main	Cycle 10B		0.352	0.037	Band	No (3)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	DS Main	RO13	05UT031	0.352	0.039	Band	No(17)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	N/A	RO8		0.352	0.03	T DAT	No (1)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	U/S Ext.	Cycle 10B		0.313	0.022	Band	No (2)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	U/S Main	Cycle 10B		0.352	0.026	Band	No (1)
EX-04.4 LPEX FWH33A IN HDR	EX-04.4-22T	US Main	RO13	05UT031	0.352	0.041	Band	No(17)
EX-04.6 LP EXT to FWH 33A	EX-04.6-01R	D/S Ext	RO15		0.250	0.070	Band	Yes
EX-04.6 LP EXT to FWH 33A	EX-04.6-01R	D/S Main	RO15		0.250	0.572	Band	No (3)
EX-04.6 LP EXT to FWH 33A	EX-04.6-01R	U/S Ext	RO15		0.250	0.065	Band	Yes
EX-04.6 LP EXT to FWH 33A	EX-04.6-01R	U/S Main	RO15		0.313	0.095	Band	Yes
EX-04.6 LP EXT to FWH 33A	EX-04.6-06N	EX-04.6-06N	RO14		0.375	0.077	Max BAND	Yes
EX-04.6 LP EXT toFWH 33A	EX-04.5-01P	N/A	RO8		0.313	0.017	T DAT	No (1)
EX-04.6 LP EXT toFWH 33A	EX-04.6-01R	D/S Main	Cycle 10B		0.25	0.552	Blanket	No (3)
EX-04.6 LP EXT toFWH 33A	EX-04.6-01R	N/A	RO8		0.313	0.666	T DAT	No (3)
EX-04.6 LP EXT toFWH 33A	EX-04.6-01R	U/S Main	Cycle 10B		0.313	0.115	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
EX-04.6 LP EXT toFWH 33A	EX-04.6-02P	Entered as D/S Ext. ofEX-04.6-01R	Cycle 10B		0.264	0.065	Band	Yes
EX-04.6 LP EXT toFWH 33A	EX-04.6-02P	Entered as D/S Ext. ofEX-04.6-01R	RO8		0.264	0.055	T DAT	Yes
EX-04.6 LP EXT toFWH 33A	EX-04.6-03E	Main	Cycle 10B		0.461	0.152	Blanket	Yes
EX-04.6 LP EXT toFWH 33A	EX-04.6-03E	Main	RO8		0.461	0.149	T DAT	Yes
EX-04.6 LP EXT toFWH 33A	EX-04.6-04P	Entered as U/S Ext. ofEX-04.6-05E	RO9		0.25	0.042	Band	No (2)
EX-04.6 LP EXT toFWH 33A	EX-04.6-04P	Main	RO8		0.279	0.039	T DAT	Yes
EX-04.6 LP EXT toFWH 33A	EX-04.6-07T	D/S Main	Cycle 10B		0.262	0.027	Band	No (1)
EX-04.6 LP EXT toFWH 33A	EX-04.6-07T	U/S Main	Cycle 10B		0.262	0.029	Band	No (1)
EX-04.6 LP EXT toFWH 33A	EX-04.6-07T	U/S Main	RO8		0.262	0.036	T DAT	No (17)
EX-04.7 LP EXT toFWH 33A	EX-04.7-01 P	Main	RO8		0.264	0.042	T DAT	Yes
EX-05.1B LP EXT 16to FWH 32B	EX-05.1B-01N	Main	RO13	05UT095	0.25	0.039	Band	No(9)
EX-05.1B LP EXT 16to FWH 32B	EX-05.1B-02P	Main	RO13	05UT095	0.25	0.07	Band	Yes
EX-05.1B LP EXT 16to FWH 32B	EX-05.1B-03E	Main	RO13	05UT095	0.25	0.061	Blanket	Yes
EX-05.1B LP EXT 16to FWH 32B	EX-05.1B-04N	Main	RO13	05UT095	0.375	0.072	Band	Yes
EX-05.1C LP EXT 16 to FWH 32C	EX-05.1C-04N	EX-05.1C-04N	RO14		0.375	0.086	SCAN/ RT/VT	Yes
EX-05.2B LP EXT 15to FWH 32B	EX-05.2B-01N	Main	RO13	05UT105	0.25	0.104	Band	Yes
EX-05.2B LP EXT 15to FWH 32B	EX-05.2B-02E	Main	RO13	05UT105	0.25	0.111	Blanket	Yes
EX-05.2B LP EXT 15to FWH 32B	EX-05.2B-03E	Main	RO13	05UT105	0.25	0.093	Blanket	Yes
EX-05.2B LP EXT 15to FWH 32B	EX-05.2B-04P	Main	RO13	05UT105	0.25	0.134	Band	Yes
EX-05.2B LP EXT 15to FWH 32B	EX-05.2B-05E	Main	RO13	05UT105	0.25	0.163	Blanket	Yes
EX-05.2B LP EXT 15to FWH 32B	EX-05.2B-06N	Main	RO13	05UT105	0.375	0.133	Band	Yes
EX-05.2C LP EXT 15 to FWH 32C	EX-05.2C-06N	EX-05.2C-06N	RO14		0.375	0.032	SCAN/ RT/VT	No (8)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-01N	Main	RO8		1.031	0.041	Band	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-02P	Entered as D/S Ext. ofFW-01.1B-01N	RO8		1.176	0.128	Band	
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-02P	Entered as D/S Ext. ofFW-01.1B-01N	RO8		1.176	0.128	Band	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-02P	Entered as U/S Ext. ofFW-01.1B-03R	RO11	01UT087	1.176	0.032	Band	
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-02P	Entered as U/S Ext. ofFW-01.1B-03R	RO11	01UT087	1.176	0.032	Band	No (2)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	D/S Main	RO11	01UT087	1.031	0.094	Band	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	D/S Main	RO8		1.031	0.086	Band	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	D/S Main	RO15		1.095	0.068	Band	No (8)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	U/S Main	RO11	01UT087	1.095	0.092	Band	
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	U/S Main	RO11	01UT087	1.095	0.092	Band	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	U/S Main	RO8		1.095	0.078	Band	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.1B-03R	U/S Main	RO15		1.031	0.027	Band	No (1)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-01E	Main	RO8		1.031	0.208	Blanket	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-03E	Main	RO8		1.251	0.199	Blanket	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-03E	N/A	RO8		1.251	0.208	T DAT	No (13)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-04P	Entered as D/S Ext. ofFW-01.2B-03E	RO8		1.032	0.078	Band	Yes
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-04P	N/A	RO8		1.032	0.053	T DAT	No (13)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-05T	D/S Main	RO8		1.036	0.024	Band	No (1)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-05T	N/A	RO8		1.036	0.036	T DAT	No (1)
FW-01 .1 B BFP 32 toRCIRC T	FW-01.2B-05T	U/S Main	RO8		1.036	0.043	Band	No (1)
FW-01 .2A BFP31RCIRC T to HDR	FW-01 .2A-04P	Main	RO8		1.039	0.059	T DAT	Yes
FW-01 .2A BFP31RCIRC T to HDR	FW-01 .2A-23P	Main	RO8		1.053	0.078	T DAT	Yes
FW-01 .2B BFP32RCIRC T to HDR	FW-01 .2B-06P	Entered as D/S Ext. ofFW-01 .2B-05T	RO8		1.057	0.043	Band	No (1)
FW-01 .2B BFP32RCIRC T to HDR	FW-01 .2B-06P	N/A	RO8		1.057	0.053	T DAT	No (13)
FW-01 .2B BFP32RCIRC T to HDR	FW-01 .2B-27R	D/S Main	RO8		1.031	0.096	T DAT	No (17)
FW-01 .2B BFP32RCIRC T to HDR	FW-01 .2B-27R	U/S Ext.	RO10	99UT271	1.031	0.062	Band	No (2)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-01 .2B BFP32RCIRC T to HDR	FW-01.2B-27R	D/S Main	RO10	99UT271	1.26	0.113	Band	Yes
FW-01 .2B BFP32RCIRC T to HDR	FW-01.2B-27R	U/S Main	RO10	99UT271	1.031	0.1	Band	Yes
FW-01 .3 BFPDISCHARGE HDR	FW-01 .3-05P	Entered as U/S Ext. ofFW-01 .3-06E	RO9		1.26	0.084	Band	No (2)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-02P	Entered as D/S Ext. ofFW-01.3-01T	RO10	99UT271	1.371	0.035	Band	No (1)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-02P	Entered as D/S Ext. ofFW-01.3-01T	RO8		1.371	0.061	Band	Yes
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-07P	Entered as D/S Ext. ofFW-01.3-06E	RO9		1.26	0.068	Band	Yes
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-09P	Entered as D/S Ext. ofFW-01.3-08E	RO9		1.26	0.082	Band	Yes
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-09P	Entered as the U/S Extof FW-01.3-10E	RO12	03UT112	1.26	0.026	Band	No(1)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-11P	Entered as the D/S Extof FW-01.3-10E	RO12	03UT112	1.26	0.034	Band	No(1)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-11P	Entered as US Ext ofFW-01.3-12E	RO13	05UT094	1.26	0.043	Band	No(1)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-13P	Entered as DS Ext ofFW-01.3-12E	RO13	05UT094	1.26	0.084	Band	Yes
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-16P	Entered as D/S Ext. ofFW-01.3-15E	RO11	01UT127	1.26	0.064	Band	Yes
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-18P	Entered as DS Ext ofFW-01.3-17T	RO13	05UT050	1.348	0.03	Band	No(2)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-18P	Entered as U/S Ext. ofFW-01.4-01T	RO8		1.348	0.028	Band	No (1)
FW-01 .3 BFPDISCHARGE HDR	FW-01.3-18P	Entered as U/S Ext. ofFW-01.4-01T	RO9		1.348	0.054	Band	No (1)
FW-01 .4 BFPDISCHARGE HDR	FW-01.4-02P	Entered as D/S Ext. ofFW-01.4-01T	RO8		1.341	0.039	Band	No (1)
FW-01 .4 BFPDISCHARGE HDR	FW-01.4-02P	Entered as D/S Ext. ofFW-01.4-01T	RO9		1.341	0.06	Band	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-01 .4 BFPDISCHARGE HDR	FW-01.4-02P	Entered as U/S Ext. ofFW-01.5-01T	RO11	01UT126	1.341	0.051	Band	No (2)
FW-01 .6A BFP HDRto FWH 36A	FW-01 .6A-01 R	D/S Main	RO11	01 UT1 26	0.938	0.396	Band	No (3)
FW-01 .6A BFP HDRto FWH 36A	FW-01 .6A-01 R	N/A	RO8		1.26	0.906	T DAT	No (3)
FW-01 .6A BFP HDRto FWH 36A	FW-01 .6A-02P	Entered as D/S Ext. ofFW-01 .6A-01 R	RO8		1.009	0.096	T DAT	Yes
FW-01 .6A BFP HDRto FWH 36A	FW-01.6A-01R	U/S Main	RO11	01UT126	1.26	0.152	Band	No (8)
FW-01 .6A BFP HDRto FWH 36A	FW-01.6A-02P	Entered as D/S Ext. ofFW-01.6A-01R	RO11	01UT126	1.009	0.059	Band	Yes
FW-01 .6B BFP HDRto FWH 36B	FW-01.6B-07P	Entered as the D/S Extof FW-01.6B-06E	RO12	03UT123	0.938	0.085	Band	Yes
FW-01 .6C BFP HDRto FWH 36C	FW-01 .6C-02P	Main	RO8		0.938	0.086		Yes
FW-01 .6C BFP HDRto FWH 36C	FW-01.6C-02P	Entered as Br Ext. ofFW-01.4-01T	RO8		0.938	0.043	Band	No (1)
FW-01 .6C BFP HDRto FWH 36C	FW-01.6C-02P	Entered as Br Ext. ofFW-01.4-01T	RO9		0.938	0.058	Band	No (2)
FW-01.1A BFP 31 to RCIRC T	FW-01.2A-01E	U/S Main	RO15		1.031	0.283	Blanket	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01 .2A-03T	U/S Ext.	RO8		1.043	0.052	T DAT	No (2)
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-01N	Main	RO13	05UT080	1.031	0.594	Band	No(11)
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-01N	Main	RO8		1.031	0.082	Band	No (3)
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-02P	Entered as D/S Ext. ofFW-01.1A-01N	RO8		1.075	0.058	Band	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-02P	Main	RO13	05UT080	1.075	0.085	Band	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-03R	D/S Main	RO8		1.031	0.094	Band	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-03R	DS Main	RO13	05UT080	1.031	0.065	Band	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-03R	U/S Main	RO8		1.095	0.067	Band	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.1A-03R	US Main	RO13	05UT080	1.095	0.086	Band	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.2A-01E	Main	RO8		1.031	0.165	Blanket	Yes
FW-01.1A BFP 31 toRCIRC T	FW-01.2A-02P	Entered as D/S Ext. ofFW-01.2A-01E	RO8		1.043	0.058	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-01.1A BFP 31 toRCIRC T	FW-01.2A-03T	N/A	RO8		1.039	0.048	T DAT	No (1)
FW-01.1B BFP 32 to RCIRC T	FW-01.1B-01N	U/S Main	RO15		1.031	0.068	Band	No (11)
FW-01.1B BFP 32 to RCIRC T	FW-01.2B-03E	D/S Ext	RO15		1.031	0.065	Band	Yes
FW-01.1B BFP 32 to RCIRC T	FW-01.2B-03E	U/S Ext	RO15		1.031	0.086	Band	No (2)
FW-01.1B BFP 32 to RCIRC T	FW-01.2B-03E	U/S Main	RO15		1.031	0.148	Blanket	Yes
FW-01.2A BFP31 RCIRC T to HDR	FW-01.2A-04P	U/S Main	RO15		1.031	0.044	Band	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-03E	U/S Main	RO15		1.260	0.238	Blanket	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-04E	U/S Main	RO15		1.260	0.230	Blanket	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-05P	U/S Main	RO15		1.260	0.043	Band	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-06E	U/S Ext	RO15		1.260	0.152	Band	No (2)
FW-01.3 BFP DISCHARGE HDR	FW-01.3-06E	U/S Main	RO15		1.260	0.214	Blanket	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-08E	D/S Ext	RO15		1.260	0.058	Band	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-08E	U/S Main	RO15		1.260	0.189	Blanket	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.3-13P	FW-01.3-13P	RO14		1.26	0.025	Max BAND	No(1)
FW-01.3 BFP DISCHARGE HDR	FW-01.3-14E	FW-01.3-14E	RO14		1.26	0.196	BLANKET	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.4-01T	Branch	RO15		0.938	0.204	Band	Yes
FW-01.3 BFP DISCHARGE HDR	FW-01.4-01T	D/S Main	RO15		1.260	0.021	Band	No (1)
FW-01.3 BFP DISCHARGE HDR	FW-01.4-01T	U/S Main	RO15		1.260	0.017	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	Br. Ext.	RO10	99UT271	1.053	0.052	Band	No (2)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	Br. Ext.	RO8		1.053	0.061	Band	No (2)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	Branch	RO10	99UT271	1.042	0.095	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	Branch	RO8		1.042	0.091	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	D/S Main	RO10	99UT271	1.375	0.026	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	D/S Main	RO8		1.375	0.069	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	N/A	RO8		1.375	0.036	T DAT	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	N/A	RO8		1.042	0.089	T DAT	No (13)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	U/S Ext.	RO8		1.375	0.145	Band	No (2)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	U/S Main	RO10	99UT271	1.375	0.047	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-01T	U/S Main	RO8		1.375	0.061	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-02P	N/A	RO8		1.371	0.029	T DAT	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-03E	Main	RO8		1.514	0.185	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-03E	N/A	RO8		1.514	0.204	T DAT	No (13)
FW-01.3 BFPDISCHARGE HDR	FW-01.3-04E	Main	RO8		1.638	0.225	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-06E	Main	RO9		1.26	0.233	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-08E	Main	RO9		1.26	0.242	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-10E	Main	RO12	03UT112	1.26	0.21	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-12E	Main	RO13	05UT094	1.26	0.227	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-15E	Main	RO11	01UT127	1.26	0.216	Blanket	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-17T	Branch	RO13	05UT050	0.938	0.122	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-17T	DS Main	RO13	05UT050	1.26	0.047	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-17T	US Main	RO13	05UT050	1.26	0.044	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.3-18P	N/A	RO8		1.348	0.061	T DAT	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	Branch	RO8		1.019	0.21	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	Branch	RO9		1.019	0.227	Band	Yes
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	D/S Main	RO8		1.351	0.032	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	D/S Main	RO9		1.351	0.057	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	N/A	RO8		1.351	0.074	T DAT	No (13)
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	N/A	RO8		1.019	0.209	T DAT	No (13)
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	U/S Main	RO8		1.351	0.028	Band	No (1)
FW-01.3 BFPDISCHARGE HDR	FW-01.4-01T	U/S Main	RO9		1.351	0.042	Band	No (1)
FW-01.4 BFP DISCHARGE HDR	FW-01.5-01T	Branch	RO15		0.938	0.167	Band	Yes
FW-01.4 BFP DISCHARGE HDR	FW-01.5-01T	D/S Main	RO15		1.260	0.049	Band	Yes
FW-01.4 BFP DISCHARGE HDR	FW-01.5-01T	U/S Main	RO15		1.260	0.055	Band	Yes
FW-01.4 BFPDISCHARGE HDR	FW-01.4-02P	N/A	RO8		1.341	0.064	T DAT	No (13)
FW-01.4 BFPDISCHARGE HDR	FW-01.5-01T	Branch	RO11	01UT126	1.015	0.19	Band	Yes
FW-01.4 BFPDISCHARGE HDR	FW-01.5-01T	Branch	RO8		1.015	0.189	T DAT	Yes
FW-01.4 BFPDISCHARGE HDR	FW-01.5-01T	D/S Main	RO11	01UT126	1.385	0.045	Band	Yes
FW-01.4 BFPDISCHARGE HDR	FW-01.5-01T	U/S Main	RO11	01UT126	1.385	0.059	Band	Yes
FW-01.4 BFPDISCHARGE HDR	FW-01.5-01T	U/S Main	RO8		1.385	0.074	T DAT	Yes
FW-01.6A BFP HDR to FWH 36A	FW-01.6A-12N	FW-01.6A-12N	RO14		0.938	0.101	Max BAND	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-01.6B BFP HDRto FWH 36B	FW-01 .6B-02P	Main	RO8		0.93	0.088	T DAT	Yes
FW-01.6B BFP HDRto FWH 36B	FW-01.6B-02P	Main	RO11	01UT129	0.93	0.075	Band	Yes
FW-01.6B BFP HDRto FWH 36B	FW-01.6B-06E	Main	RO12	03UT123	0.938	0.155	Blanket	Yes
FW-01.6B BFP HDRto FWH 36B	FW-01.6B-08E	Main	RO12	03UT123	0.938	0.1	Blanket	Yes
FW-01.6B BFP HDRto FWH 36B	FW-01.6B-10N	Main	RO12	03UT123	0.938	0.087	Band	Yes
FW-01.6C BFP HDR to FWH 36C	FW-01.6C-02P	U/S Main	RO15		0.938	0.054	Band	Yes
FW-01.6C BFP HDR to FWH 36C	FW-01.6C-10N	FW-01.6C-10N	RO14		0.938	0.051	Max BAND	Yes
FW-02.1 B FWH 36B toSG HDR	FW-02.1B-03P	Entered as the D/S Extof FW-02.1B-02E	RO12	03UT102	0.938	0.061	Band	Yes
FW-02.1 B FWH 36B toSG HDR	FW-02.1B-06P	Entered as the D/S Extof FW-02.1B-05V	RO12	03UT102	0.938	0.112	Band	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-01N	FW-02.1A-01N	RO14		0.938	0		No(1)
FW-02.1A FWH 36A to SG HDR	FW-02.1A-02E	FW-02.1A-02E	RO14		0.938	0.115	BLANKET	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-03P	FW-02.1A-03P	RO14		0.938	0.064	Max BAND	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-04E	FW-02.1A-04E	RO14		0.938	0.183	BLANKET	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-09E	U/S Main	RO15		0.938	0.189	Blanket	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-10P	U/S Main	RO15		0.938	0.203	Band	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-11E	D/S Ext	RO15		0.938	0.046	Band	Yes
FW-02.1A FWH 36A to SG HDR	FW-02.1A-11E	U/S Main	RO15		0.938	0.122	Blanket	Yes
FW-02.1A FWH 36A toSG HDR	FW-02.1A-11E	Main	RO10	99UT247	0.938	0.125	Blanket	Yes
FW-02.1A FWH 36A toSG HDR	FW-02.1A-11E	U/S Ext.	RO10	99UT247	0.938	0.204	Band	No (2)
FW-02.1A FWH 36A toSG HDR	FW-02.1A-12P	Entered as D/S Ext. ofFW-02.1A-11E	RO10	99UT247	0.938	0.119	Band	Yes
FW-02.1A FWH 36A toSG HDR	FW-02.1A-13R	D/S Main	RO10	99UT270	1.26	0.152	Band	Yes
FW-02.1A FWH 36A toSG HDR	FW-02.1A-13R	D/S Main	RO8		1.26	0.151	T DAT	No (17)
FW-02.1A FWH 36A toSG HDR	FW-02.1A-13R	U/S Main	RO10	99UT270	0.938	0.108	Band	Yes
FW-02.1B FWH 36B to SG HDR	FW-02.1B-10P	U/S Main	RO15		0.938	0.122	Band	Yes
FW-02.1B FWH 36B toSG HDR	FW-02.1B-01N	Main	RO12	03UT102	0.938	0.041	Band	No(1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-02.1B FWH 36B toSG HDR	FW-02.1B-02E	Main	RO12	03UT102	0.938	0.283	Blanket	Yes
FW-02.1B FWH 36B toSG HDR	FW-02.1B-04E	Main	RO12	03UT102	0.938	0.249	Blanket	Yes
FW-02.1B FWH 36B toSG HDR	FW-02.1B-10P	Main	RO8		0.965	0.125	T DAT	Yes
FW-02.1C FWH 36Cto SG HDR	FW-02.1C-01N	Main	RO13	05UT052	0.938	0.156	Band	Yes
FW-02.1C FWH 36Cto SG HDR	FW-02.1C-02E	Main	RO13	05UT052	0.938	0.28	Blanket	Yes
FW-02.1C FWH 36Cto SG HDR	FW-02.1C-03P	Main	RO13	05UT052	0.938	0.05	Band	Yes
FW-02.1C FWH 36Cto SG HDR	FW-02.1C-10P	Main	RO8		0.998	0.091	T DAT	Yes
FW-02.3 SG INLETHEADER	FW-02.1B-11T	Br. Ext.	RO10	99UT270	0.965	0.098	Band	No (2)
FW-02.3 SG INLETHEADER	FW-02.1B-11T	Branch	RO10	99UT270	0.974	0.071	Band	Yes
FW-02.3 SG INLETHEADER	FW-02.1B-11T	Branch	RO8		0.974	0.059	T DAT	Yes
FW-02.3 SG INLETHEADER	FW-02.1B-11T	D/S Ext.	RO10	99UT270	1.38	0.038	Band	No (1)
FW-02.3 SG INLETHEADER	FW-02.1B-11T	D/S Main	RO10	99UT270	1.398	0.035	Band	No (1)
FW-02.3 SG INLETHEADER	FW-02.1B-11T	U/S Main	RO10	99UT270	1.398	0.03	Band	No (1)
FW-02.3 SG INLETHEADER	FW-02.1B-11T	U/S Main	RO8		1.398	0.071	T DAT	Yes
FW-02.3 SG INLETHEADER	FW-02.3-01P	N/A	RO8		1.38	0.055	T DAT	No (1)
FW-02.4 SG INLET HEADER	FW-02.4-09E	D/S Ext	RO15		1.260	0.035	Band	Yes
FW-02.4 SG INLET HEADER	FW-02.4-09E	U/S Main	RO15		1.260	0.192	Blanket	Yes
FW-02.4 SG INLET HEADER	FW-02.4-11E	FW-02.4-11E	RO14		1.26	0.206	BLANKET	Yes
FW-02.4 SG INLET HEADER	FW-02.4-11E	FW-02.4-11E-DSX	RO14		1.26	0.026	Max BAND	No(1)
FW-02.4 SG INLET HEADER	FW-02.4-11E	FW-02.4-11E-USX	RO14		1.26	0.052	Max BAND	No(2)
FW-02.4 SG INLETHEADER	FW-02.1C-11T	Branch	RO8		0.975	0.066	T DAT	No (17)
FW-02.4 SG INLETHEADER	FW-02.1C-11T	N/A	RO8		1.375	0.041	T DAT	No (1)
FW-02.4 SG INLETHEADER	FW-02.4-01P	N/A	RO8		1.359	0.051	T DAT	No (14)
FW-02.4 SG INLETHEADER	FW-02.4-02T	Branch	RO13	05UT071	0.944	0.11	Band	Yes
FW-02.4 SG INLETHEADER	FW-02.4-02T	DS Main	RO13	05UT071	1.26	0.043	Band	Yes
FW-02.4 SG INLETHEADER	FW-02.4-02T	US Main	RO13	05UT071	1.26	0.053	Band	Yes
FW-02.4 SG INLETHEADER	FW-02.4-04E	Main	RO9		1.26	0.091	Blanket	Yes
FW-02.4 SG INLETHEADER	FW-02.4-05E	Main	RO9		1.26	0.238	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-02.4 SG INLETHEADER	FW-02.4-06P	Entered as D/S Ext. ofFW-02.4-05E	RO9		1.26	0.069	Band	Yes
FW-02.4 SG INLETHEADER	FW-02.4-14P	Entered as the U/S Extof FW-02.4-15E	RO12	03UT081	1.26	0.014	Band	No(1,2)
FW-02.4 SG INLETHEADER	FW-02.4-15E	Main	RO12	03UT081	1.26	0.212	Blanket	Yes
FW-02.4 SG INLETHEADER	FW-02.4-16P	Entered as the D/S Extof FW-02.4-15E	RO12	03UT081	1.26	0.044	Band	No(1)
FW-02.4 SG INLETHEADER	FW-02.4-16P	Entered as US Ext ofFW-02.4-17E	RO13	05UT057	1.26	0.173	Band	No(1)
FW-02.4 SG INLETHEADER	FW-02.4-17E	Main	RO13	05UT057	1.26	0.145	Blanket	Yes
FW-02.4 SG INLETHEADER	FW-02.4-18P	Entered as DS Ext ofFW-02.4-17E	RO13	05UT057	1.365	0.04	Band	Yes
FW-02.4 SG INLETHEADER	FW-02.4-18P	N/A	RO8		1.365	0.027	T DAT	No (1)
FW-02.4 SG INLETHEADER	FW-02.4-19T	Br. Ext.	RO10	99UT269	0.968	0.096	Band	No (2)
FW-02.4 SG INLETHEADER	FW-02.4-19T	Branch	RO10	99UT269	0.974	0.145	Band	Yes
FW-02.4 SG INLETHEADER	FW-02.4-19T	Branch	RO8		0.974	0.131	T DAT	Yes
FW-02.4 SG INLETHEADER	FW-02.4-19T	D/S Main	RO10	99UT269	1.368	0.033	Band	No (1)
FW-02.4 SG INLETHEADER	FW-02.4-19T	N/A	RO8		1.368	0.026	T DAT	No (1)
FW-02.4 SG INLETHEADER	FW-02.4-19T	U/S Ext.	RO10	99UT269	1.365	0.022	Band	No (2)
FW-02.4 SG INLETHEADER	FW-02.4-19T	U/S Main	RO10	99UT269	1.368	0.022	Band	No (1)
FW-02.5 SG INLET HEADER	FW-02.5-03T	FW-02.5-03T	RO14		1.26	0.035	Max BAND	Yes
FW-02.5 SG INLETHEADER	FW-02.5-01T	Branch	RO10	99UT269	0.432	0.048	Blanket	No (4)
FW-02.5 SG INLETHEADER	FW-02.5-01T	D/S Main	RO10	99UT269	1.372	0.036	Band	No (1)
FW-02.5 SG INLETHEADER	FW-02.5-01T	U/S Main	RO10	99UT269	1.372	0.036	Band	No (1)
FW-02.5 SG INLETHEADER	FW-02.5-04T	Branch	RO12	03UT096	1.002	0.086	Band	Yes
FW-02.5 SG INLETHEADER	FW-02.5-04T	Branch	RO8		1.002	0.075	T DAT	No (17)
FW-02.5 SG INLETHEADER	FW-02.5-04T	D/S Main	RO12	03UT096	1.368	0.021	Band	No(1)
FW-02.5 SG INLETHEADER	FW-02.5-04T	N/A	RO8		1.368	0.041	T DAT	No (1)
FW-02.5 SG INLETHEADER	FW-02.5-04T	U/S Main	RO12	03UT096	1.368	0.032	Band	No(1)
FW-02.5 SG INLETHEADER	FW-02.5-05P	N/A	RO8		1.372	0.034	T DAT	No (14)
FW-02.5 SG INLETHEADER	FW-02.5-06P	N/A	RO8		1.365	0.03	T DAT	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-02.6 SG INLET HEADER	FW-02.6-03T	Br. Ext	RO15		0.944	0.056	Band	No (2)
FW-02.6 SG INLET HEADER	FW-02.6-03T	Branch	RO15		0.944	0.166	Band	Yes
FW-02.6 SG INLET HEADER	FW-02.6-03T	D/S Main	RO15		1.260	0.038	Band	Yes
FW-02.6 SG INLET HEADER	FW-02.6-03T	U/S Main	RO15		1.260	0.024	Band	No (1)
FW-02.6 SG INLETHEADER	FW-02.6-01P	N/A	RO8		1.361	0.019	T DAT	No (1)
FW-02.6 SG INLETHEADER	FW-02.6-03T	Branch	RO8		1.006	0.139	T DAT	No (17)
FW-02.6 SG INLETHEADER	FW-02.6-03T	N/A	RO8		1.361	0.03	T DAT	No (1)
FW-02.8A SG HDR to SG 31	FW-02.8A-12F	D/S Ext	RO15		0.938	0.125	Band	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-25R	D/S Main	RO15		0.844	0.184	Band	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-25R	U/S Main	RO15		0.938	0.448	Band	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-26R	D/S Ext	RO15		0.938	0.098	Band	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-26R	D/S Main	RO15		0.938	0.289	Band	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-26R	FW-02.8A-26R	RO14		0.844	0.21	Max BAND	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-26R	FW-02.8A-26R-DS	RO14		0.938	0.252	Max BAND	Yes
FW-02.8A SG HDR to SG 31	FW-02.8A-26R	U/S Main	RO15		0.844	0.212	Band	Yes
FW-02.8A SG HDR to SG 31	FW-03.1A-08B	U/S Main	RO15		0.750	0.140	Max PTP	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-01 P	Main	RO8		0.968	0.097	T DAT	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-01P	Entered as the U/S Extof FW-02.8A-02E	RO12	03UT135	0.938	0.052	Band	No(2)
FW-02.8A SG HDR toSG 31	FW-02.8A-02E	Main	RO12	03UT135	0.938	0.129	Blanket	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-03T	D/S Main	RO12	03UT135	0.938	0.056	Band	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-03T	U/S Main	RO12	03UT135	0.938	0.075	Band	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-06E	Main	RO12	03UT135	0.938	0.158	Blanket	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-07P	Entered as the D/S Extof FW-02.8A-06E	RO12	03UT135	0.938	0.058	Band	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-25R	D/S Main	RO12	03UT135	1.312	0.476	Band	No(3)
FW-02.8A SG HDR toSG 31	FW-02.8A-25R	U/S Main	RO12	03UT135	0.938	0.421	Band	No(3)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-02.8A SG HDR toSG 31	FW-02.8A-26R	D/S Main	RO12	03UT135	0.938	0.271	Band	Yes
FW-02.8A SG HDR toSG 31	FW-02.8A-26R	U/S Main	RO12	03UT135	1.312	0.615	Band	No(3)
FW-02.8A SG HDR toSG 31	FW-03.1A-08B	Main	RO9		0.75	0.172	Blanket	Yes
FW-02.8A SG HDR toSG 31	FW-03.1A-09N	Main	RO9		0.75	0.12	Band	No (11)
FW-02.8B SG HDR to SG 32	FW-02.8B-07E	U/S Main	RO15		0.938	0.221	Blanket	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-13F	FW-02.8B-13F	RO14		0.938	0.154	SCAN/ RT/VT	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-13F	FW-02.8B-13F-DSX	RO14		0.938	0.075	Max BAND	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-13F	FW-02.8B-13F-USX	RO14		0.938	0.038	Max BAND	No(2)
FW-02.8B SG HDR to SG 32	FW-02.8B-23E	U/S Ext	RO15		0.750	0.051	Band	No (2)
FW-02.8B SG HDR to SG 32	FW-02.8B-23E	U/S Main	RO15		0.750	0.281	Blanket	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-25R	D/S Main	RO15		0.844	0.289	Band	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-25R	FW-02.8B-25R	RO14		0.938	0.234	Max BAND	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-25R	FW-02.8B-25R-DS	RO14		0.844	0.399	Max BAND	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-25R	U/S Main	RO15		0.938	0.208	Band	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-26R	D/S Main	RO15		0.938	0.467	Band	Yes
FW-02.8B SG HDR to SG 32	FW-02.8B-26R	U/S Main	RO15		0.844	0.386	Band	No (3)
FW-02.8B SG HDR toSG 32	FW-02.8B-01 P	Main	RO8		0.938	0.078	T DAT	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-01P	Entered as the Br Extof FW-02.5-04T	RO12	03UT096	0.944	0.064	Band	No(1)
FW-02.8B SG HDR toSG 32	FW-02.8B-07E	Main	RO9		0.938	0.188	Blanket	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-08P	Entered as D/S Ext. ofFW-02.8B-07E	RO9		0.938	0.069	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-09T	Br. Ext	RO12	03UT058	0.432	0.049	Band	No (2)
FW-02.8B SG HDR toSG 32	FW-02.8B-09T	D/S Main	RO12	03UT058	0.938	0.041	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-09T	U/S Main	RO12	03UT058	0.938	0.06	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-12P_2	Entered as U/S Ext. ofFW-02.8B-13F	RO10	99UT232	0.938	0.125	Max PTP	No (2)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-02.8B SG HDR toSG 32	FW-02.8B-12P_2	Entered as U/S Ext. ofFW-02.8B-13F	RO8		0.938	0.078	Band	No (2)
FW-02.8B SG HDR toSG 32	FW-02.8B-12P_2	Entered as U/S Ext. ofFW-02.8B-13F	RO9		0.938	0.085	Band	No (2)
FW-02.8B SG HDR toSG 32	FW-02.8B-13F	Main	RO10	99UT232	0.938	0.222	Max PTP	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-13F	Main	RO8		0.938	0.167	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-13F	Main	RO9		0.938	0.175	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-14P	Entered as D/S Ext. ofFW-02.8B-13F	RO10	99UT232	0.99	0.103	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-14P	Entered as D/S Ext. ofFW-02.8B-13F	RO8		0.99	0.093	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-14P	Entered as D/S Ext. ofFW-02.8B-13F	RO9		0.99	0.109	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-22T	D/S Main	RO8		0.75	0.059	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-22T	U/S Main	RO8		0.75	0.039	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-23E	Main	RO8		0.924	0.176	Blanket	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-25R	DS Main	RO13	05UT045	0.844	0.447	Band	N(4)
FW-02.8B SG HDR toSG 32	FW-02.8B-25R	US Main	RO13	05UT045	0.938	0.352	Band	N(4)
FW-02.8B SG HDR toSG 32	FW-02.8B-26R	D/S Main	RO9		0.844	0.256	Band	Yes
FW-02.8B SG HDR toSG 32	FW-02.8B-26R	U/S Main	RO9		0.938	0.238	Band	Yes
FW-02.8B SG HDR toSG 32	FW-03.1B-07B	Entered as U/S Ext ofFW-03.1B-08E	RO13	05UT054	0.75	0.065	Band	No(1)
FW-02.8B SG HDR toSG 32	FW-03.1B-08E	Main	RO13	05UT054	0.75	0.099	Blanket	Yes
FW-02.8B SG HDR toSG 32	FW-03.1B-09P	Entered as D/S Ext ofFW-03.1B-08E	RO13	05UT054	0.75	0.068	Band	Yes
FW-02.8C SG HDR to SG 34	FW-02.8C-13F	D/S Ext	RO15		0.938	0.123	Band	Yes
FW-02.8C SG HDR to SG 34	FW-02.8C-25R	D/S Ext	RO15		0.938	0.149	Band	Yes
FW-02.8C SG HDR to SG 34	FW-02.8C-25R	D/S Main	RO15		0.938	0.252	Band	Yes
FW-02.8C SG HDR to SG 34	FW-02.8C-25R	U/S Main	RO15		0.844	0.169	Band	Yes
FW-02.8C SG HDR to SG 34	FW-03.1C-12E	U/S Main	RO15		0.750	0.149	Blanket	Yes
FW-02.8C SG HDR to SG 34	FW-03.1C-13P	FW-03.1C-13P	RO14		0.75	0.129	SCAN/	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
							RT/VT	
FW-02.8C SG HDR toSG 34	FW-02.8C-01 P	Main	RO8		0.946	0.071	T DAT	Yes
FW-02.8C SG HDR toSG 34	FW-02.8C-05V	Main	RO11	01 UT1 20	0.938	N/A	x	No (12)
FW-02.8C SG HDR toSG 34	FW-02.8C-06V	Main	RO11	01 UT1 20	1.312	N/A	x	No (12)
FW-02.8C SG HDR toSG 34	FW-02.8C-07E	Main	RO11	01UT120	0.938	0.121	Blanket	Yes
FW-02.8C SG HDR toSG 34	FW-02.8C-08P	Entered as D/S Ext. ofFW-02.8C-07E	RO11	01 UT1 20	0.938	0.053	Band	Yes
FW-02.8C SG HDR toSG 34	FW-02.8C-24R	D/S Main	RO11	01 UT1 20	0.844	0.148	Band	Yes
FW-02.8C SG HDR toSG 34	FW-02.8C-24R	U/S Main	RO11	01 UT1 20	0.938	0.247	Band	Yes
FW-02.8C SG HDR toSG 34	FW-02.8C-25R	D/S Main	RO11	01 UT1 20	0.938	0.151	Band	Yes
FW-02.8C SG HDR toSG 34	FW-02.8C-25R	U/S Main	RO11	01 UT1 20	0.844	0.087	Band	Yes
FW-02.8C SG HDR toSG 34	FW-03.1C-10E	Main	RO12	03UT126	0.75	0.215	Blanket	Yes
FW-02.8C SG HDR toSG 34	FW-03.1C-11P	Entered as the D/S Extof FW-03.1C-10E	RO12	03UT126	0.75	0.041	Band	Yes
FW-02.8C SG HDR toSG 34	FW-03.1C-12E	Main	RO12	03UT126	0.75	0.166	Blanket	Yes
FW-02.8C SG HDR toSG 34	FW-03.1C-13P	Entered as the D/S Extof FW-03.1C-12E	RO12	03UT126	0.75	0.086	Band	Yes
FW-02.8C SG HDR toSG 34	FW-03.1C-14E	Main	RO12	03UT126	0.75	0.273	Blanket	Yes
FW-02.8C SG HDR toSG 34	FW-03.1C-15N	Main	RO12	03UT126	0.75	0.11	Band	No(11)
FW-02.8D SG HDR to SG 33	FW-02.8D-13F	D/S Ext	RO15		0.938	0.125	Band	Yes
FW-02.8D SG HDR to SG 33	FW-02.8D-24R	FW-02.8D-24R	RO14		0.938	0.273	Max BAND	Yes
FW-02.8D SG HDR to SG 33	FW-02.8D-24R	FW-02.8D-24R-DS	RO14		0.844	0.46	Max BAND	Yes
FW-02.8D SG HDR to SG 33	FW-02.8D-25R	D/S Ext	RO15		0.938	0.205	Band	No (19)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-02.8D SG HDR to SG 33	FW-02.8D-25R	D/S Main	RO15		0.938	0.156	Band	Yes
FW-02.8D SG HDR to SG 33	FW-02.8D-25R	FW-02.8D-25R	RO14		0.844	0.11	Max BAND	Yes
FW-02.8D SG HDR to SG 33	FW-02.8D-25R	FW-02.8D-25R-DS	RO14		0.938	0.201	Max BAND	Yes
FW-02.8D SG HDR to SG 33	FW-02.8D-25R	U/S Main	RO15		0.844	0.132	Band	Yes
FW-02.8D SG HDR to SG 33	FW-03.1D-08B	FW-03.1D-08B	RO14		0.75	0.315	BLANKET	Yes
FW-02.8D SG HDR to SG 33	FW-03.1D-08B	FW-03.1D-08B-DSX	RO14		0.75	0.089	SCAN/ RT/VT	Yes
FW-02.8D SG HDR to SG 33	FW-03.1D-08B	U/S Main	RO15		0.750	0.176	Blanket	Yes
FW-02.8D SG HDR toSG 33	FW-02.7-01 P	N/A	RO8		1.372	0.034	T DAT	No (1)
FW-02.8D SG HDR toSG 33	FW-02.7-03P	N/A	RO8		1.372	0.041	T DAT	No (1)
FW-02.8D SG HDR toSG 33	FW-02.7-04T	Branch	RO8		1.013	0.153	T DAT	No (17)
FW-02.8D SG HDR toSG 33	FW-02.7-04T	N/A	RO8		1.395	0.053	T DAT	No (1)
FW-02.8D SG HDR toSG 33	FW-02.8D-01 P	Main	RO8		0.964	0.052	T DAT	Yes
FW-02.8D SG HDR toSG 33	FW-02.8D-24R	DS Main	RO13	05UT049	0.844	0.414	Band	N(4)
FW-02.8D SG HDR toSG 33	FW-02.8D-24R	US Main	RO13	05UT049	0.938	0.159	Band	N(4)
FW-02.8D SG HDR toSG 33	FW-02.8D-25R	DS Main	RO13	05UT049	0.938	0.175	Band	Yes
FW-02.8D SG HDR toSG 33	FW-02.8D-25R	US Main	RO13	05UT049	0.844	0.237	Band	Yes
FW-04. 1 B BFP 32RECIRC	FW-04.1B-01E	Main	RO11	01UT064	0.979	0.228	Blanket	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-01E	Main	RO8		0.979	0.186	T DAT	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-01E	Main	RO8		0.979	0.224	Blanket	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-02P	Entered as D/S Ext. ofFW-04.1B-01E	RO11	01UT064	0.912	0.041	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-02P	Entered as D/S Ext. ofFW-04.1B-01E	RO8		0.912	0.058	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-03E	Main	RO11	01UT064	1.083	0.266	Blanket	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-03E	Main	RO8		1.083	0.113	Blanket	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-04P	Entered as D/S Ext. ofFW-04.1B-03E	RO11	01UT064	0.864	0.131	Band	No (11)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-10P	Entered as U/S Ext. ofFW-04.1B-01E	RO11	01UT064	0.864	0.09	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-10P	Entered as U/S Ext. ofFW-04.1B-01E	RO8		0.864	0.093	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.1B-10P	N/A	RO8		0.864	0.093	T DAT	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.2B-22P	Entered as U/S Ext. ofFW-04.2B-23R	RO8		0.716	0.065	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.2B-23R	D/S Main	RO8		0.962	0.123	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-04.2B-23R	U/S Main	RO8		0.674	0.082	Band	No (11)
FW-04. 1 B BFP 32RECIRC	FW-05.1B-02P	Main	RO8		0.864	0.079	T DAT	No (11)
FW-04.1A BFP 31 RECIRC	FW-05.1A-02P	U/S Main	RO15		0.864	0.091	Band	No (11)
FW-04.1A BFP 31RECIRC	FW-04.1A-01E	Main	RO8		0.954	0.18	T DAT	No (11)
FW-04.1A BFP 31RECIRC	FW-04.1A-09P	Main	RO8		0.896	0.046	T DAT	No (11)
FW-04.1A BFP 31RECIRC	FW-04.1A-10P	Main	RO8		0.864	0.098	T DAT	No (11)
FW-04.1A BFP 31RECIRC	FW-04.2A-01R	U/S Main	RO8		0.864	0.29	T DAT	No (11)
FW-04.1A BFP 31RECIRC	FW-04.2A-02P	Main	RO8		0.709	0.065	T DAT	No (11)
FW-04.1A BFP 31RECIRC	FW-04.2A-21P	Main	RO8		0.7	0.045	Band	No (11)
FW-04.1A BFP 31RECIRC	FW-04.2A-22B	Main	RO8		0.782	0.172	Blanket	No (11)
FW-04.1A BFP 31RECIRC	FW-04.2A-23P	Entered as D/S Ext. ofFW-04.2A-22B	RO8		0.724	0.086	Band	No (11)
FW-04.1A BFP 31RECIRC	FW-05.1A-02P	Main	RO8		0.886	0.064	T DAT	No (11)
HD-01 .1 B FWH 36B toHD TK	HD-01 .2B-01 R		RO9		0.307	0.046	Band	Yes
HD-01 .1 B FWH 36B toHD TK	HD-01 .2B-01 R		RO9		0.28	0.062	Band	Yes
HD-01 .1 B FWH 36B toHD TK	HD-01.1B-06P		RO9		0.307	0.036	Band	No (2)
HD-01 .1 B FWH 36B toHD TK	HD-01.1B-07E		RO9		0.307	0.061	Blanket	Yes
HD-01 .1 B FWH 36B toHD TK	HD-02.1B-01V		RO9		0.28	0.036	Blanket	No (10)
HD-01 .1C FWH 36C toHD TK	HD-01.1C-10P;		RO11	01UT134	0.307	0.063	Band	No (2)
HD-01 .1C FWH 36C toHD TK	HD-01.1C-11E		RO11	01UT134	0.421	0.131	Blanket	Yes
HD-01 .1C FWH 36C toHD TK	HD-01.2C-01R		RO11	01UT134	0.307	0.064	Band	Yes
HD-01 .1C FWH 36C toHD TK	HD-01.2C-01R		RO11	01UT134	0.28	0.071	Band	Yes
HD-01 .1C FWH 36C toHD TK	HD-02.1C-02R		RO11	01UT134	0.28	0.04	Band	No(3)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-01 .1C FWH 36C toHD TK	HD-02.1C-02R		RO11	01UT134	0.365	0.06	Band	Yes
HD-01 .1C FWH 36C toHD TK	HD-02.2C-02N		RO11	01UT135	0.365	0.089	Band	Yes
HD-01.1A FWH 36A toHD TK	HD-01.1A-08P	Entered as U/S ext ofHD-01.1A-09E	RO12	03UT069	0.307	0.033	Band	Yes
HD-01.1A FWH 36A toHD TK	HD-01.1A-09E	Main	RO12	03UT069	0.307	0.082	Blanket	Yes
HD-01.1A FWH 36A toHD TK	HD-01.2A-01R	D/S Main	RO12	03UT069	0.28	0.122	Band	Yes
HD-01.1A FWH 36A toHD TK	HD-01.2A-01R	U/S Main	RO12	03UT069	0.307	0.066	Band	Yes
HD-01.1A FWH 36A toHD TK	HD-02.1A-02R	D/S Main	RO12	03UT069	0.365	0.086	Band	Yes
HD-01.1A FWH 36A toHD TK	HD-02.1A-02R	U/S Main	RO12	03UT069	0.28	0.073	Band	Yes
HD-01.1A FWH 36A toHD TK	HD-02.2A-02N	Main	RO12	03UT069	0.365	0.11	Band	Yes
HD-01.1B FWH 36B to HD TK	HD-02.1B-02R	D/S Main	RO15		0.365	0.057	Band	Yes
HD-01.1B FWH 36B to HD TK	HD-02.1B-02R	HD-02.1B-02R	RO14		0.307	0.028	Max BAND	No(1)
HD-01.1B FWH 36B to HD TK	HD-02.1B-02R	HD-02.1B-02R-DS	RO14		0.28	0.039	Max BAND	Yes
HD-01.1B FWH 36B to HD TK	HD-02.1B-02R	U/S Main	RO15		0.280	0.094	Band	Yes
HD-01.1C FWH 36C toHD TK	HD-01.1C-11E					0.119	T DAT	Yes
HD-03.1 C FWH 35C toHD TK	HD-03.1C-12P	Entered as US Ext ofHD-03.1C-13E	RO13	05UT040	0.25	0.037	Band	No(1)
HD-03.1 C FWH 35C toHD TK	HD-03.1C-13E	Main	RO13	05UT040	0.25	0.059	Blanket	Yes
HD-03.1 C FWH 35C toHD TK	HD-03.1C-14E	Main	RO13	05UT040	0.25	0.084	Blanket	Yes
HD-03.1 C FWH 35C toHD TK	HD-03.1C-15P	Main	RO13	05UT040	0.25	0.038	Band	Yes
HD-03.1A FWH 35A toHD TK	HD-03.1A-10P		1994		0.25	0.032	Band	No (2)
HD-03.1A FWH 35A toHD TK	HD-03.1A-11E		1994		0.25	0.04	Blanket	Yes
HD-03.1A FWH 35A toHD TK	HD-03.1A-12E		1994		0.25	0.043	Blanket	Yes
HD-03.1A FWH 35A toHD TK	HD-03.1A-13P		1994		0.25	0.032	Band	Yes
HD-03.1A FWH 35A toHD TK	HD-03.1A-14E		1994		0.25	0.032	Blanket	Yes
HD-03.1A FWH 35A toHD TK	HD-03.1A-16N		1994		0.25	0.103	Band	No(9)
HD-03.1B FWH 35B to HD TK	HD-03.1B-09E	HD-03.1B-09E	RO14		0.25	0.048	BLANKET	Yes
HD-03.1B FWH 35B to HD TK	HD-03.1B-09E	HD-03.1B-09E-DSX	RO14		0.25	0.054	BLANKET	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-03.1B FWH 35B to HD TK	HD-03.1B-09E	HD-03.1B-09E-USX	RO14		0.25	0.061	Max BAND	No(2)
HD-03.1C FWH 35C toHD TK	HD-03.1C-16E	Main	RO13	05UT040	0.25	0.031	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-04.2B-01E	D/S Main	RO12	O3UT034	0.237	0.102	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-04.2B-01E	U/S Main	RO12	O3UT034	0.28	0.053	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-04.3B-01R	D/S Main	RO12	O3UT034	0.216	0.065	Band	No(3)
HD-04.1 B FWH 34B toFWH 33B	HD-04.3B-01R	U/S Main	RO12	O3UT034	0.237	0.132	Band	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-05.1B-01V		RO9		0.216	0.034	Blanket	No (10)
HD-04.1 B FWH 34B toFWH 33B	HD-05.1B-02R	D/S main	RO12	O3UT034	0.28	0.125	Band	No (7)
HD-04.1 B FWH 34B toFWH 33B	HD-05.1B-02R	U/S Main	RO12	O3UT034	0.216	0.135	Band	No (7)
HD-04.1 B FWH 34B toFWH 33B	HD-05.1B-02R		RO9		0.216	0.082	Band	No (7)
HD-04.1 B FWH 34B toFWH 33B	HD-05.1B-02R		RO9		0.28	0.093	Band	No (7)
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-01T	Branch	RO12	O3UT034	0.28	0.098	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-01T	D/S Main	RO12	O3UT034	0.28	0.072	Blanket	No (6)
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-01T	U/S Main	RO12	O3UT034	0.28	0.074	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-01T		RO9		0.28	0.125	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-01T		RO9		0.28	0.076	Blanket	No (6)
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-01T		RO9		0.28	0.141	Blanket	Yes
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-02P	Entered as branch ext.of HD-05.2B-01T	RO12	03UT034	0.28	0.054	Band	No (2)
HD-04.1 B FWH 34B toFWH 33B	HD-05.2B-02P		RO9		0.28	0.058	Band	No (2)
HD-04.1 C FWH 34C toFWH 33C	HD-04.1C-23P	Entered as U/S ext. ofHD-04.2C-01E	RO12	03UT028	0.28	0.067	Max PTP	No (2)
HD-04.1 C FWH 34C toFWH 33C	HD-04.1C-23P		RO9		0.28	0.044	Band	No (2)
HD-04.1 C FWH 34C toFWH 33C	HD-04.2C-01E	D/S Main	RO12	03UT028	0.237	0.175	Max PTP	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-04.2C-01E	U/S Main	RO12	03UT028	0.28	0.104	Max PTP	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-04.2C-01E		RO9		0.28	0.073	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-04.2C-01E		RO9		0.237	0.118	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-04.3C-01 R		RO11	01 UT065	0.237	0.043	Band	No(3)
HD-04.1 C FWH 34C toFWH 33C	HD-04.3C-01R	D/S Main	RO12	03UT028	0.216	0.027	Band	No(1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-04.1 C FWH 34C toFWH 33C	HD-04.3C-01R	U/S Main	RO12	03UT028	0.237	0.032	Band	No(1)
HD-04.1 C FWH 34C toFWH 33C	HD-04.3C-01R		RO11	01UT065	0.216	0.057	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-01V		RO9		0.216	0.046	Blanket	No (10)
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R	D/S main	RO12	03UT028	0.28	0.14	Band	No(3)
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R	D/S main	C013	05UT023	0.28	0.157	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R	U/S Main	RO12	03UT028	0.216	0.063	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R	U/S Main	C013	05UT023	0.216	0.066	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R		RO10	99UT080	0.216	0.05	Band	No(3)
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R		RO10	99UT080	0.28	0.112	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R		RO10	99UT080	0.216	0.082	Band	No (3)
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R		RO11	01UT065	0.216	0.05	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R		RO9		0.28	0.116	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.1C-02R		RO9		0.216	0.071	Band	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T	Branch	RO12	03UT028	0.28	0.141	Blanket	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T	D/S main	RO12	03UT028	0.28	0.071	Blanket	No (6)
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T	U/S Main	RO12	03UT028	0.28	0.063	Blanket	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO10	99UT080	0.28	0.085	Blanket	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO10	99UT080	0.28	0.107	Blanket	No (6)
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO10	99UT080	0.28	0.153	Blanket	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO10	99UT080	0.28	0.049	Band	No (9)
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO9		0.28	0.064	Blanket	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO9		0.28	0.099	Blanket	No (6)
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-01T		RO9		0.28	0.1	Blanket	Yes
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-02P	Branch ext. of HD-05.2C-01T	RO12	03UT028	0.28	0.035	Band	No (2)
HD-04.1 C FWH 34C toFWH 33C	HD-05.2C-02P		RO9		0.28	0.031	Band	No (2)
HD-04.1A FWH 34A to FWH 33A	HD-05.2A-01T	Br. Ext	RO15		0.28	0.048	Band	No (2)
HD-04.1A FWH 34A to FWH 33A	HD-05.2A-01T	Branch	RO15		0.28	0.139	Band	Yes
HD-04.1A FWH 34A to FWH 33A	HD-05.2A-01T	D/S Main	RO15		0.28	0.064	Band	Yes
HD-04.1A FWH 34A to FWH 33A	HD-05.2A-01T	U/S Main	RO15		0.28	0.086	Band	Yes
HD-04.1A FWH 34A toFWH 33A	HD-04.1A-15P		RO11	01UT133	0.28	0.08	Band	No (2)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-04.1A FWH 34A toFWH 33A	HD-04.2A-01E		RO11	01UT133	0.28	0.106	Blanket	No
HD-04.1A FWH 34A toFWH 33A	HD-04.2A-01E		RO11	01UT133	0.237	0.102	Blanket	No
HD-04.1A FWH 34A toFWH 33A	HD-04.3A-01R		RO11	01UT133	0.237	0.053	Band	No(3)
HD-04.1A FWH 34A toFWH 33A	HD-04.3A-01R		RO11	01UT133	0.216	0.044	Band	No(3)
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-01V		RO9		0.216	0.034	Blanket	No (10)
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-02R	Baseline D/S Main	RO12	03UT122				
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-02R	Baseline U/S Main	RO12	03UT122				
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-02R		RO11	01UT133	0.216	0.161	Band	No (20)
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-02R		RO11	01UT133	0.28	0.074	Band	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-02R		RO9		0.216	0.124	Band	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.1A-02R		RO9		0.28	0.083	Band	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-01T		RO11	01 UT133	0.28	0.111	Blanket	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-01T		RO11	01UT133	0.28	0.078	Blanket	No (6)
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-01T		RO11	01UT133	0.28	0.104	Blanket	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-01T		RO9		0.28	0.088	Blanket	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-01T		RO9		0.28	0.066	Blanket	No (6)
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-01T		RO9		0.28	0.13	Blanket	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-02P		RO11	01UT133	0.28	0.039	Band	Yes
HD-04.1A FWH 34A toFWH 33A	HD-05.2A-02P		RO9		0.28	0.04	Band	Yes
HD-04.1C FWH 34C to FWH 33C	HD-05.1C-02R	HD-05.1C-02R	RO14		0.216	0.065	Max BAND	Yes
HD-04.1C FWH 34C to FWH 33C	HD-05.1C-02R	HD-05.1C-02R-DS	RO14		0.28	0.15	Max BAND	Yes
HD-04.1C FWH 34C toFWH 33C	HD-05.1C-02R		RO11	01UT065	0.28	0.133	Band	Yes
HD-06.1 B FWH 33B toFWH 32B	HD-07.2B-02P		RO9		0.25	0.047	Band	No (2)
HD-06.1 B FWH 33B toFWH 32B	HD-07.2B-03T		RO9		0.25	0.107	Blanket	Yes
HD-06.1 B FWH 33B toFWH 32B	HD-07.2B-03T		RO9		0.25	0.204	Blanket	No (6)
HD-06.1 B FWH 33B toFWH 32B	HD-07.2B-03T		RO9		0.25	0.153	Blanket	Yes
HD-06.1 B FWH 33B toFWH 32B	HD-07.2B-04P		RO9		0.25	0.049	Band	No (2)
HD-06.1 C FWH 33C toFWH 32C	HD-07.1C-02R		RO11	01UT101	0.28	0.083	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-06.1 C FWH 33C toFWH 32C	HD-07.1C-02R		RO11	01UT101	0.25	0.066	Band	Yes
HD-06.1 C FWH 33C toFWH 32C	HD-07.2C-02P		RO11	01UT101	0.25	0.039	Band	Yes
HD-06.1 C FWH 33C toFWH 32C	HD-07.2C-02P		RO9		0.25	0.024	Band	No (1)
HD-06.1 C FWH 33C toFWH 32C	HD-07.2C-03T		RO9		0.25	0.171	Blanket	Yes
HD-06.1 C FWH 33C toFWH 32C	HD-07.2C-03T		RO9		0.25	0.152	Blanket	No (6)
HD-06.1 C FWH 33C toFWH 32C	HD-07.2C-03T		RO9		0.25	0.159	Blanket	Yes
HD-06.1 C FWH 33C toFWH 32C	HD-07.2C-04P		RO9		0.25	0.048	Band	No (2)
HD-06.1 C FWH 33C toFWH 32C	HD-6.1C-33P		RO11	01UT101	0.25	0.038	Band	No (2)
HD-06.1 C FWH 33C toFWH 32C	HD-6.2C-01E		RO11	01UT101	0.25	0.063	Blanket	Yes
HD-06.1 C FWH 33C toFWH 32C	HD-6.2C-01E		RO11	01UT101	0.28	0.117	Blanket	Yes
HD-06.1A FWH 33A toFWH 32A	HD-06.1A-41E	Main	RO12	03UT059	0.25	0.056	Blanket	Yes
HD-06.1A FWH 33A toFWH 32A	HD-06.1A-42P	Entered as D/S ext. ofHD-06.1A-41 E	RO12	03UT059	0.25	0.047	Band	Yes
HD-06.1A FWH 33A toFWH 32A	HD-06.2A-01E	D/S Main	RO12	03UT059	0.28	0.164	Blanket	Yes
HD-06.1A FWH 33A toFWH 32A	HD-06.2A-01E	U/S Main	RO12	03UT059	0.25	1.061	Blanket	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.1A-02R	D/S Main	RO12	03UT059	0.25	0.107	Band	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.1A-02R	U/S Main	RO12	03UT059	0.28	0.089	Band	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.1B-02R	D/S Main	C013	05UT026	0.25	0.11	Band	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.1B-02R	U/S Main	C013	05UT026	0.28	0.088	Band	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.2A-02P	Main	RO12	03UT059	0.25	0.067	Band	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.2A-02P		RO9		0.25	0.065	Band	No (2)
HD-06.1A FWH 33A toFWH 32A	HD-07.2A-03T		RO9		0.25	0.081	Blanket	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.2A-03T		RO9		0.25	0.076	Blanket	No (6)
HD-06.1A FWH 33A toFWH 32A	HD-07.2A-03T		RO9		0.25	0.17	Blanket	Yes
HD-06.1A FWH 33A toFWH 32A	HD-07.2A-04P		RO9		0.25	0.084	Band	No (2)
HD-08.1 B FWH 32B toFWH 31B	HD-09.1B-02R		1994		0.25	0.078	Band	Yes
HD-08.1 B FWH 32B toFWH 31B	HD-09.1B-02R		1994		0.25	0.05	Band	Yes
HD-08.1 C FWH 32C toFWH 31C	HD-09.1C-02R		1994		0.25	0.108	Band	No(9)
HD-08.1 C FWH 32C toFWH 31C	HD-09.1C-02R		1994		0.25	0.087	Band	No(9)
HD-08.1A FWH 32A toFWH 31A	HD-09.1A-02R		1994		0.25	0.131	Band	No(9)
HD-08.1A FWH 32A toFWH 31A	HD-09.1A-02R		1994		0.25	0.069	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-08.1A FWH 32A toFWH 31A	HD-09.2A-03E					0.024	T DAT	No (1)
HD-08.1C FWH 32C to FWH 31C	HD-09.1C-02R	D/S Main	RO15		0.25	0.074	Max PTP	No (3)
HD-08.1C FWH 32C to FWH 31C	HD-09.1C-02R	U/S Main	RO15		0.25	0.03	Max PTP	No (1)
HD-09.3A FWH 32A to FWH 31A	HD-09.3A-02N	HD-09.3A-02N	RO14		0.375	0.049	Max BAND	Yes
HD-09.3A FWH 32A toFWH 31A	HD-09.3A-01P					0.019	T DAT	No (1)
HD-09.4A FWH 32A to FWH 31A	HD-09.4A-04N	HD-09.4A-04N	RO14		0.375	0.075	Max BAND	Yes
HD-09.4A FWH 32A toFWH 31A	HD-09.4A-02E					0.08	T DAT	No (3)
HD-10.1A HD TK toHD PMP 31	HD-10.1A-02P	Main	RO13	05UT056	0.375	0.029	Band	No(2)
HD-10.1A HD TK toHD PMP 31	HD-10.2A-01E	DS Main	RO13	05UT056	0.312	0.041	Blanket	Yes
HD-10.1A HD TK toHD PMP 31	HD-10.2A-01E	US Main	RO13	05UT056	0.375	0.045	Blanket	Yes
HD-10.1A HD TK toHD PMP 31	HD-10.2A-02E	Main	RO13	05UT056	0.312	0.067	Blanket	Yes
HD-10.1A HD TK toHD PMP 31	HD-10.2A-03P	Main	RO13	05UT056	0.312	0.05	Band	Yes
HD-11.1A HD PMP 31 to HDR	HD-12.1A-02R	D/S Main	RO15		0.5	0.092	Band	Yes
HD-11.1A HD PMP 31 to HDR	HD-12.1A-02R	U/S Main	RO15		0.322	0.086	Band	Yes
HD-11.1A HD PMP 31to HDR	HD-11.1A-01N		RO12	03UT103	0.5	0.023	Band	No (1)
HD-11.1A HD PMP 31to HDR	HD-11.1A-02V	Valve Body	RO12	03UT103				No (10)
HD-11.1A HD PMP 31to HDR	HD-11.2A-01R	D/S Main	RO12	03UT103	0.322	0.027	Band	No (1)
HD-11.1A HD PMP 31to HDR	HD-11.2A-01R	U/S Main	RO12	03UT103	0.5	0.091	Band	Yes
HD-11.1A HD PMP 31to HDR	HD-12.1A-01R	Entered as D/S ext. ofHD-11.2A-01R	RO12	03UT103	0.322	0.041	Band	Yes
HD-11.1A HD PMP 31to HDR	HD-12.1A-01V	D/S Valve (flange)	RO12	03UT103	0.322	0.208	Blanket	No (10)
HD-11.1A HD PMP 31to HDR	HD-12.1A-01V		RO8		0.5	0.108	Blanket	No (10)
HD-11.1A HD PMP 31to HDR	HD-12.1A-02R	D/S Main	RO12	03UT103	0.5	0.099	Band	Yes
HD-11.1A HD PMP 31to HDR	HD-12.1A-02R	U/S Main	RO12	03UT103	0.322	0.032	Band	No(3)
HD-11.1A HD PMP 31to HDR	HD-12.1A-02R		RO8		0.5	0.299	Band	No (3)
HD-11.1A HD PMP 31to HDR	HD-12.1A-02R		RO8		0.322	0.019	Band	No (1)
HD-11.1A HD PMP 31to HDR	HD-12.2A-05P		RO8		0.664	0.094	Band	No (2)
HD-11.1A HD PMP 31to HDR	HD-12.2A-06O		RO11	01UT122	0.5	0.083	Band	No (10)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-11.1A HD PMP 31to HDR	HD-12.2A-06O		RO11	01UT122	0.5	0.058	Band	No (2)
HD-11.1A HD PMP 31to HDR	HD-12.2A-07P		RO11	01UT122	0.5	0.073	Band	Yes
HD-11.1A HD PMP 31to HDR	HD-12.2A-07P		RO8		0.569	0.077	Band	Yes
HD-11.1B HD PMP 32 to HDR	HD-12.2B-03E	U/S Main	RO15		0.5	0.045	Max PTP	Yes
HD-11.1B HD PMP 32 to HDR	HD-12.2B-04T	Br. Ext	RO15		0.5	0.065	Band	No (2)
HD-11.1B HD PMP 32 to HDR	HD-12.2B-04T	Branch	RO15		0.5	0.667	Band	Yes
HD-11.1B HD PMP 32 to HDR	HD-12.2B-04T	D/S Ext	RO15		0.5	0.039	Band	Yes
HD-11.1B HD PMP 32 to HDR	HD-12.2B-04T	D/S Main	RO15		0.5	0.231	Blanket	No (7)
HD-11.1B HD PMP 32 to HDR	HD-12.2B-04T	U/S Main	RO15		0.5	0.21	Blanket	No (7)
HD-11.1B HD PMP 32to HDR	HD-1 1 .2B-01 R		RO8		0.322	0.051	Band	Yes
HD-11.1B HD PMP 32to HDR	HD-11.2B-01R	U/S Main	RO10	99UT242	0.5	0.161	Max PTP	No (8)
HD-11.1B HD PMP 32to HDR	HD-11.2B-01R	D/S Main	RO10	99UT242	0.322	0.097	Max PTP	Yes
HD-11.1B HD PMP 32to HDR	HD-11.2B-01R	U/S Main	RO8		0.5	0.109	Band	No (8)
HD-11.1B HD PMP 32to HDR	HD-12.1B-01V		RO11	99UT242	0.322	0.115	Band	No (10)
HD-11.1B HD PMP 32to HDR	HD-12.1B-01V		RO8		0.322	0.066	Blanket	No (10)
HD-11.1B HD PMP 32to HDR	HD-12.1B-02R	DS Main	RO13	05UT107	0.5	0.056	Band	Yes
HD-11.1B HD PMP 32to HDR	HD-12.1B-02R	US Main	RO13	05UT107	0.322	0.07	Band	No(3)
HD-11.1B HD PMP 32to HDR	HD-12.2B-02P		RO8		0.539	0.042	Band	Yes
HD-11.1B HD PMP 32to HDR	HD-12.2B-03E		RO8		0.535	0.087	Blanket	Yes
HD-11.1B HD PMP 32to HDR	HD-12.2B-04T		RO8		0.5	0.289	Blanket	No (3)
HD-11.1B HD PMP 32to HDR	HD-12.2B-04T		RO8		0.5	0.28	Blanket	No (3)
HD-11.1B HD PMP 32to HDR	HD-12.2B-04T		RO8		0.5	0.498	Blanket	No (3)
HD-11.1B HD PMP 32to HDR	HD-12.2B-05P		RO8		0.5	0.043	Band	Yes
HD-11.1B HD PMP 32to HDR	HD-12.2B-06O		RO10	99UT256	0.516	0.088	Band	No (10)
HD-11.1B HD PMP 32to HDR	HD-12.2B-06O		RO10	99UT256	0.527	0.09	Band	Yes
HD-11.1B HD PMP 32to HDR	HD-12.2B-06O					0.079	T DAT	Yes
HD-11.1B HD PMP 32to HDR	HD-12.2B-08T					0.045	T DAT	No (6)
HD-11.1B HD PMP 32to HDR	HD-12.2B-08T					0.082	T DAT	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
HD-11.1B HD PMP 32to HDR	HD-12.3-01P					0.038	T DAT	Yes
HD-12.2A HD PMP HDR to CD SYS	HD-12.2A-08T	HD-12.2A-08T	RO14		0.656	0.056	Max BAND	Yes
HD-12.2A HD PMP HDR to CD SYS	HD-12.2A-08T	HD-12.2A-08T-BR	RO14		0.5	0.064	Max BAND	Yes
HD-12.2A HD PMP HDR to CD SYS	HD-12.4-01E	U/S Ext	RO15		0.656	0.053	Band	No (2)
HD-12.2A HD PMP HDR to CD SYS	HD-12.4-01E	U/S Main	RO15		0.656	0.132	Blanket	Yes
HD-12.2A HD PMPHDR to CD SYS	HD-12.2A-08T					0.069	T DAT	Yes
HD-12.2A HD PMPHDR to CD SYS	HD-12.2A-08T					0.096	T DAT	Yes
HD-12.2A HD PMPHDR to CD SYS	HD-12.4-01E					0.162	T DAT	Yes
MSD-01 .1 4B TK 33B to HD TK	MSD-01 .1 5B-07E		94/95		0.309	0.094	Blanket	Yes
MSD-01 .1 4B TK 33B to HD TK	MSD-01 .1 5B-07E		RO9	97UT182	0.309	N/A	N/A	No (8)
MSD-01 .3A HDR toMSEP TK 31A	MSD-01 .3A-01T	Branch	RO13	05UT067	0.25	0.388	Band	No(7)
MSD-01 .3A HDR toMSEP TK 31A	MSD-01 .3A-01T	DS Main	RO13	05UT067	0.25	0.307	Band	No(16)
MSD-01 .3A HDR toMSEP TK 31A	MSD-01 .3A-01T	US Main	RO13	05UT067	0.25	0.14	Band	No(22)
MSD-01 .3A HDR toMSEP TK 31A	MSD-01 .3A-02P	Main	RO13	05UT067	0.25	0.06	Band	Yes
MSD-01 .3A HDR toMSEP TK 31A	MSD-01 .3A-03E	Main	RO13	05UT067	0.25	0.055	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .4A-04P		RO8		0.349	0.05	Band	No (1)
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-01 E		RO8		0.322	0.064	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-01 E		RO8		0.28	0.094	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-02P		RO8		0.314	0.035	Band	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-04P		94/95		0.349	0.046	Band	No (1)
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-05E		94/95		0.319	0.086	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-07P		94/95		0.289	0.044	Band	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-08E		94/95		0.319	0.038	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-09P		94/95		0.317	0.037	Band	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-23P		94/95		0.314	0.051	Band	No (1)
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-24E		94/95		0.302	0.064	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-25P		94/95		0.318	0.041	Band	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-25P		94/95		0.28	0.064	Band	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-26E		94/95		0.28	0.065	Blanket	Yes
MSD-01 .4A TK 31 A toHD TK	MSD-01 .5A-27N		94/95		0.28	0.077	Band	Yes
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-05P		94/95		0.307	0.038	Band	No (1)
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-06E		94/95		0.303	0.055	Blanket	Yes
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-12E		RO10	N/A (6)	0.28	0.031	Blanket	No (16)
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-12E		RO10	N/A (6)	0.28	0.025	Band	No (2)
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-25P		94/95		0.302	0.052	Band	No (1)
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-25P		94/95		0.302	0.035	Band	No (1)
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-26E		94/95		0.28	0.149	Blanket	Yes
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-26E		94/95		0.28	N/A	N/A	No (3)
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-27P		94/95		0.311	0.072	Band	Yes
MSD-01 .4B TK 31 B toHD TK	MSD-01 .5B-32P		94/95		0.302	N/A	N/A	No (1)
MSD-01 .6B_1 MSEP32B to HDR	MSD-01 .6B-03P	Entered as DS Ext ofMSD-01.7B-01T	RO13	05UT066	0.304	0.087	Band	Yes
MSD-01 .6B_3 MSEP32B to HDR	MSD-01 .6B-07P		RO11	01 UT096	0.304	0.094	Band	Yes
MSD-01 .7A MSEP32A DR HDR	MSD-01 .7A-01T		RO10	N/A (6)	0.25	0.155	Band	No (1)
MSD-01 .7A MSEP32A DR HDR	MSD-01 .7A-01T		RO10	N/A (6)	0.25	0.117	Band	Yes
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T	Branch	RO13	05UT066	0.25	0.299	Band	No(8)
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T	DS Main	RO13	05UT066	0.25	0.088	Band	Yes
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T	US Main	RO13	05UT066	0.25	0.043	Band	Yes
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T		RO10	N/A (6)	0.25	0.143	Blanket	No (16)
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T		RO10	N/A (6)	0.25	0.135	Blanket	No (16)
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T		RO10	N/A (6)	0.312	0.062	Band	No (1)
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T		RO10	N/A (6)	0.304	0.054	Band	No (16)
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-01T				0.304	0.084	T DAT	Yes
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-02P	Entered as US Ext ofMSD-01.7B-01T	RO13	05UT066	0.312	0.092	Band	No(1)
MSD-01 .7B MSEP32B DR HDR	MSD-01 .7B-02P		RO11	01 UT096	0.264	0.047	Band	Yes
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-01T	D/S Main	RO12	03UT098	0.25	0.086	Band	Yes
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-01T	U/S Main	RO12	03UT098	0.25	0.143	Band	Yes
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-01T		RO10	N/A (6)	0.25	0.159	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-01T		RO10	N/A (6)	0.25	0.178	Blanket	Yes
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-01T		RO10	N/A (6)	0.25	0.091	Band	No (1)
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-01T		RO10	N/A (6)	0.25	0.085	Band	No (1)
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-02P	Main			0.25	0.068	Band	Yes
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-03E	Main			0.25	0.09	Blanket	Yes
MSD-01 .8A HDR toMSEP TK 32A	MSD-01 .8A-05P	Main			0.25	0.061	Band	Yes
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO10	N/A (6)	0.25	0.122	Blanket	No (16)
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO10	N/A (6)	0.25	0.018	Blanket	No (16)
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO10	N/A (6)	0.264	0.029	Band	No (2)
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO10	N/A (6)	0.304	0.071	Band	No (16)
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO11	01UT096	0.25	0.104	Band	Yes
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO11	01UT096	0.25	0.073	Band	Yes
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T		RO11	01UT096	0.25	0.218	Blanket	No (4)
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-01T				0.285	0.058	T DAT	Yes
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-02P		RO11	01 UT096	0.285	0.061	Band	Yes
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-02P		RO9	97UT1 22	0.285	0.057	Band	No (1)
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-03E		RO9	97UT122	0.25	0.172	Blanket	Yes
MSD-01 .8B HDR toMSEP TK 32B	MSD-01 .8B-07P		RO9	97UT121	0.25	0.069	Band	Yes
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-02P		94/95		0.304	0.037	Band	No (1)
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-03E		94/95		0.309	0.103	Blanket	Yes
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-04P		94/95		0.28	0.025	Band	No (2)
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-07P		94/95		0.293	0.048	Band	Yes
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-07P		RO9	97UT056	0.293	N/A	N/A	No (8)
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-08E		94/95		0.307	0.166	Blanket	Yes
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-08E		RO9	97UT056	0.307	N/A	N/A	No (8)
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-		94/95		0.294	0.039	Band	No (1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTno m (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
	21P							
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-21P		RO9	97UT064	0.294	0.041	Band	No (1)
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-9P		94/95		0.293	0.074	Band	Yes
MSD-01 .9A TK 32A to HD TK	MSD-01 .1 0A-9P		RO9	97UT056	0.293	N/A	N/A	No (8)
MSD-01 .9A TK 32B to HD TK	MSD-01 .1 0B-10P		RO11	01UT136	0.28	0.056	Band	No (1)
MSD-01 .9A TK 32B to HD TK	MSD-01 .1 0B-11E		RO10	N/A (6)	0.28	0.05	Blanket	No (16)
MSD-01 .9A TK 32B to HD TK	MSD-01 .1 0B-11E		RO10	N/A (6)	0.28	0.078	Band	No (1)
MSD-01 .9A TK 32B to HD TK	MSD-01 .1 0B-1E		RO9	97UT1 89	0.322	0.086	Blanket	Yes
MSD-01 .9A TK 32B to HD TK	MSD-01 .1 0B-1E		RO9	97UT189	0.28	0.119	Blanket	Yes
MSD-01 .9B TK 32B HD TK	MSD-01 .1 0B-11E		RO10	N/A (6)	0.28	0.051	Band	Yes
MSD-01 .9B TK 32B to	MSD-01 .1 0B-				0.28	N/A	N/A	No (3)
MSD-01 .9B TK 32B toHD TK	MSD-01 .1 0B-24P		94/95		0.285	0.069	Band	No (1)
MSD-01 .9B TK 32B toHD TK	MSD-01 .1 0B-25E		94/95		0.316	0.136	Blanket	Yes
MSD-01 .9B TK 32B toHD TK	MSD-01 .1 0B-26P		94/95		0.29	0.072	Band	Yes
MSD-01 .9B TK 32B toHD TK	MSD-01 .9B-04P		RO9	97UT189	0.322	0.034	Band	No (1)
MSD-01.13A HDR to MSEP TK 33A	MSD-01.13A-07P				0.268	0.236	T DAT	Yes
MSD-01.13A HDR to MSEP TK 33A	MSD-01.13A-08E	U/S Main	RO15		0.25	0.127	Blanket	Yes
MSD-01.13A HDR to MSEP TK 33A	MSD-01.13A-08E				0.437	0.279	T DAT	Yes
MSD-01.13A HDR to MSEP TK 33A	MSD-01.13A-09P	U/S Main	RO15		0.25	0.036	Band	Yes
MSD-01.13A HDR to MSEP TK 33A	MSD-01.13A-09P				0.382	0.291	T DAT	Yes
MSD-01.13A HDR toMSEP TK 33A	MSD-01.13A-01T		RO9	97UT107	0.25	0.148	Blanket	Yes
MSD-01.13A HDR toMSEP TK 33A	MSD-01.13A-02P		RO9	97UT107	0.25	0.046	Band	Yes
MSD-01.13A HDR toMSEP TK 33A	MSD-01.13A-03E		RO9	97UT1 08	0.25	0.089	Blanket	Yes
MSD-01.13B HDR to MSEP TK 33B	MSD-01.13B-01T	Branch	RO12	03UT098	0.25	0.221	Blanket	No (4)
MSD-01.13B HDR to MSEP TK 33B	MSD-01.13B-01T	D/S Ext.	RO12	03UT098	0.25	0.052	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
MSD-01.13B HDR to MSEP TK 33B	MSD-01.13B-01T	D/S Main	RO12	03UT098	0.25	0.222	Blanket	No (4)
MSD-01.13B HDR to MSEP TK 33B	MSD-01.13B-01T	U/S Ext.	RO12	03UT098	0.25	0.057	Band	Yes
MSD-01.13B HDR to MSEP TK 33B	MSD-01.13B-01T	U/S Main	RO12	03UT098	0.25	0.065	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.14A-04P		94/95		0.324	0.033	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-01E		94/95		0.322	0.108	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-01E		94/95		0.28	0.138	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-04E		94/95		0.341	0.157	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-05E		94/95		0.322	0.102	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-06P		94/95		0.285	0.092	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-08P		94/95		0.28	0.044	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-09E		94/95		0.302	0.075	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-10P		94/95		0.306	0.049	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-10P		94/95		0.306	0.027	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-10P		RO9	97UT061	0.306	0.032	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-11E		94/95		0.29	0.121	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-11E		RO9	97UT061	0.29	N/A	N/A	No (8)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-12P		94/95		0.272	0.083	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-12P		94/95		0.272	0.057	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-12P		RO9	97UT061	0.272	N/A	N/A	No (8)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-12P		RO9	97UT093	0.272	N/A	N/A	No (8)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-13E		94/95		0.334	0.133	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-13E		RO9	97UT093	0.334	0.151	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-14P		94/95		0.281	0.157	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-14P		RO9	97UT062	0.281	0.151	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-14P		RO9	97UT062	0.281	N/A	N/A	No (8)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-15E		94/95		0.331	0.084	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-15E		RO9	97UT062	0.331	0.084	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-16P		94/95		0.284	0.084	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-16P		94/95		0.284	0.061	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-17E		94/95		0.28	0.061	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-18P		94/95		0.28	0.164	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-18P		94/95		0.28	N/A	N/A	No (3)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-18P		94/95		0.28	0.036	Band	No (1)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-18P		94/95		0.28	N/A	N/A	No (3)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-19E		94/95		0.331	0.227	Blanket	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-19E		94/95		0.331	N/A	N/A	No (3)
MSD-01.14A TK 33A to HD TK	MSD-01.15A-20N		94/95		0.28	0.064	Band	Yes
MSD-01.14A TK 33A to HD TK	MSD-01.15A-22P		94/95		0.281	0.027	Band	No (1)
MSD-01.14B TK 33B to HD TK	MSD-01.14B-02P	Main	RO12	03UT098	0.25	0.048	Band	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-01E		RO9	97UT097	0.322	0.084	Blanket	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-01E		RO9	97UT097	0.28	0.127	Blanket	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-02E		RO9	97UT096	0.28	0.049	Blanket	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-03P		RO9	97UT096	0.28	0.114	Band	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-04P		RO9	97UT097	0.322	0.045	Band	No (1)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-06P		94/95		0.265	0.058	Band	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-06P		RO9	97UT182	0.265	N/A	N/A	No (8)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-1 4P		RO11	01 UT1 37	0.28	0.071	Band	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-1 4P		RO11	01 UT1 37	0.28	0.095	Band	No (1)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-1 6P		RO11	01 UT1 37	0.28	0.049	Band	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-13E		RO10	N/A (6)	0.28	0.046	Blanket	No (16)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-13E		RO10	N/A (6)	0.28	0.067	Band	No (1)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-13E		RO10	N/A (6)	0.28	0.045	Band	No (16)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-13E		RO11	01 UT1 37	0.28	0.094	Blanket	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-15E		RO11	01UT137	0.28	0.12	Blanket	Yes
MSD-01.14B TK 33B to HD TK	MSD-01.15B-26P		94/95		0.278	0.077	Band	No (1)
MSD-01.14B TK 33B to HD TK	MSD-01.15B-27E		94/95		0.341	0.15	Blanket	Yes
MSD-01.14B TK 33Bto HD TK	MSD-01.15B-28P		94/95		0.282	0.096	Band	Yes
MSD-01.1A_1 MSEP 31A to HDR	MSD-01.1A-02T	Branch	RO15		0.25	0.405	Band	No (9)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
MSD-01.1A_1 MSEP 31A to HDR	MSD-01.1A-02T	D/S Ext	RO15		0.25	0.073	Band	Yes
MSD-01.1A_1 MSEP 31A to HDR	MSD-01.1A-02T	D/S Main	RO15		0.25	0.443	Band	No (9)
MSD-01.1A_1 MSEP 31A to HDR	MSD-01.1A-02T	U/S Main	RO15		0.25	0.347	Band	No (9)
MSD-01.1B_3 MSEP 31B to HDR	MSD-01.1B-06T	MSD-01.1B-06T	RO14		0.25	0.136	Max BAND	Yes
MSD-01.1B_3 MSEP 31B to HDR	MSD-01.1B-06T	MSD-01.1B-06T-BR	RO14		0.25	0.384	Max BAND	Yes
MSD-01.1B_3 MSEP 31B to HDR	MSD-01.1B-06T	MSD-01.1B-06T-DSX	RO14		0.25	0.043	Max BAND	Yes
MSD-01.3B HDR to MSEP TK 31B	MSD-01.3B-03E	MSD-01.3B-03E	RO14		0.25	0.113	BLANKET	Yes
MSD-01.3B HDR to MSEP TK 31B	MSD-01.3B-03E	MSD-01.3B-03E-USX	RO14		0.25	0.042	Max BAND	No(2)
MSD-01.4B TK 31 B toHD TK	MSD-01.5B-07P		94/95		0.313	0.057	Band	Yes
MSD-01.4B TK 31 B toHD TK	MSD-01.5B-11P		RO11	01 UT1 36	0.28	0.037	Band	No (1)
MSD-01.4B TK 31B toHD TK	MSD-01.5B-11P_1		RO10	99UT280	0.28	0.046	Band	Yes
MSD-01.4B TK 31B toHD TK	MSD-01.5B-11P_1		RO10	99UT280	0.28	N/A	N/A	No (3)
MSD-01.4B TK 31B toHD TK	MSD-01.5B-12E		RO10	N/A (6)	0.28	0.031	Band	Yes
MSD-01.4B TK 31B toHD TK	MSD-01.5B-12E		RO11	01UT136	0.28	0.065	Blanket	Yes
MSD-01.4B TK 31B toHD TK	MSD-01.5B-13P		RO11	01UT136	0.28	0.045	Band	Yes
MSD-01.6B_1 MSEP32B to HDR	MSD-01.6B-03P				0.312	0.079	T DAT	No (8)
MSD-01.6B_3 MSEP32B to HDR	MSD-01.6B-07P				0.264	0.062	T DAT	Yes
MSD-01.7A MSEP32A DR HDR	MSD-01.7A-01T		RO10	N/A (6)	0.25	0.276	Blanket	No (16)
MSD-01.7A MSEP32A DR HDR	MSD-01.7A-01T		RO10	N/A (6)	0.25	0.184	Blanket	No (16)
MSD-01.8A HDR to MSEP TK 32A	MSD-01.8A-08N	U/S Main	RO15		0.25	0.102	Band	Yes
MSD-01.8B HDR to MSEP TK 32B	MSD-01.8B-03E	U/S Ext	RO15		0.25	0.045	Band	No (2)
MSD-01.8B HDR to MSEP TK 32B	MSD-01.8B-03E	U/S Main	RO15		0.25	0.178	Blanket	Yes
MSD-01.8B HDR toMSEP TK 32B	MSD-01.8B-08N		RO9	97UT121	0.25	0.057	Band	Yes
MSD-01.9A TK 32A to HD TK	MSD-01.1 0A-22E		94/95		0.317	0.15	Blanket	Yes
MSD-01.9A TK 32A to HD TK	MSD-01.1 0A-22E		RO9	97UT064	0.317	0.158	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTno m (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
MSD-01.9A TK 32A to HD TK	MSD-01.10A-23P		94/95		0.289	0.05	Band	Yes
MSD-01.9A TK 32A to HD TK	MSD-01.10A-23P		94/95		0.289	0.054	Band	No (1)
MSD-01.9A TK 32A to HD TK	MSD-01.10A-23P		RO9	97UT064	0.289	0.063	Band	Yes
MSD-01.9A TK 32A to HD TK	MSD-01.10A-24E		94/95		0.28	0.224	Blanket	Yes
MSD-01.9A TK 32A to HD TK	MSD-01.10A-24E		94/95		0.28	N/A	N/A	No (3)
MSD-01.9A TK 32A to HD TK	MSD-01.10A-25N		94/95		0.28	0.111	Band	Yes
MSD-01.9B TK 32B to	MSD-01.10B-				0.28	0.135	Band	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-02E		RO10	99UT283	0.28	N/A	N/A	No (3)
MSD-01.9B TK 32B to HD TK	MSD-01.10B-02E		RO10	99UT283	0.28	N/A	N/A	No (3)
MSD-01.9B TK 32B to HD TK	MSD-01.10B-02E		RO9	97UT189	0.28	0.102	Blanket	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-03P		RO9	97UT197	0.28	0.135	Band	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-04E		RO9	97UT1 97	0.28	0.083	Blanket	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-06P		94/95		0.299	0.07	Band	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-07E		94/95		0.328	0.083	Blanket	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-07E		RO10	99UT284	0.328	N/A	N/A	No (3)
MSD-01.9B TK 32B to HD TK	MSD-01.10B-07E		RO10	99UT284	0.299	N/A	N/A	No (3)
MSD-01.9B TK 32B to HD TK	MSD-01.10B-07E		RO10	99UT284	0.289	N/A	N/A	No (3)
MSD-01.9B TK 32B to HD TK	MSD-01.10B-08P		94/95		0.289	0.078	Band	Yes
MSD-01.9B TK 32B to HD TK	MSD-01.10B-12P		RO11	01UT136	0.28	0.07	Band	Yes
PD-01 .5 PRESEP 2BDR to HDR	PD-01 .6-11 P	Entered as U/S Ext ofPD-01 .6-1 2E	RO12	03UT1 10	0.365	0.043	Band	No (2)
PD-01 .5 PRESEP 2BDR to HDR	PD-01 .6-14O	Main	RO12	03UT1 10	0.365	0.021	Band	No (10)
PD-01 .5 PRESEP 2BDR to HDR	PD-01.6-12E	Main	RO12	03UT110	0.365	0.053	Blanket	Yes
PD-01 .7 PRESEP 2ADR to HDR	PD-01 .8-14O	Main	RO8		0.365	0.02	Band	No (1)
PD-01.1 PRESEP 1B DR to HDR	PD-01.2-10O	PD-01.2-10O	RO14		0.365	0.029	Max BAND	No(1)
PD-01.3 PRESEP 1ADR to HDR	PD-01 .4-01 R	D/S Main	RO11	01 UT1 11	0.365	0.05	Band	Yes
PD-01.3 PRESEP 1ADR to HDR	PD-01 .4-01 R	U/S Main	RO11	01 UT1 11	0.375	0.04	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
PD-01.3 PRESEP 1ADR to HDR	PD-01 .4-02B	Main	RO11	01 UT1 11	0.365	0.039	Blanket	Yes
PD-01.3 PRESEP 1ADR to HDR	PD-01 .4-03P	Entered as D/S Ext. ofPD-01 .4-02B	RO11	01 UT1 11	0.365	0.047	Band	Yes
PD-01.3 PRESEP 1ADR to HDR	PD-01 .4-10O	Main	RO8		0.38	0.023	Band	No (1)
PD-02.2 PRESEP HDR to HD TK	PD-02.2-01T	Branch	RO15		0.365	0.058	Band	Yes
PD-02.2 PRESEP HDR to HD TK	PD-02.2-01T	D/S Main	RO15		0.375	0.115	Band	Yes
PD-02.2 PRESEP HDR to HD TK	PD-02.2-01T	U/S Main	RO15		0.375	0.12	Band	Yes
PD-02.2 PRESEPHDR to HD TK	PD-02.2-01T	Branch	RO8		0.365	0.027	Blanket	No (3)
PD-02.2 PRESEPHDR to HD TK	PD-02.2-01T	D/S Main	RO8		0.375	0.19	Blanket	No (3)
PD-02.2 PRESEPHDR to HD TK	PD-02.2-01T	U/S Main	RO8		0.375	0.139	Blanket	No (3)
PD-02.3 PRESEPHDR to HD TK	PD-02.3-01T	D/S Main	RO10	99UT279	0.375	0.33	Max PTP	No (3)
PD-02.3 PRESEPHDR to HD TK	PD-02.3-01T	D/S Main	RO8		0.375	0.244	Blanket	No (3)
PD-02.3 PRESEPHDR to HD TK	PD-02.3-01T	U/S Main	RO10	99UT279	0.375	0.061	Blanket	No (3)
PD-02.3 PRESEPHDR to HD TK	PD-02.3-01T	U/S Main	RO8		0.375	0.066	Blanket	No (3)
PD-02.4 PRESEP HDR to HD TK	PD-02.4-01T	Branch	RO15		0.365	0.032	Blanket	Yes
PD-02.4 PRESEP HDR to HD TK	PD-02.4-01T	D/S Main	RO15		0.365	0.226	Blanket	Yes
PD-02.4 PRESEP HDR to HD TK	PD-02.4-01T	U/S Main	RO15		0.365	0.139	Blanket	Yes
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	Branch	RO10	99UT279	0.365	0.309	Max PTP	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	Branch	RO8		0.365	0.188	Blanket	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	Branch Ext.	RO10	99UT281	0.365	0.019	Band	No (2)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	D/S Main	RO10	99UT279	0.375	0.284	Max PTP	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	D/S Main	RO8		0.375	0.143	Blanket	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	U/S Main	RO10	99UT279	0.375	0.207	Max PTP	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-01T	U/S Main	RO8		0.375	0.139	Blanket	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-02E	Main	RO10	99UT279	0.375	0.154	Max PTP	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-1 9P	Entered as U/S Ext. ofPD-02.4-20O	RO11	01 UT1 23	0.375	0.055	Band	No (2)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-15P	Entered as U/S Ext. ofPD-02.4-16E	RO10	99UT216	0.375	0.045	Band	No (2)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-16E	Main	RO10	99UT216	0.375	0.044	Blanket	Yes
PD-02.4 PRESEPHDR to HD TK	PD-02.4-17P	Entered as D/S Ext. ofPD-02.4-16E	RO10	99UT216	0.375	0.067	Band	Yes
PD-02.4 PRESEPHDR to HD TK	PD-02.4-20O	Main	RO11	01 UT1 23	0.421	0.054	Band	No (10)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-20O	N/A	RO8		0.421	0.072	T DAT	No (3)
PD-02.4 PRESEPHDR to HD TK	PD-02.4-21 N	Main	RO11	01 UT1 23	0.899	0.084	Band	Yes
PD-02.4 PRESEPHDR to HD TK	PD-02.4-21 N	Main	RO8		0.899	0.084	T DAT	Yes
RHD-01 .1 0A_2 TK33A to A HDR	RHD01 .1 1A-02P	Entered as DS Ext ofRHD01.11A-01E	RO13	05UT077	0.5	0.088	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01 .1 B-38P_2	Entered as U/S Ext. ofRHD01.1B-39E	RO11	01UT109	0.432	0.053	Band	No (2)
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01 .1 B-42P_1	Entered as D/S Ext. ofRHD01.1B-41E	RO11	01UT109	0.432	0.067	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-17P	Entered as DS Ext ofRHD01.1B-16E	RO13	05UT075	0.432	0.041	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-29P	Entered as U/S Ext. ofRHD01.1B-30E	RO8		0.473	0.046	Band	No (2)
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-31P	Entered as D/S Ext. ofRHD01.1B-30E	RO8		0.469	0.042	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-40P	Entered as D/S Ext. ofRHD01.1B-39E	RO11	01UT109	0.432	0.073	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-50P	Entered as U/S Ext. ofRHD01.1B-51E	RO10	99UT174	0.432	0.064	Band	No (2)
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-52P	Entered as D/S Ext. ofRHD01.1B-51E	RO10	99UT174	0.476	0.054	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD01.1B-52P	Entered as D/S Ext. ofRHD01.1B-51E	RO8		0.432	0.051	T DAT	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.1B-01V	Main	RO10	99UT167	0.337	0.077	Max PTP	No (10)
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.1B-02R	D/S Main	RO10	99UT167	0.432	0.21	Max PTP	No (3)
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.2B-01 P	Entered as D/S Ext. ofRHD02.1 B-02R	RO11	01 UT093	0.432	0.04	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.2B-01P	Entered as D/S Ext. ofRHD02.1B-02R	RO10	99UT167	0.432	0.042	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.2B-01P	Entered as D/S Ext. ofRHD02.1B-02R	RO8		0.432	0.042	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.2B-01P	Entered as D/S Ext. ofRHD02.1B-02R	RO9	97UT051	0.432	0.042	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.2B-03P	Entered as D/S Ext. ofRHD02.2B-02E	RO10	99UT167	0.432	0.118	Band	Yes
RHD-01 .1 B_2 TK 31 Bto B HDR	RHD02.2B-03P	Entered as D/S Ext. ofRHD02.2B-02E	RO11	01UT093	0.432	0.126	Band	Yes
RHD-01 .10A_2 TK33A to A HDR	RHD02.5A-01 V	Main	RO10	99UT255	0.337	0.067	Band	No (10)
RHD-01 .10A_2 TK33A to A HDR	RHD02.5A-01 V	Main	RO8		0.337	0.011	Band	No (10)
RHD-01 .10A_2 TK33A to A HDR	RHD02.5A-02R	D/S Main	RO11	01UT078	0.432	0.113	Band	Yes
RHD-01 .10A_2 TK33A to A HDR	RHD02.5A-02R	D/S Main	RO8		0.432	0.157	Band	No (3)
RHD-01 .10A_2 TK33A to A HDR	RHD02.5A-02R	U/S Main	RO11	01UT078	0.337	0.128	Band	No (7)
RHD-01 .10A_2 TK33A to A HDR	RHD02.5A-02R	U/S Main	RO8		0.337	0.081	Band	No (7)
RHD-01 .10A_2 TK33A to A HDR	RHD02.6A-02E	Main	RO11	01 UT078	0.432	0.127	Blanket	Yes
RHD-01 .10A_2 TK33A to A HDR	RHD02.6A-02E	Main	RO9	97UT081	0.432	0.096	Blanket	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD01 .10B-27P	Entered as D/S Ext ofRHD01.10B-26F	R013	05UT074	0.432	0.031	Band	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-01V	Main	RO10	99UT149	0.337	0.097	Max PTP	No (10)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-01V	Main	RO8		0.337	0.035	Band	No (10)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-01V	Main	RO9	97UT052	0.337	0.053	Band	No (10)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	D/S Main	RO10	99UT149	0.5	0.303	Max PTP	No (3)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	D/S Main	RO11	01UT081	0.5	0.135	Band	No (3)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	D/S Main	RO12	03UT029	0.5	0.077	Band	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	D/S Main	RO8		0.5	0.194	Band	No (3)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	D/S Main	RO9	97UT052	0.5	0.19	Band	No (3)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	U/S Main	RO10	99UT149	0.337	0.154	Max PTP	No (3)
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	U/S Main	RO11	01 UT081	0.337	0.095	Band	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	U/S Main	RO12	03UT029	0.337	0.051	Band	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	U/S Main	RO8		0.337	0.101	Band	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.5B-02R	U/S Main	RO9	97UT052	0.337	0.105	Band	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.6B-01 E	Main	RO11	01 UT080	0.559	0.217	Blanket	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.6B-01E	Main	RO10	99UT150	0.559	0.21	Blanket	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.6B-01E	Main	RO12	03UT029	0.559	0.215	Blanket	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.6B-01E	Main	RO8		0.559	0.183	Blanket	Yes
RHD-01 .10B_2 TK33B to B HDR	RHD02.6B-01E	Main	RO9	97UT050	0.559	0.188	Blanket	Yes
RHD-01 .1A_2 TK 31Ato A HDR	RHD02.1A-02R	D/S Main	RO10	99UT147	0.432	0.22	Max PTP	No (3)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01 .4A-01P_2	Entered as U/S Ext ofRHD01.5A-01R	RO12	03UT129	0.5	0.073	Band	No(2)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01 .7A-04E	Main	RO10	99UT1 73	0.458	0.06	Blanket	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01 .7A-04E	Main	RO8		0.458	0.051	Blanket	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01 .8A-01 R	D/S Main	RO8		0.337	0.085	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01 .8A-01 R	U/S Main	RO8		0.432	0.085	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01 .8A-02P	Entered as D/S Ext. ofRHD01 .8A-01 R	RO8		0.376	0.054	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-01R	D/S Main	RO12	03UT129	0.432	0.154	Band	No (7)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-01R	U/S Main	RO12	03UT129	0.5	0.109	Band	No (7)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-02P	Entered as D/S Ext ofRHD01.5A-01R	RO12	03UT129	0.432	0.083	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-02P	Entered as U/S Ext ofRHD01.5A-03F	RO12	03UT129	0.432	0.046	Band	No(2)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-04P	Entered as D/S Ext ofRHD01.5A-03F	RO12	03UT128	0.432	0.053	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-04P	Entered as U/S Ext ofRHD01.5A-05R	RO12	03UT128	0.432	0.043	Band	No(2)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-05R	D/S Main	RO12	03UT128	0.5	0.067	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.5A-05R	U/S Main	RO12	03UT128	0.432	0.057	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.6A-01P	Entered as D/S Ext ofRHD01.5A-05R	RO12	03UT128	0.5	0.065	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.7A-04E	U/S Ext.	RO10	99UT173	0.432	0.075	Band	No (2)
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.8A-01R	D/S Main	RO10	99UT173	0.337	0.135	Max PTP	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.8A-01R	U/S Main	RO10	99UT173	0.432	0.133	Max PTP	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD01.8A-02P	Entered as D/S Ext. ofRHD01.8A-01R	RO10	99UT173	0.376	0.097	Max PTP	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-01V	Main	RO10	99UT166	0.337	0.159	Band	No (10)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-01V	Main	RO8		0.337	0.07	Band	No (10)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-01V	U/S Ext.	RO10	99UT173	0.337	0.065	Band	No (10)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-02R	D/S Main	RO10	99UT166	0.432	0.223	Band	No (3)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-02R	D/S Main	RO8		0.432	0.198	Band	No (3)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-02R	U/S Main	RO10	99UT166	0.337	0.1	Band	No (7)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.3A-02R	U/S Main	RO8		0.337	0.089	Band	No (3)
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.4A-01 P	Entered as D/S Ext. ofRHD02.3A-02R	RO8		0.432	0.047	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.4A-01P	Entered as D/S Ext. ofRHD02.3A-02R	RO10	99UT166	0.432	0.065	Band	Yes
RHD-01 .3A_2 TK 32Ato A HDR	RHD02.4A-02E	Main	RO8		0.473	0.054	Blanket	No (3)
RHD-01 .3B_1 RH 32Bto TK 32B	RHD01.3B-02P	Entered as D/S Ext. ofRHD01.3B-01N	RO9	97UT120	0.432	0.05	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01 .4B-01P_1	Entered as D/S Ext. ofRHD01.3B-20R	RO11	01UT100	0.594	0.059	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01 .5B-04P	Entered as D/S Ext. ofRHD01 .5B-03F	RO8		0.475	0.07	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01 .5B-05R	D/S Main	RO8		0.594	0.093	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-04N	Main	RO12	03UT074	0.432	0.074	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-05P	Entered as D/S Ext ofRHD01.3B-04N	RO12	03UT074	0.432	0.039	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-06E	Main	RO10	99UT251	0.432	0.131	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-06E	U/S Ext.	RO10	99UT252	0.432	0.05	Band	No (2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-07P	Entered as D/S Ext. ofRHD01.3B-06E	RO10	99UT251	0.432	0.047	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-08E	Main	RO10	99UT245	0.432	0.041	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-08E	U/S Ext.	RO10	99UT245	0.432	0.061	Band	No (2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-09P	Entered as D/S Ext. ofRHD01.3B-08E	RO10	99UT245	0.432	0.053	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-09P	Entered as U/S Ext ofRHD01.3B-10E	RO12	03UT119	0.432	0.04	Band	No(2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-10E	Main	RO12	03UT119	0.432	0.056	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-11P	Entered as D/S Ext ofRHD01.3B-10E	RO12	03UT119	0.432	0.036	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-11P	Entered as U/S Ext ofRHD01.3B-12E	RO12	03UT119	0.432	0.041	Band	No(2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-12E	Main	RO12	03UT119	0.432	0.066	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-13P	Entered as D/S Ext ofRHD01.3B-12E	RO12	03UT119	0.432	0.041	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-13P	Entered as U/S Ext ofRHD01.3B-14E	RO12	03UT119	0.432	0.047	Band	No(2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-14E	Main	RO12	03UT119	0.432	0.085	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-15P	Entered as D/S Ext ofRHD01.3B-14E	RO12	03UT119	0.432	0.067	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-15P	Entered as U/S Ext. ofRHD01.3B-16E	RO11	01UT100	0.432	0.046	Band	No (2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-16E	Main	RO11	01UT100	0.432	0.111	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-18E	Main	RO11	01UT100	0.432	0.097	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-19P	Entered as D/S Ext. ofRHD01.3B-18E	RO11	01UT100	0.432	0.069	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-20R	D/S Main	RO11	01UT100	0.594	0.104	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.3B-20R	U/S Main	RO11	01UT100	0.432	0.099	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.5B-02P	Entered as U/S Ext. ofRHD01.5B-03F	RO8		0.458	0.135	Band	No (2)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.5B-04P	Entered as DS Ext ofRHD01.5B-03F	RO13	05UT082	0.432	0.049	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.5B-04P	Entered as US Ext ofRHD01.5B-05R	RO13	05UT082	0.432	0.064	Band	No(1)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.5B-05R	DS Main	RO13	05UT082	0.594	0.106	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.5B-05R	U/S Main	RO8		0.432	0.182	Band	No (3)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.5B-05R	US Main	RO13	05UT082	0.432	0.111	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.6B-01P	Entered as DS Ext ofRHD01.5B-05R	RO13	05UT082	0.634	0.073	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.6B-01P	Entered as US Ext ofRHD01.6B-02E	RO13	05UT082	0.594	0.06	Band	No(1)
RHD-01 .3B_2 TK 32Bto B HDR	RHD01.7B-03R	U/S Main	RO10	99UT277	0.432	0.311	Band	No(3)
RHD-01 .3B_2 TK 32Bto B HDR	RHD02.4B-02E	Main	RO11	01UT097	0.594	0.151	Blanket	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD02.4B-02E	Main	RO8		0.594	0.126	Blanket	No (8)
RHD-01 .3B_2 TK 32Bto B HDR	RHD02.4B-03P	Entered as D/S Ext. ofRHD02.4B-02E	RO11	01 UT097	0.594	0.056	Band	Yes
RHD-01 .3B_2 TK 32Bto B HDR	RHD02.4B-07P	Entered as Br Ext. ofRHD02.7B-08L	RO8		0.609	0.054	Band	No (2)
RHD-01.1 B_2 TK 31 Bto B HDR	RHD01.1B-15P	Entered as DS Ext ofRHD01.1B-14F	RO13	05UT075	0.432	0.055	Band	Yes
RHD-01.1 B_2 TK 31 Bto B HDR	RHD01.1B-15P	Entered as US Ext ofRHD01.1B-16E	RO13	05UT075	0.432	0.058	Band	No(1)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01.10A_2 TK 33A to A HDR	RHD02.5A-02R	RHD02.5A-02R	RO14		0.337	0.105	Max PTP	Yes
RHD-01.10A_2 TK 33A to A HDR	RHD02.5A-02R	RHD02.5A-02R-DS	RO14		0.432	0.152	Max BAND	Yes
RHD-01.10A_2 TK 33A to A HDR	RHD02.6A-02E	RHD02.6A-02E	RO14		0.432	0.03	Max PTP	Yes
RHD-01.10A_2 TK 33A to A HDR	RHD02.6A-02E	RHD02.6A-02E-DSX	RO14		0.432	0.041	Max PTP	Yes
RHD-01.10A_2 TK 33A to A HDR	RHD02.6A-02E	RHD02.6A-02E-USX	RO14		0.432	0.026	Max PTP	No(2)
RHD-01.10A_2 TK 33A to A HDR	RHD02.6A-03P	RHD02.6A-03P	RO14		0.432	0.069	Max BAND	Yes
RHD-01.10A_2 TK 33A to A HDR	RHD02.6A-03P	RHD02.6A-03P-DSX	RO14		0.432	0.039	BLANKET	Yes
RHD-01.10A_2 TK33A to A HDR	RHD01.10A-19P	Entered as DS Ext ofRHD01.10A-18F	RO13	05UT077	0.432	0.062	Band	Yes
RHD-01.10A_2 TK33A to A HDR	RHD01.10A-19P	Entered as US Ext ofRHD01.10A-18F	RO13	05UT077	0.432	0.072	Band	No(1)
RHD-01.10A_2 TK33A to A HDR	RHD01.10A-20R	DS Main	RO13	05UT077	0.5	0.065	Band	Yes
RHD-01.10A_2 TK33A to A HDR	RHD01.10A-20R	US Main	RO13	05UT077	0.432	0.02	Band	No(2)
RHD-01.10A_2 TK33A to A HDR	RHD01.11A-01 E	Main	RO13	05UT077	0.5	0.11	Blanket	Yes
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-01T	Branch	RO10	99UT263	0.432	0.069	Band	No (4)
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-01T	Branch Ext.	RO10	99UT263	0.432	0.053	Band	No (4)
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-01T	D/S Main	RO10	99UT263	0.5	0.078	Blanket	No (4)
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-01T	U/S Ext.	RO10	99UT263	0.5	0.062	Band	No (4)
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-01T	U/S Main	RO10	99UT263	0.5	0.085	Blanket	No (4)
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-02P	Entered as D/S Ext. ofRHD01.12A-01T	RO10	99UT263	0.5	0.054	Band	No (4)
RHD-01.10A_2 TK33A to A HDR	RHD01.12A-08E	Main	RO10	99UT255	0.432	0.11	Blanket	Yes
RHD-01.10A_2 TK33A to A HDR	RHD01.13A-01 R	U/S Main	RO10	99UT255	0.432	0.041	Band	Yes
RHD-01.10A_2 TK33A to A HDR	RHD01.13A-01R	D/S Main	RO10	99UT255	0.337	0.18	Band	Yes
RHD-01.10A_2 TK33A to A HDR	RHD02.6A-01 P	Entered as D/S Ext. ofRHD02.5A-02R	RO11	01 UT078	0.432	0.05	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01.10A_2 TK33A to A HDR	RHD02.6A-01 P	Entered as D/S Ext. ofRHD02.5A-02R	RO8		0.432	0.051	Band	Yes
RHD-01.10A_2 TK33A to A HDR	RHD02.6A-01 P	Entered as U/S Ext. ofRHD02.6A-02E	RO11	01 UT078	0.432	0.034	Band	No (2)
RHD-01.10A_2 TK33A to A HDR	RHD02.6A-01 P	Entered as U/S Ext. ofRHD02.6A-02E	RO9	97UT081	0.432	0.035	Band	No (2)
RHD-01.10A_2 TK33A to A HDR	RHD02.6A-03P	Entered as D/S Ext. ofRHD02.6A-02E	RO11	01UT078	0.432	0.102	Band	Yes
RHD-01.10A_2 TK33A to A HDR	RHD02.6A-03P	Entered as D/S Ext. ofRHD02.6A-02E	RO9	97UT081	0.432	0.104	Band	Yes
RHD-01.10B_1 RH33B to TK 33B	RHD01.10B-01N	Main	RO10	99UT275	0.432	0.142	Band	Yes
RHD-01.10B_1 RH33B to TK 33B	RHD01.10B-02P	Entered as D/S Ext. ofRHD01.10B-01N	RO10	99UT275	0.432	0.084	Band	Yes
RHD-01.10B_1 RH33B to TK 33B	RHD01.10B-03N	Main	RO10	99UT276	0.432	0.058	Band	Yes
RHD-01.10B_2 TK33B to B HDR	RHD01 .10B-27P	Entered as U/S Ext ofRHD01.10B-28E	R013	05UT074	0.432	0.027	Band	No(1)
RHD-01.10B_2 TK33B to B HDR	RHD01 .10B-29P	Entered as D/S Ext ofRHD01.10B-28E	R013	05UT074	0.432	0.098	Band	Yes
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-28E	Main	R013	05UT074	0.432	0.18	Blanket	Yes
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-52T	Branch	RO10	99UT268	0.432	0.144	Blanket	Yes
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-52T	Branch Ext.	RO10	99UT268	0.432	0.038	Band	No (2)
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-52T	D/S Main	RO10	99UT268	0.432	0.119	Blanket	Yes
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-52T	U/S Ext.	RO10	99UT268	0.432	0.031	Band	No (2)
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-52T	U/S Main	RO10	99UT268	0.432	0.119	Blanket	No (6)
RHD-01.10B_2 TK33B to B HDR	RHD01.10B-53P	Entered as D/S Ext. ofRHD01.10B-52T	RO10	99UT268	0.432	0.051	Band	Yes
RHD-01.10B_2 TK33B to B HDR	RHD02.6B-02P	Entered as D/S Ext. ofRHD02.6B-01 E	RO11	01 UT080	0.559	0.099	Band	Yes
RHD-01.10B_2 TK33B to B HDR	RHD02.6B-02P	Entered as D/S Ext. ofRHD02.6B-01 E	RO8		0.528	0.086	Band	Yes
RHD-01.10B_2 TK33B to B HDR	RHD02.6B-02P	Entered as D/S Ext. ofRHD02.6B-01 E	RO9	97UT050	0.528	0.094	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01.10B_2 TK33B to B HDR	RHD02.6B-02P	Entered as D/S Ext. ofRHD02.6B-01E	RO10	99UT150	0.528	0.104	Band	Yes
RHD-01.1A_1 RH 31Ato TK 31A	RHD01.1A-01N	Main	RO11	01UT132	0.432	0.127	Band	Yes
RHD-01.1A_1 RH 31Ato TK 31A	RHD01.1A-02P	Entered as D/S Ext. ofRHD01.1A-01N	RO11	01UT132	0.432	0.088	Band	Yes
RHD-01.1A_1 RH 31Ato TK 31A	RHD01.1A-03N	Main	RO11	01UT132	0.432	0.07	Band	No (8)
RHD-01.1A_2 TK 31A to A HDR	RHD02.1A-02R	D/S Main	RO15		0.432	0.135	Band	Yes
RHD-01.1A_2 TK 31A to A HDR	RHD02.1A-02R	U/S Main	RO15		0.337	0.158	Band	Yes
RHD-01.1A_2 TK 31A to A HDR	RHD02.2A-02E	RHD02.2A-02E	RO14		0.432	0.045	Max PTP	Yes
RHD-01.1A_2 TK 31A to A HDR	RHD02.2A-02E	RHD02.2A-02E-DSX	RO14		0.432	0.134	SCAN/ RT/VT	Yes
RHD-01.1A_2 TK 31A to A HDR	RHD02.2A-02E	RHD02.2A-02E-USX	RO14		0.432	0.046	Max BAND	No(2)
RHD-01.1A_2 TK 31A to A HDR	RHD02.2A-04E	RHD02.2A-04E	RO14		0.432	0.066	BLANK ET	Yes
RHD-01.1A_2 TK 31A to A HDR	RHD02.2A-04E	RHD02.2A-04E-DSX	RO14		0.432	0.098	Max BAND	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD01.1A-04N	U/S Main	RO10	99UT230	0.432	0.067	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD01.1A-34P_2	Entered as U/S Ext. ofRHD01.1A-35F	RO10	99UT230	0.432	0.037	Band	No (2)
RHD-01.1A_2 TK 31Ato A HDR	RHD01.1A-34P_2	Entered as U/S Ext. ofRHD01.1A-35F	RO8		0.475	0.074	Band	No (2)
RHD-01.1A_2 TK 31Ato A HDR	RHD01.1A-36P	Entered as D/S Ext. ofRHD01.1A-35F	RO8		0.462	0.033	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-01V	Main	RO10	99UT147	0.337	0.051	Band	No (10)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-01V	Main	RO11		0.337	N/A	N/A	No (10)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-01V	Main	RO8		0.337	0.031	Band	No (10)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-02R	D/S Main	RO11	01UT079	0.432	0.168	Band	No (3)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-02R	D/S Main	RO8		0.432	0.085	Band	No (3)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-02R	U/S Main	RO10	99UT147	0.337	0.098	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-02R	U/S Main	RO11	01UT079	0.337	0.089	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.1A-02R	U/S Main	RO8		0.337	0.161	Band	No (3)
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-01P	Entered as D/S Ext. ofRHD02.1A-02R	RO10	99UT147	0.432	0.08	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-01P	Entered as D/S Ext. ofRHD02.1A-02R	RO11	01UT079	0.432	0.048	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-01P	Entered as D/S Ext. ofRHD02.1A-02R	RO8		0.432	0.047	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-02E	Main	RO10	99UT155	0.473	0.155	Blanket	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-02E	Main	RO11	01UT079	0.473	0.148	Blanket	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-02E	Main	RO8		0.473	0.077	Blanket	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-03P	Entered as D/S Ext. ofRHD02.2A-02E	RO10	01UT079	0.432	0.114	Band	Yes
RHD-01.1A_2 TK 31Ato A HDR	RHD02.2A-03P	Entered as D/S Ext. ofRHD02.2A-02E	RO11	99UT155	0.432	0.108	Band	Yes
RHD-01.1B_2 TK 31B to B HDR	RHD01.1B-30E	U/S Main	RO15		0.432	0.059	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.1B-16E	Main	RO13	05UT075	0.432	0.162	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.1B-30E	Main	RO8		0.473	0.083	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.1B-39E	Main	RO11	01UT109	0.432	0.074	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.1B-41E	Main	RO11	01UT109	0.432	0.057	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.1B-51E	Main	RO10	99UT174	0.432	0.051	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.2B-01R	D/S Ext.	RO10	99UT174	0.337	0.051	Band	No (4)
RHD-01.1B_2 TK 31Bto B HDR	RHD01.2B-01R	D/S Main	RO10	99UT174	0.401	0.052	Band	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.2B-01R	U/S Main	RO10	99UT174	0.432	0.047	Band	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD01.2B-01R	U/S Main	RO8		0.432	0.047	T DAT	No (17)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-01V	Main	RO8		0.337	0.027	Band	No (10)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-01V	Main	RO9	97UT051	0.337	0.043	Band	No (10)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	D/S Main	RO11	01UT093	0.432	0.195	Band	No (3)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	D/S Main	RO8		0.432	0.176	Band	No (3)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	D/S Main	RO9	97UT051	0.432	0.183	Band	No (3)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	U/S Main	RO10	99UT167	0.337	0.117	Band	No (3)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	U/S Main	RO11	01UT093	0.337	0.113	Band	No (3)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	U/S Main	RO8		0.337	0.12	Band	No (3)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.1B-02R	U/S Main	RO9	97UT051	0.337	0.112	Band	No (3)
RHD-01.1B_2 TK 31Bto B HDR	RHD02.2B-02E	Main	RO10	99UT167	0.432	0.088	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD02.2B-02E	Main	RO11	01 UT093	0.432	0.083	Blanket	Yes
RHD-01.1B_2 TK 31Bto B HDR	RHD02.2B-02E	U/S Ext.	RO10	99UT167	0.432	0.046	Band	No (2)
RHD-01.3A_1 RH 32A to TK 32A	RHD01.3A-01N	RHD01.3A-01N	RO14		0.432	0	SCAN/ RT/VT	No(1)
RHD-01.3A_1 RH 32A to TK 32A	RHD01.3A-02P	RHD01.3A-02P	RO14		0.432	0.06	Max BAND	Yes
RHD-01.3A_1 RH 32A to TK 32A	RHD01.3A-03N	RHD01.3A-03N	RO14		0.432	0.054	SCAN/ RT/VT	No (7)
RHD-01.3A_2 TK 32A to A HDR	RHD02.3A-02R	RHD02.3A-02R	RO14		0.337	0.17	Max BAND	No (7)
RHD-01.3A_2 TK 32A to A HDR	RHD02.3A-02R	RHD02.3A-02R-DS	RO14		0.432	0.151	Max BAND	Yes
RHD-01.3A_2 TK 32A to A HDR	RHD02.3A-02R	RHD02.3A-02R-DSX	RO14		0.432	0.08	Max BAND	Yes
RHD-01.3A_2 TK 32A to A HDR	RHD02.4A-06L	RHD02.4A-06L	RO14		0.594	0.065	Max BAND	Yes
RHD-01.3A_2 TK 32A to A HDR	RHD02.4A-06L	RHD02.4A-06L-BR	RO14		0.432	0.098	Max BAND	Yes
RHD-01.3B_1 RH 32Bto TK 32B	RHD01.3B-01N	Main	RO9	97UT120	0.432	0.084	Band	Yes
RHD-01.3B_1 RH 32Bto TK 32B	RHD01.3B-03N	Main	RO9	97UT123	0.432	0.066	Band	Yes
RHD-01.3B_2 TK 32B to B HDR	RHD01.9B-01R	D/S Main	RO15		0.337	0.019	Max PTP	No (1)
RHD-01.3B_2 TK 32B to B HDR	RHD01.9B-01R	U/S Main	RO15		0.594	0.062	Max PTP	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01 .6B-01P	Entered as D/S Ext. ofRHD01 .5B-05R	RO8		0.634	0.073	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01 .6B-03P_1	Entered as DS Ext ofRHD01.6B-02E	RO13	05UT082	0.594	0.132	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01 .8B-01 P_1	Entered as D/S Ext. ofRHD01.7B-03R	RO10	99UT277	0.594	0.076	Band	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-01.3B_2 TK 32Bto B HDR	RHD01 .8B-06E	Main	RO9	97UT073	0.594	0.087	Blanket	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01 .9B-01R	D/S Main	RO9	97UT073	0.337	0.202	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01 .9B-01R	U/S Main	RO9	97UT073	0.594	0.067	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01.3B-17P	Entered as D/S Ext. ofRHD01.3B-16E	RO11	01UT100	0.432	0.054	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01.6B-02E	Main	RO13	05UT082	0.594	0.086	Blanket	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01.7B-03R	D/S Main	RO10	99UT277	0.594	0.079	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD01.7B-03R	U/S Ext.	RO10	99UT277	0.432	0.044	Band	No (2)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-01V	Main	RO8		0.337	0.042	Band	No (10)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-01V	Main	RO9	97UT073	0.337	0.063	Band	No (10)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	D/S Main	RO11	01 UT097	0.594	0.227	Band	No (7)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	D/S Main	RO12	03UT027	0.594	0.23	Band	No(3)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	D/S Main	RO8		0.594	0.226	Band	No (3)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	D/S Main	RO15		0.594	0.095	Band	No (7)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	U/S Main	RO11	01 UT097	0.337	0.083	Band	No (7)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	U/S Main	RO12	03UT027	0.337	0.072	Band	No (7)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	U/S Main	RO8		0.337	0.104	Band	No (3)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.3B-02R	U/S Main	RO15		0.337	0.127	Band	No (7)
RHD-01.3B_2 TK 32Bto B HDR	RHD02.4B-01P	Entered as D/S Ext ofRHD02.3B-02R	RO12	03UT027	0.594	0.111	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD02.4B-01P	Entered as D/S Ext. ofRHD02.3B-02R	RO11	01UT097	0.594	0.107	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD02.4B-01P	Entered as D/S Ext. ofRHD02.3B-02R	RO8		0.594	0.055	Band	Yes
RHD-01.3B_2 TK 32Bto B HDR	RHD02.4B-01P	U/S Main	RO15		0.594	0.112	Band	No (22_
RHD-01.3B_2 TK 32Bto B HDR	RHD02.4B-02E	U/S Main	RO15		0.594	0.146	Blanket	Yes
RHD-02.1 1A A HDR toFWH 36A	RHD02.1 1A-16P	Entered as U/S Ext. ofRHD02.11A-17T	RO8		0.489	0.066	Band	No (2)
RHD-02.1 1A A HDR toFWH 36A	RHD02.1 1A-18P	Entered as Br Ext. ofRHD02.11A-17T	RO8		0.473	0.066	Band	No (2)
RHD-02.10A TK A HDR to FWH 36	RHD02.10A-11T	RHD02.10A-11T	RO14		0.5	0.159	Max	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
							BAND	
RHD-02.10A TK A HDR to FWH 36	RHD02.10A-11T	RHD02.10A-11T-BR	RO14		0.432	0.316	Max BAND	Yes
RHD-02.10A TK A HDR to FWH 36	RHD02.10A-11T	RHD02.10A-11T-USX	RO14		0.5	0.048	Max BAND	No(2)
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	Branch	RO13	05UT073	0.432	0.295	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	Branch	RO15		0.432	0.269	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	D/S Ext.	RO15		0.432	0.096	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	D/S Main	RO13	05UT073	0.432	0.281	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	D/S Main	RO15		0.432	0.227	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	U/S Main	RO13	05UT073	0.432	0.213	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-14T	U/S Main	RO15		0.432	0.178	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	Branch	RO13	05UT073	0.432	0.248	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	Branch	RO17		0.432	0.221	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	D/S Ext	RO18		0.432	0.064	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	D/S Main	RO13	05UT073	0.432	0.196	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	D/S Main	RO16		0.432	0.21	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	U/S Ext	RO19		0.432	0.077	Band	No (2)
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	U/S Main	RO13	05UT073	0.432	0.22	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-16T	U/S Main	RO15		0.432	0.184	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-17R	D/S Main	RO13	05UT073	0.5	0.141	Band	Yes
RHD-02.10B B HDR toFWH 36A	RHD02.10B-17R	U/S Main	RO13	05UT073	0.432	0.112	Band	Yes
RHD-02.11A A HDR to FWH 36A	RHD02.11A-17T	Br. Ext	RO15		0.432	0.195	Band	No (2)
RHD-02.11A A HDR to FWH 36A	RHD02.11A-17T	Branch	RO15		0.432	0.073	Blanket	No (7)
RHD-02.11A A HDR to FWH 36A	RHD02.11A-17T	D/S Main	RO15		0.432	0.158	Blanket	Yes
RHD-02.11A A HDR to FWH 36A	RHD02.11A-17T	U/S Main	RO15		0.432	0.142	Blanket	Yes
RHD-02.11A A HDR to FWH 36A	RHD02.11A-19T	Br. Ext	RO15		0.432	0.151	Band	No (2)
RHD-02.11A A HDR to FWH 36A	RHD02.11A-19T	Branch	RO15		0.432	0.198	Blanket	Yes
RHD-02.11A A HDR to FWH 36A	RHD02.11A-19T	D/S Main	RO15		0.432	0.14	Blanket	Yes
RHD-02.11A A HDR to FWH 36A	RHD02.11A-19T	RHD02.11A-19T-BR-DSX	RO14		0.432	0.058	Max BAND	Yes
RHD-02.11A A HDR to FWH 36A	RHD02.11A-19T	U/S Main	RO15		0.432	0.131	Blanket	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-02.11A A HDR toFWH 36A	RHD02.11A-17T	Branch	RO8		0.432	0.062	Blanket	Yes
RHD-02.11A A HDR toFWH 36A	RHD02.11A-17T	D/S Main	RO8		0.432	0.097	Blanket	No (6)
RHD-02.11A A HDR toFWH 36A	RHD02.11A-17T	U/S Main	RO8		0.432	0.12	Blanket	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-01P	RHD02.12B-01P	RO14		0.432	0		No(1)
RHD-02.12B B HDR to FWH 36B	RHD02.12B-02E	RHD02.12B-02E	RO14		0.432	0.122	BLANKET	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-02E	RHD02.12B-02E-DSX	RO14		0.432	0.062	Max BAND	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	Br. Ext	RO15		0.432	0.138	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	Branch	RO15		0.432	0.282	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	DS Main	RO15		0.432	0.287	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	RHD02.12B-11T	RO14		0.432	0.293	Max BAND	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	RHD02.12B-11T-BR	RO14		0.432	0.282	Max BAND	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	RHD02.12B-11T-BR-DSX	RO14		0.432	0.203	Max BAND	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	RHD02.12B-11T-USX	RO14		0.432	0.189	Max BAND	No(2)
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	U/S Ext	RO16		0.432	0.077	Band	No (2)
RHD-02.12B B HDR to FWH 36B	RHD02.12B-11T	US Main	RO15		0.432	0.249	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-13T	Br. Ext	RO15		0.432	0.161	Band	No (2)
RHD-02.12B B HDR to FWH 36B	RHD02.12B-13T	Branch	RO15		0.432	0.207	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-13T	D/S Main	RO15		0.432	0.144	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.12B-13T	U/S Main	RO15		0.432	0.149	Band	Yes
RHD-02.12B B HDR to FWH 36B	RHD02.13B-01N	RHD02.13B-01N	RO14		0.432	0.022	Max BAND	No(1)
RHD-02.12B B HDR to FWH 36B	RHD02.13B-01N	RHD02.13B-01N-USX	RO14		0.432	0.096	Max BAND	No(2)
RHD-02.13A A HDR to FWH 36B	RHD02.13A-01P	RHD02.13A-01P	RO14		0.432	0.083	Max BAND	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-02E	RHD02.13A-02E	RO14		0.432	0.064	BLANKET	Yes

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-02.13A A HDR to FWH 36B	RHD02.13A-02E	RHD02.13A-02E-DSX	RO14		0.432	0.046	Max BAND	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-14T	Br. Ext	RO15		0.432	0.088	Band	No (2)
RHD-02.13A A HDR to FWH 36B	RHD02.13A-14T	Branch	RO15		0.432	0.373	Band	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-14T	D/S Main	RO15		0.432	0.374	Band	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-14T	U/S Main	RO15		0.432	0.28	Band	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-16T	Br. Ext	RO15		0.432	0.171	Band	No (2)
RHD-02.13A A HDR to FWH 36B	RHD02.13A-16T	Branch	RO15		0.432	0.316	Band	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-16T	D/S Main	RO15		0.432	0.182	Band	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.13A-16T	U/S Main	RO15		0.432	0.183	Band	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.14A-01N	RHD02.14A-01N	RO14		0.432	0.052	Max BAND	Yes
RHD-02.13A A HDR to FWH 36B	RHD02.14A-01N	RHD02.14A-01N-USX	RO14		0.432	0.16	Max BAND	No(2)
RHD-02.13A A HDR toFWH 36B	RHD02.13A-03P	Entered as U/S Ext. ofRHD02.13A-04E	RO11	01UT033	0.432	0.043	Band	No (2)
RHD-02.13A A HDR toFWH 36B	RHD02.13A-03P	Entered as U/S Ext. ofRHD02.13A-04E	RO9	97UT180	0.432	0.033	Band	No (2)
RHD-02.13A A HDR toFWH 36B	RHD02.13A-04E	Main	RO11	01 UT033	0.432	0.045	Blanket	Yes
RHD-02.13A A HDR toFWH 36B	RHD02.13A-04E	Main	RO9	97UT180	0.432	0.05	Blanket	Yes
RHD-02.13A A HDR toFWH 36B	RHD02.13A-05E	Main	RO11	01 UT054	0.432	0.086	Blanket	Yes
RHD-02.13A A HDR toFWH 36B	RHD02.13A-05E	Main	RO9	97UT181	0.432	0.087	Blanket	Yes
RHD-02.13A A HDR toFWH 36B	RHD02.13A-06P_1	Entered as D/S Ext. ofRHD02.13A-05E	RO11	97UT181	0.432	0.042	Band	Yes
RHD-02.13A A HDR toFWH 36B	RHD02.13A-06P_1	Entered as D/S Ext. ofRHD02.13A-05E	RO9	01UT053	0.432	0.042	Band	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-01P	RHD02.14B-01P	RO14		0.432	0		No(1)
RHD-02.14B B HDR to FWH 36C	RHD02.14B-02E	RHD02.14B-02E	RO14		0.432	0.282	BLANKET	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-02E	RHD02.14B-02E-DSX	RO14		0.432	0.067	Max BAND	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-10T	Br. Ext	RO15		0.432	0.298	Band	No (2)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-02.14B B HDR to FWH 36C	RHD02.14B-10T	Branch	RO15		0.432	0.32	Band	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-10T	D/S Main	RO15		0.432	0.143	Band	No (6)
RHD-02.14B B HDR to FWH 36C	RHD02.14B-10T	U/S Main	RO15		0.432	0.166	Band	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-12T	RHD02.14B-12T	RO14		0.432	0.215	Max BAND	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-12T	RHD02.14B-12T-BR	RO14		0.432	0.304	Max BAND	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-12T	RHD02.14B-12T-BR-DSX	RO14		0.432	0.261	Max BAND	Yes
RHD-02.14B B HDR to FWH 36C	RHD02.14B-12T	RHD02.14B-12T-USX	RO14		0.432	0.091	Max BAND	No(2)
RHD-02.14B B HDR to FWH 36C	RHD02.15B-01N	RHD02.15B-01N	RO14		0.432	0.06	Max BAND	Yes
RHD-02.15A A HDR to FWH 36C	RHD02.15A-02E	RHD02.15A-02E	RO14		0.432	0.393	BLANKET	Yes
RHD-02.15A A HDR to FWH 36C	RHD02.15A-02E	RHD02.15A-02E	RO14		0.432	0	Baseline	No(5)
RHD-02.15A A HDR to FWH 36C	RHD02.15A-02E	RHD02.15A-02E-DSX	RO14		0.432	0.116	Max BAND	Yes
RHD-02.15A A HDR to FWH 36C	RHD02.15A-02E	RHD02.15A-02E-USX	RO14		0.432	0.193	Max BAND	No(2)
RHD-02.15A A HDR to FWH 36C	RHD02.15A-02E	RHD02.15A-02E-USX	RO14		0.432	0.036	Max BAND	No(2)
RHD-02.15A A HDR to FWH 36C	RHD02.15A-09T	Br. Ext	RO15		0.432	0.222	Band	No (2)
RHD-02.15A A HDR to FWH 36C	RHD02.15A-09T	Branch	RO15		0.432	0.237	Band	Yes
RHD-02.15A A HDR to FWH 36C	RHD02.15A-09T	D/S Main	RO15		0.432	0.165	Band	No (6)
RHD-02.15A A HDR to FWH 36C	RHD02.15A-09T	U/S Main	RO15		0.432	0.178	Band	Yes
RHD-02.15A A HDR to FWH 36C	RHD02.16A-01N	RHD02.16A-01N	RO14		0.432	0.052	Max BAND	Yes
RHD-02.15A A HDR to FWH 36C	RHD02.16A-01N	RHD02.16A-01N-USX	RO14		0.432	0.24	Max BAND	No(2)
RHD-02.7B TK B HDR to FWH 36	RHD02.2B-06L	Br. Ext	RO15		0.432	0.066	Band	No (2)
RHD-02.7B TK B HDR to FWH 36	RHD02.2B-06L	Branch	RO15		0.432	0.048	Band	No (7)

CHECWORKS Line Name	Component Name	Component Section	Period	Report Number	Tinit orTnom (in.)	Wear (in.)	Method	In LCF Calc (Yes/No)
RHD-02.7B TK B HDR to FWH 36	RHD02.2B-06L	D/S Main	RO15		0.5	0.042	Band	Yes
RHD-02.7B TK B HDR to FWH 36	RHD02.2B-06L	U/S Main	RO15		0.5	0.048	Band	No (7)
RHD-02.7B TK B HDRto FWH 36	RHD02.7B-07P	Entered as U/S Ext. ofRHD02.7B-08L	RO8		0.543	0.054	Band	No (2)
RHD-02.8A TK A HDR to FWH 36	RHD02.6A-06L	RHD02.6A-06L	RO14		0.594	0.071	Max BAND	Yes
RHD-02.8A TK A HDR to FWH 36	RHD02.6A-06L	RHD02.6A-06L-BR	RO14		0.432	0.206	Max BAND	Yes
RHD-02.8B TK B HDR to FWH 36	RHD02.8B-06T	RHD02.8B-06T	RO14		0.594	0.265	Max BAND	Yes
RHD-02.8B TK B HDR to FWH 36	RHD02.8B-06T	RHD02.8B-06T-BR	RO14		0.432	0.095	Max BAND	Yes
RHD-02.8B TK B HDR to FWH 36	RHD02.8B-06T	RHD02.8B-06T-DSX	RO14		0.594	0.095	Max BAND	Yes
RHD-02.8B TK B HDR to FWH 36	RHD02.8B-06T	RHD02.8B-06T-USX	RO14		0.594	0.085	Max BAND	No(2)
RHD-02.8B TK B HDRto FWH 36	RHD02.7B-08L	Branch	RO8		0.5	0.031	Band	No(9)
RHD-02.8B TK B HDRto FWH 36	RHD02.7B-08L	D/S Main	RO8		0.605	0.054	Band	Yes
RHD-02.8B TK B HDRto FWH 36	RHD02.7B-08L	U/S Main	RO8		0.605	0.046	Band	Yes
RHD-02.8B TK B HDRto FWH 36	RHD02.8B-01 P	Entered as D/S Ext. ofRHD02.7B-08L	RO8		0.609	0.058	Band	Yes
RHD-02.9A TK A HDR to FWH 36	RHD02.9A-11T	RHD02.9A-11T	RO14		0.594	0.201	Max BAND	Yes
RHD-02.9A TK A HDR to FWH 36	RHD02.9A-11T	RHD02.9A-11T-BR	RO14		0.432	0.296	Max BAND	Yes
RHD-02.9B TK B HDR to FWH 36	RHD02.9B-02T	RHD02.9B-02T	RO14		0.594	0.212	Max BAND	Yes
RHD-02.9B TK B HDR to FWH 36	RHD02.9B-02T	RHD02.9B-02T-BR	RO14		0.432	0.197	Max BAND	Yes
RHD-02.9B TK B HDR to FWH 36	RHD02.9B-02T	RHD02.9B-02T-USX	RO14		0.594	0.056	Max BAND	No(2)

In LCF Calc "No"	Description
1	EPRI recommends not to use any calculated lifetime wear less than or equal to 0.030" or 5% of Tnom.
2	CHECWORKS does not use the U/S Ext. or Br. Ext. in the calculation of the LCF.
3	The UT data readings do not provide an accurate representation of actual wear for this component.
4	CHECWORKS does not have a geometry code that accurately represents this component.
5	This inspection is a baseline inspection.
6	This section is modeled having no normal flow.
7	This wear is not indicative of FAC wear because wear readings are most likely due to manufacturing variances.
8	This component was only partially inspected and has an incomplete grid.
9	Inspection on tee or nozzle does not correlate well with inspections on other geometry types.
10	This component is an unusual geometry (valve, flange, orifice, etc.) and should not be used in calibration of the model.
11	Non-susceptible material
12	Scanned value imported for informational purposes only.
13	Two inspections were performed during the same outage. Only one was imported to CHECWORKS.
14	Inspected component is not modeled in CHECWORKS
15	No UT data package could be found for importation.
16	This component was inspected using Pulsed Eddy Current.
17	Due to a bug in CHECWORKS, inspections of tees with no data on the U/S Main are not used in the LCF
18	D/S Ext not used in LCF due to CHECWORKS bug involving downstream extensions of type14 tees
19	D/S Ext is not a pipe
20	Unable to exclude counterbore
21	Small-bore components
22	Suspicious Tnom inflating measured wear to an excessive level.

Appendix G

Water Chemistry Analysis Reports

Table of Contents

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:05 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 1
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		15.670		
Concentration of 1st Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.680	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		20.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		12.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		24.000		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent None (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	8.89	5.75	0.00	0.00	0.19	53.07	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.28	5.75	0.00	0.00	0.19	53.07	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.28	5.89	0.00	0.00	0.17	55.42	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.31	6.00	0.00	0.00	0.17	22.27	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.31	7.62	0.00	0.00	0.18	9.62	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.28	6.06	0.00	0.00	0.16	83.03	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.28	5.89	0.00	0.00	0.17	55.42	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	8.86	6.00	0.00	0.00	0.17	24.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.28	5.95	0.00	0.00	0.65	12.20	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.31	6.45	0.00	0.00	0.17	45.88	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.31	6.81	0.00	0.00	0.17	34.34	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.31	7.29	0.00	0.00	0.20	7.80	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.31	7.62	0.00	0.00	0.18	9.62	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.28	6.16	0.00	0.00	0.68	20.06	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.30	6.40	0.00	0.00	0.74	25.57	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.28	6.29	0.00	0.00	0.68	20.06	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.30	6.86	0.00	0.00	0.74	31.54	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.30	7.24	0.00	0.00	0.74	34.85	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.30	7.73	0.00	0.00	0.74	37.34	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.30	8.14	0.00	0.00	0.74	38.45	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.28	6.31	0.00	0.00	0.69	12.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.28	6.37	0.00	0.00	0.69	12.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.31	7.19	0.00	0.00	0.75	2.74	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.31	7.68	0.00	0.00	0.75	2.74	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.31	8.06	0.00	0.00	0.75	2.74	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.31	8.92	0.00	0.00	0.75	2.74	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.31	8.36	0.00	0.00	0.13	20.50	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.20	6.03	0.00	0.00	0.52	16.00	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:07 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 2
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		16.430		
Concentration of 1st Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.480	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		20.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		12.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		24.000		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent None (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	8.78	5.73	0.00	0.00	0.14	53.07	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.18	5.73	0.00	0.00	0.13	53.07	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.18	5.84	0.00	0.00	0.13	55.42	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.21	5.94	0.00	0.00	0.13	22.27	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.21	7.55	0.00	0.00	0.14	9.62	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.18	6.01	0.00	0.00	0.12	83.03	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.18	5.84	0.00	0.00	0.13	55.42	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	8.76	5.94	0.00	0.00	0.13	24.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.18	5.89	0.00	0.00	0.46	12.20	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.21	6.38	0.00	0.00	0.13	45.88	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.21	6.74	0.00	0.00	0.13	34.34	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.21	7.21	0.00	0.00	0.16	7.80	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.21	7.55	0.00	0.00	0.14	9.62	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.18	6.09	0.00	0.00	0.48	19.96	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.20	6.32	0.00	0.00	0.52	25.52	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.18	6.21	0.00	0.00	0.48	19.96	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.20	6.77	0.00	0.00	0.52	31.70	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.20	7.14	0.00	0.00	0.52	35.16	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.20	7.63	0.00	0.00	0.52	37.77	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.20	8.04	0.00	0.00	0.52	38.94	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.18	6.23	0.00	0.00	0.49	12.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.18	6.29	0.00	0.00	0.49	12.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.21	7.10	0.00	0.00	0.53	2.74	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.21	7.58	0.00	0.00	0.53	2.74	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.21	7.96	0.00	0.00	0.53	2.74	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.21	8.81	0.00	0.00	0.53	2.74	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.21	8.28	0.00	0.00	0.11	20.50	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.09	5.96	0.00	0.00	0.37	16.00	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:07 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 3
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		11.720		
Concentration of 1st Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.760	, Sampling at	Condensate
Concentration of Hydrazine (ppb) :		25.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		15.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		30.000		
Concentration of Boron (ppm) :		7.500	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent None (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	7.48	5.75	0.00	0.00	0.20	66.34	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.02	5.75	0.00	0.00	0.19	66.34	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.02	5.89	0.00	0.00	0.18	69.28	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.26	6.00	0.00	0.00	0.18	27.84	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.26	7.60	0.00	0.00	0.19	12.02	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.02	6.05	0.00	0.00	0.17	103.79	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.02	5.89	0.00	0.00	0.18	69.28	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	7.78	5.99	0.00	0.00	0.18	30.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.02	5.95	0.00	0.00	0.67	15.24	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.26	6.39	0.00	0.00	0.19	57.35	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.26	6.78	0.00	0.00	0.18	42.92	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.26	7.28	0.00	0.00	0.20	9.75	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.26	7.60	0.00	0.00	0.19	12.02	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	8.99	6.17	0.00	0.00	0.70	24.95	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.21	6.41	0.00	0.00	0.76	30.62	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	8.99	6.29	0.00	0.00	0.70	24.95	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.21	6.86	0.00	0.00	0.76	35.69	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.21	7.24	0.00	0.00	0.76	38.40	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.21	7.73	0.00	0.00	0.76	40.40	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.21	8.13	0.00	0.00	0.76	41.29	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.02	6.32	0.00	0.00	0.71	15.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.02	6.37	0.00	0.00	0.71	15.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.26	7.20	0.00	0.00	0.78	3.42	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.26	7.68	0.00	0.00	0.78	3.42	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.26	8.06	0.00	0.00	0.78	3.42	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.26	8.89	0.00	0.00	0.78	3.42	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.26	8.18	0.00	0.00	0.19	25.62	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	8.56	6.03	0.00	0.00	0.53	20.00	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:07 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 4
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		9.130		
Concentration of 1st Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		1.260	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		40.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		24.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		48.000		
Concentration of Boron (ppm) :		7.500	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent None (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	7.71	5.82	0.00	0.00	0.35	106.15	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.24	5.82	0.00	0.00	0.34	106.15	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.24	5.99	0.00	0.00	0.30	110.85	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.44	6.10	0.00	0.00	0.30	44.54	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.44	7.73	0.00	0.00	0.28	19.24	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.24	6.16	0.00	0.00	0.28	166.07	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.24	5.99	0.00	0.00	0.30	110.85	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	7.99	6.10	0.00	0.00	0.30	48.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.24	6.07	0.00	0.00	1.20	24.39	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.44	6.52	0.00	0.00	0.29	91.76	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.44	6.91	0.00	0.00	0.27	68.67	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.44	7.41	0.00	0.00	0.31	15.60	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.44	7.73	0.00	0.00	0.28	19.24	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.21	6.30	0.00	0.00	1.26	39.98	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.39	6.55	0.00	0.00	1.38	47.55	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.21	6.43	0.00	0.00	1.26	39.98	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.39	7.01	0.00	0.00	1.38	52.60	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.39	7.40	0.00	0.00	1.38	55.17	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.39	7.89	0.00	0.00	1.38	57.08	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.39	8.29	0.00	0.00	1.38	57.94	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.24	6.45	0.00	0.00	1.28	24.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.24	6.51	0.00	0.00	1.28	24.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.44	7.35	0.00	0.00	1.40	5.48	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.44	7.84	0.00	0.00	1.40	5.48	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.44	8.22	0.00	0.00	1.40	5.48	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.44	9.06	0.00	0.00	1.40	5.48	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.44	8.31	0.00	0.00	0.27	40.99	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	8.81	6.15	0.00	0.00	0.95	32.01	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:07 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 5
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		2.830		
Concentration of 1st Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		1.290	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		40.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		24.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		48.000		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent None (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.09	5.84	0.00	0.00	0.35	106.15	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.46	5.84	0.00	0.00	0.35	106.15	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.46	6.00	0.00	0.00	0.31	110.85	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.48	6.12	0.00	0.00	0.30	44.54	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.48	7.76	0.00	0.00	0.28	19.24	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.46	6.19	0.00	0.00	0.28	166.07	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.46	6.00	0.00	0.00	0.31	110.85	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	9.04	6.12	0.00	0.00	0.30	48.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.46	6.07	0.00	0.00	1.23	24.39	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.48	6.58	0.00	0.00	0.27	91.76	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.48	6.95	0.00	0.00	0.27	68.67	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.48	7.43	0.00	0.00	0.31	15.60	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.48	7.76	0.00	0.00	0.28	19.24	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.45	6.30	0.00	0.00	1.29	40.02	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.48	6.55	0.00	0.00	1.41	46.95	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.45	6.43	0.00	0.00	1.29	40.02	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.48	7.02	0.00	0.00	1.41	50.08	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.48	7.41	0.00	0.00	1.41	51.26	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.48	7.90	0.00	0.00	1.41	52.03	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.48	8.32	0.00	0.00	1.41	52.36	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.46	6.46	0.00	0.00	1.31	24.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.46	6.52	0.00	0.00	1.31	24.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.48	7.36	0.00	0.00	1.44	5.48	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.48	7.85	0.00	0.00	1.44	5.48	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.48	8.24	0.00	0.00	1.44	5.48	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.48	9.09	0.00	0.00	1.44	5.48	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.48	8.50	0.00	0.00	0.20	40.99	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.38	6.16	0.00	0.00	0.97	32.01	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:14 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 6
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		2.530		
Concentration of 1st Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		1.290	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		40.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		24.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		48.000		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent None (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.09	5.84	0.00	0.00	0.35	106.15	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.46	5.84	0.00	0.00	0.35	106.15	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.46	6.00	0.00	0.00	0.31	110.85	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.48	6.12	0.00	0.00	0.30	44.54	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.48	7.76	0.00	0.00	0.28	19.24	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.46	6.19	0.00	0.00	0.28	166.07	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.46	6.00	0.00	0.00	0.31	110.85	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	9.04	6.12	0.00	0.00	0.30	48.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.46	6.07	0.00	0.00	1.23	24.39	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.48	6.58	0.00	0.00	0.27	91.76	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.48	6.95	0.00	0.00	0.27	68.67	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.48	7.43	0.00	0.00	0.31	15.60	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.48	7.76	0.00	0.00	0.28	19.24	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.45	6.30	0.00	0.00	1.29	40.02	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.48	6.55	0.00	0.00	1.41	46.91	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.45	6.43	0.00	0.00	1.29	40.02	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.48	7.02	0.00	0.00	1.41	49.95	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.48	7.41	0.00	0.00	1.41	51.06	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.48	7.90	0.00	0.00	1.41	51.78	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.48	8.32	0.00	0.00	1.41	52.09	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.46	6.46	0.00	0.00	1.31	24.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.46	6.52	0.00	0.00	1.31	24.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.48	7.36	0.00	0.00	1.44	5.48	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.48	7.85	0.00	0.00	1.44	5.48	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.48	8.24	0.00	0.00	1.44	5.48	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.48	9.09	0.00	0.00	1.44	5.48	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.48	8.50	0.00	0.00	0.20	40.99	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.38	6.16	0.00	0.00	0.97	32.01	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:15 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 7
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		3.000		
Concentration of 1st Constituent (ppm) :	Morpholine	4.500	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.060	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		58.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		34.800	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		69.600		
Concentration of Boron (ppm) :		7.500	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent Morpholine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	7.96	5.98	3.86	0.00	0.02	153.91	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	8.85	5.98	3.84	0.00	0.02	153.91	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	8.85	6.22	4.57	0.00	0.02	160.73	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.04	6.37	5.08	0.00	0.01	64.59	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.04	8.09	9.86	0.00	0.01	27.89	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	8.85	6.44	5.41	0.00	0.01	240.80	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	8.85	6.22	4.57	0.00	0.02	160.73	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	8.34	6.37	5.09	0.00	0.02	69.60	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	8.85	6.06	4.49	0.00	0.07	35.37	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.04	6.88	7.63	0.00	0.01	133.05	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.04	7.32	9.42	0.00	0.01	99.57	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.04	7.72	8.15	0.00	0.01	22.62	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.04	8.09	9.86	0.00	0.01	27.89	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	8.82	6.24	4.50	0.00	0.06	58.02	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	8.98	6.44	4.42	0.00	0.06	67.86	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	8.82	6.36	4.50	0.00	0.06	58.02	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	8.98	6.85	4.42	0.00	0.06	71.99	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	8.98	7.20	4.42	0.00	0.06	73.50	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	8.98	7.65	4.42	0.00	0.06	74.50	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	8.98	8.01	4.42	0.00	0.06	74.93	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	8.85	6.38	4.50	0.00	0.07	34.80	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	8.85	6.43	4.50	0.00	0.07	34.80	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.04	7.16	4.43	0.00	0.08	7.94	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.04	7.61	4.43	0.00	0.08	7.94	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.04	7.95	4.43	0.00	0.08	7.94	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.04	8.71	4.43	0.00	0.08	7.94	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.04	8.85	17.99	0.00	0.01	59.44	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	8.58	6.18	4.70	0.00	0.05	46.41	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:15 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 8
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		4.000		
Concentration of 1st Constituent (ppm) :	Morpholine	4.500	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.200	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		190.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		114.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		228.000		
Concentration of Boron (ppm) :		7.500	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent Morpholine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	8.03	6.03	3.85	0.00	0.06	504.20	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	8.95	6.02	3.81	0.00	0.06	504.20	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	8.95	6.25	4.51	0.00	0.05	526.52	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.15	6.39	5.05	0.00	0.05	211.58	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.15	8.10	9.86	0.00	0.03	91.38	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	8.95	6.47	5.33	0.00	0.04	788.82	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	8.95	6.25	4.51	0.00	0.05	526.52	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	8.36	6.39	5.05	0.00	0.05	228.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	8.95	6.09	4.49	0.00	0.23	115.86	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.15	6.89	7.58	0.00	0.04	435.84	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.15	7.33	9.39	0.00	0.03	326.19	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.15	7.73	8.14	0.00	0.04	74.10	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.15	8.10	9.86	0.00	0.03	91.38	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	8.91	6.28	4.50	0.00	0.20	190.01	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.07	6.48	4.43	0.00	0.20	221.49	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	8.91	6.40	4.50	0.00	0.20	190.01	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.07	6.90	4.43	0.00	0.19	232.79	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.07	7.26	4.43	0.00	0.19	236.43	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.07	7.71	4.43	0.00	0.19	238.86	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.07	8.08	4.43	0.00	0.19	239.94	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	8.95	6.42	4.50	0.00	0.24	114.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	8.95	6.48	4.50	0.00	0.24	114.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.15	7.22	4.43	0.00	0.26	26.02	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.15	7.68	4.43	0.00	0.26	26.02	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.15	8.03	4.43	0.00	0.26	26.02	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.15	8.81	4.43	0.00	0.26	26.02	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.15	8.85	17.99	0.00	0.02	194.72	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	8.65	6.21	4.69	0.00	0.18	152.03	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:15 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 9
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		9.000		
Concentration of 1st Constituent (ppm) :	Morpholine	4.500	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.680	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		225.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		135.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		270.000		
Concentration of Boron (ppm) :		7.500	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent Morpholine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	8.09	6.05	3.83	0.00	0.19	597.08	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.16	6.05	3.79	0.00	0.19	597.08	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.16	6.27	4.48	0.00	0.15	623.51	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.35	6.41	5.01	0.00	0.14	250.55	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.35	8.12	9.84	0.00	0.10	108.21	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.16	6.49	5.29	0.00	0.13	934.12	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.16	6.27	4.48	0.00	0.15	623.51	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	8.41	6.41	5.02	0.00	0.15	270.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.16	6.15	4.49	0.00	0.68	137.20	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.35	6.91	7.52	0.00	0.12	516.12	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.35	7.34	9.34	0.00	0.10	386.27	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.35	7.75	8.12	0.00	0.13	87.75	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.35	8.12	9.84	0.00	0.10	108.21	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.12	6.36	4.50	0.00	0.68	225.04	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.29	6.58	4.43	0.00	0.72	262.36	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.12	6.48	4.50	0.00	0.68	225.04	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.29	7.02	4.43	0.00	0.72	276.28	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.29	7.38	4.43	0.00	0.72	281.58	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.29	7.85	4.43	0.00	0.72	285.69	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.29	8.24	4.43	0.00	0.71	287.69	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.16	6.51	4.51	0.00	0.73	135.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.16	6.56	4.51	0.00	0.73	135.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.35	7.35	4.44	0.00	0.81	30.81	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.35	7.82	4.44	0.00	0.81	30.81	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.35	8.18	4.44	0.00	0.81	30.81	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.35	8.99	4.44	0.00	0.81	30.81	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.35	8.86	17.98	0.00	0.07	230.59	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	8.81	6.27	4.68	0.00	0.54	180.04	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:05 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 10A
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		1.800		
Concentration of 1st Constituent (ppm) :	Morpholine	4.500	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		2.000	, Sampling at	Condensate
Concentration of Hydrazine (ppb) :		180.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		108.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		216.000		
Concentration of Boron (ppm) :		6.500	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent Morpholine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	8.24	6.08	3.79	0.00	0.48	477.66	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.43	6.08	3.77	0.00	0.48	477.66	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.43	6.30	4.44	0.00	0.39	498.81	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.58	6.44	4.94	0.00	0.37	200.44	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.58	8.16	9.79	0.00	0.26	86.57	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.43	6.52	5.24	0.00	0.33	747.30	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.43	6.30	4.44	0.00	0.39	498.81	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	8.53	6.44	4.95	0.00	0.37	216.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.44	6.25	4.49	0.00	1.77	109.76	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.58	6.94	7.42	0.00	0.29	412.90	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.58	7.37	9.25	0.00	0.26	309.02	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.58	7.80	8.07	0.00	0.31	70.20	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.58	8.16	9.79	0.00	0.26	86.57	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.41	6.48	4.50	0.00	1.84	180.00	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.54	6.71	4.44	0.00	2.01	209.79	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.41	6.60	4.50	0.00	1.84	180.00	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.54	7.17	4.44	0.00	2.00	220.17	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.54	7.55	4.44	0.00	2.00	223.14	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.54	8.04	4.44	0.00	2.00	224.89	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.54	8.44	4.44	0.00	2.00	225.61	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.44	6.63	4.51	0.00	1.89	108.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.44	6.69	4.51	0.00	1.89	108.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.58	7.51	4.45	0.00	2.08	24.65	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.58	7.99	4.45	0.00	2.08	24.65	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.58	8.37	4.45	0.00	2.08	24.65	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.58	9.20	4.45	0.00	2.08	24.65	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.58	8.90	17.89	0.00	0.17	184.47	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.10	6.36	4.65	0.00	1.38	144.03	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 29-Sep-2009 10:11 am
Analysis Date/Time: 29-Sep-2009 10:03 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 10B
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		2.500		
Concentration of 1st Constituent (ppm) :	ethanolamine	2.000	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		2.000	, Sampling at	Condensate
Concentration of Hydrazine (ppb) :		225.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		135.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		270.000		
Concentration of Boron (ppm) :		4.900	, Sampling at	Steam Generator Blowdown
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	8.64	6.25	5.17	0.00	0.48	597.08	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.54	6.25	5.14	0.00	0.47	597.08	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.54	6.54	6.42	0.00	0.37	623.51	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.62	6.70	6.79	0.00	0.34	250.55	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.62	8.33	4.68	0.00	0.23	108.21	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.54	6.83	9.50	0.00	0.30	934.12	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.54	6.54	6.42	0.00	0.37	623.51	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	9.10	6.70	7.06	0.00	0.35	270.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.54	6.26	2.00	0.00	1.78	137.20	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.62	7.36	15.05	0.00	0.25	516.12	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.62	7.77	14.62	0.00	0.21	386.27	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.62	7.92	3.78	0.00	0.29	87.75	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.62	8.33	4.68	0.00	0.23	108.21	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.52	6.49	2.00	0.00	1.84	225.00	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.59	6.71	1.36	0.00	2.01	262.23	0.000	0.00	9.475758	-----	371.6	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.52	6.62	2.00	0.00	1.84	225.00	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.59	7.18	1.36	0.00	2.00	275.18	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.59	7.56	1.36	0.00	2.00	278.93	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.59	8.05	1.36	0.00	2.00	281.22	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.59	8.46	1.36	0.00	2.00	282.18	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.54	6.65	1.98	0.00	1.90	135.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Shell Side Line 2	9.54	6.71	1.98	0.00	1.90	135.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.62	7.51	1.32	0.00	2.10	30.81	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.62	8.01	1.32	0.00	2.10	30.81	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.62	8.39	1.32	0.00	2.10	30.81	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.62	9.24	1.32	0.00	2.10	30.81	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.62	9.27	10.09	0.00	0.13	230.59	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.36	6.44	3.67	0.00	1.38	180.04	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:06 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 11
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		3.300		
Concentration of 1st Constituent (ppm) :	ethanolamine	2.400	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		5.285	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		190.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		114.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		228.000		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.74	6.32	6.09	0.00	1.33	504.20	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.86	6.32	6.08	0.00	1.33	504.20	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.86	6.60	7.58	0.00	1.04	526.52	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.87	6.77	8.01	0.00	0.95	211.58	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.87	8.43	5.67	0.00	0.60	91.38	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.86	6.90	11.14	0.00	0.83	788.82	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.86	6.60	7.58	0.00	1.04	526.52	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	9.77	6.77	8.33	0.00	0.95	228.00	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.86	6.42	2.40	0.00	5.01	115.86	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.87	7.45	17.49	0.00	0.68	435.84	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.87	7.84	17.38	0.00	0.59	326.19	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.87	8.03	4.57	0.00	0.76	74.10	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.87	8.43	5.67	0.00	0.60	91.38	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.86	6.67	2.40	0.00	5.28	190.01	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.86	6.91	1.65	0.00	5.82	221.47	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.86	6.81	2.40	0.00	5.28	190.01	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.86	7.39	1.65	0.00	5.81	232.66	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.86	7.78	1.65	0.00	5.81	236.13	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.86	8.29	1.65	0.00	5.81	238.36	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.86	8.70	1.65	0.00	5.81	239.34	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.86	6.83	2.37	0.00	5.35	114.00	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.86	6.90	2.37	0.00	5.35	114.00	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.87	7.73	1.60	0.00	5.93	26.02	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.87	8.23	1.60	0.00	5.93	26.02	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.87	8.62	1.60	0.00	5.93	26.02	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.87	9.48	1.60	0.00	5.93	26.02	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.87	9.42	12.22	0.00	0.33	194.72	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.83	6.58	4.36	0.00	3.88	152.03	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:06 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 12
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		0.690		
Concentration of 1st Constituent (ppm) :	ethanolamine	3.558	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		5.830	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		104.657	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		62.794	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		125.589		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.81	6.38	8.92	0.00	1.45	277.72	0.000	n/a	0.1	778.6	518.0	0.0000	-----
Main Steam Line 1	9.89	6.38	8.91	0.00	1.45	277.72	0.000	n/a	13.02415	-----	518.0	0.9999	-----
Main Steam Line 2	9.89	6.67	11.05	0.00	1.13	290.02	0.000	n/a	10.59295	340.4	429.1	0.9161	1136.9
Main Steam Line 3	9.90	6.84	11.69	0.00	1.03	116.54	0.000	n/a	9.375758	-----	390.6	0.9900	-----
Main Steam Line 4	9.90	8.52	8.48	0.00	0.63	50.33	0.000	n/a	7.205196	5.0	162.6	0.7270	858.0
HP Extraction Steam Line 1	9.89	6.98	16.17	0.00	0.90	434.50	0.000	n/a	0.92908	185.6	375.6	0.9540	1158.3
HP Extraction Steam Line 2	9.89	6.67	11.05	0.00	1.13	290.02	0.000	n/a	0.706255	340.4	429.1	0.9161	1136.9
Moisture Separator Drain Line 1	9.85	6.85	12.14	0.00	1.02	125.59	0.000	n/a	1.217196	221.9	390.6	0.0000	363.3
Reheater Steam & Drain Line 1	9.89	6.46	3.56	0.00	5.50	63.82	0.000	n/a	0.795863	644.7	494.0	0.0201	495.3
LP Extraction Steam Line 1	9.90	7.53	25.35	0.00	0.73	240.07	0.000	n/a	0.502856	65.0	298.0	0.9981	1177.4
LP Extraction Steam Line 2	9.90	7.93	25.48	0.00	0.63	179.67	0.000	n/a	0.475653	27.9	246.1	0.9557	1120.6
LP Extraction Steam Line 3	9.90	8.11	6.84	0.00	0.80	40.82	0.000	n/a	0.408297	10.7	196.5	0.6642	815.4
LP Extraction Steam Line 4	9.90	8.52	8.48	0.00	0.63	50.33	0.000	n/a	0.667055	5.0	162.6	0.7270	858.0
FWH Tube Side Line 1	9.89	6.71	3.56	0.00	5.83	104.66	0.000	0.00	13.12415	-----	423.2	0.0000	-----
FWH Tube Side Line 2	9.90	6.94	2.47	0.00	6.43	121.99	0.000	0.00	9.475758	-----	371.6	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.89	6.84	3.56	0.00	5.83	104.66	0.000	0.00	13.12415	-----	392.1	0.0000	-----
FWH Tube Side Line 3	9.90	7.42	2.47	0.00	6.43	128.00	0.000	0.00	9.475758	-----	293.6	0.0000	-----
FWH Tube Side Line 4	9.90	7.82	2.47	0.00	6.42	129.64	0.000	0.00	9.475758	-----	243.8	0.0000	-----
FWH Tube Side Line 5	9.90	8.32	2.47	0.00	6.42	130.54	0.000	0.00	9.475758	-----	191.8	0.0000	-----
FWH Tube Side Line 6	9.90	8.73	2.47	0.00	6.42	130.89	0.000	0.00	9.475758	-----	155.7	0.0000	-----
FWH Shell Side Line 1	9.89	6.87	3.52	0.00	5.89	62.79	0.000	n/a	1.502118	-----	386.7	0.0000	-----
FWH Shell Side Line 2	9.89	6.93	3.52	0.00	5.89	62.79	0.000	n/a	0.92908	-----	374.1	0.0000	-----
FWH Shell Side Line 3	9.90	7.77	2.40	0.00	6.52	14.33	0.000	n/a	0.502856	-----	250.0	0.0000	-----
FWH Shell Side Line 4	9.90	8.27	2.40	0.00	6.52	14.33	0.000	n/a	0.978509	-----	196.9	0.0000	-----
FWH Shell Side Line 5	9.90	8.65	2.40	0.00	6.52	14.33	0.000	n/a	1.386806	-----	162.5	0.0000	-----
FWH Shell Side Line 6	9.90	9.51	2.40	0.00	6.52	14.33	0.000	n/a	2.053861	-----	100.3	0.0000	-----
Feed Pump Steam & Drain Line 1	9.90	9.51	18.28	0.00	0.35	107.26	0.000	n/a	0.116701	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.88	6.62	6.39	0.00	4.26	83.74	0.000	0.00	3.648394	403.5	445.4	0.0000	359.1

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:16 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 12
Power Level : 101.12%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		0.690		
Concentration of 1st Constituent (ppm) :	ethanolamine	3.558	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		5.830	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		104.657	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		62.794	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		125.589		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.81	6.39	9.07	0.00	1.43	281.15	0.000	n/a	0.057785	774.4	514.5	0.0000	-----
Main Steam Line 1	9.89	6.39	9.06	0.00	1.43	281.15	0.000	n/a	13.18687	-----	514.5	0.9992	-----
Main Steam Line 2	9.89	6.65	10.86	0.00	1.14	285.48	0.000	n/a	10.545	361.4	434.8	0.9172	1138.6
Main Steam Line 3	9.90	6.91	13.19	0.00	0.97	115.97	0.000	n/a	9.622492	-----	381.7	0.9900	-----
Main Steam Line 4	9.90	8.52	10.75	0.00	0.57	56.48	0.000	n/a	7.266111	5.6	166.7	0.7738	907.0
HP Extraction Steam Line 1	9.89	6.93	14.94	0.00	0.94	389.73	0.000	n/a	0.935949	200.9	382.2	0.9404	1148.2
HP Extraction Steam Line 2	9.89	6.65	10.86	0.00	1.14	285.48	0.000	n/a	0.751563	361.4	434.8	0.9172	1138.6
Moisture Separator Drain Line 1	9.88	6.92	13.73	0.00	0.96	125.67	0.000	n/a	0.922509	199.8	381.7	0.0007	355.9
Reheater Steam & Drain Line 1	9.89	6.46	3.63	0.00	5.13	64.95	0.000	n/a	0.954357	623.3	490.3	0.0414	506.5
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.53128	74.5	307.2	1.0000	1197.4
LP Extraction Steam Line 2	9.90	7.79	17.80	0.00	0.67	103.84	0.000	n/a	0.447417	31.3	252.8	0.9055	1075.7
LP Extraction Steam Line 3	9.90	8.09	9.54	0.00	0.70	50.65	0.000	n/a	0.458881	12.8	205.1	0.7520	906.1
LP Extraction Steam Line 4	9.90	8.52	10.75	0.00	0.57	56.48	0.000	n/a	0.771656	5.6	166.7	0.7738	907.0
FWH Tube Side Line 1	9.89	6.70	3.56	0.00	5.83	104.66	0.000	0.00	13.24466	-----	425.0	0.0000	-----
FWH Tube Side Line 2	9.89	6.93	2.60	0.00	6.28	123.14	0.000	0.00	9.680277	-----	374.7	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.89	6.92	3.56	0.00	5.83	104.66	0.000	0.00	13.24466	-----	376.3	0.0000	-----
FWH Tube Side Line 3	9.89	7.40	2.60	0.00	6.27	129.34	0.000	0.00	9.680277	-----	296.6	0.0000	-----
FWH Tube Side Line 4	9.89	7.82	2.60	0.00	6.27	131.12	0.000	0.00	9.680277	-----	243.0	0.0000	-----
FWH Tube Side Line 5	9.89	8.27	2.60	0.00	6.27	131.92	0.000	0.00	9.680277	-----	196.4	0.0000	-----
FWH Tube Side Line 6	9.89	8.74	2.60	0.00	6.27	132.33	0.000	0.00	9.680277	-----	155.3	0.0000	-----
FWH Shell Side Line 1	9.89	6.85	3.53	0.00	5.87	62.79	0.000	n/a	1.70592	-----	390.3	0.0000	-----
FWH Shell Side Line 2	9.89	6.92	3.53	0.00	5.87	62.79	0.000	n/a	0.935949	-----	376.9	0.0000	-----
FWH Shell Side Line 3	9.90	7.76	2.56	0.00	6.34	13.52	0.000	n/a	0.53128	-----	250.6	0.0000	-----
FWH Shell Side Line 4	9.90	8.21	2.56	0.00	6.34	13.52	0.000	n/a	0.978697	-----	202.2	0.0000	-----
FWH Shell Side Line 5	9.90	8.64	2.56	0.00	6.34	13.52	0.000	n/a	1.437578	-----	163.7	0.0000	-----
FWH Shell Side Line 6	9.90	9.69	2.56	0.00	6.34	13.52	0.000	n/a	2.209234	-----	88.7	0.0000	-----
Feed Pump Steam & Drain Line 1	9.90	9.53	19.71	0.00	0.34	102.26	0.000	n/a	0.147147	1.0	101.7	0.8749	976.3
Drain Tank Drain Line 1	9.89	6.90	6.17	0.00	4.60	79.05	0.000	0.00	3.564378	197.7	380.8	0.0000	338.7

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:16 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 13
Power Level : 101.12%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		3.340		
Concentration of 1st Constituent (ppm) :	ethanolamine	3.423	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		4.886	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		98.400	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		58.100	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		116.100		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.79	6.38	8.74	0.00	1.20	260.13	0.000	n/a	0.057785	774.4	514.5	0.0000	-----
Main Steam Line 1	9.86	6.38	8.74	0.00	1.20	260.13	0.000	n/a	13.18687	-----	514.5	0.9992	-----
Main Steam Line 2	9.86	6.64	10.47	0.00	0.96	264.14	0.000	n/a	10.545	361.4	434.8	0.9172	1138.6
Main Steam Line 3	9.86	6.90	12.72	0.00	0.82	107.21	0.000	n/a	9.622492	-----	381.7	0.9900	-----
Main Steam Line 4	9.86	8.51	10.33	0.00	0.48	52.21	0.000	n/a	7.266111	5.6	166.7	0.7738	907.0
HP Extraction Steam Line 1	9.86	6.92	14.42	0.00	0.79	360.60	0.000	n/a	0.935949	200.9	382.2	0.9404	1148.2
HP Extraction Steam Line 2	9.86	6.64	10.47	0.00	0.96	264.14	0.000	n/a	0.751563	361.4	434.8	0.9172	1138.6
Moisture Separator Drain Line 1	9.86	6.90	13.25	0.00	0.81	116.18	0.000	n/a	0.922509	199.8	381.7	0.0007	355.9
Reheater Steam & Drain Line 1	9.86	6.43	3.49	0.00	4.30	60.09	0.000	n/a	0.954357	623.3	490.3	0.0414	506.5
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.53128	74.5	307.2	1.0000	1197.4
LP Extraction Steam Line 2	9.86	7.78	17.14	0.00	0.57	96.00	0.000	n/a	0.447417	31.3	252.8	0.9055	1075.7
LP Extraction Steam Line 3	9.86	8.07	9.17	0.00	0.59	46.82	0.000	n/a	0.458881	12.8	205.1	0.7520	906.1
LP Extraction Steam Line 4	9.86	8.51	10.33	0.00	0.48	52.21	0.000	n/a	0.771656	5.6	166.7	0.7738	907.0
FWH Tube Side Line 1	9.86	6.67	3.42	0.00	4.89	98.41	0.000	0.00	13.24466	-----	425.0	0.0000	-----
FWH Tube Side Line 2	9.86	6.89	2.49	0.00	5.26	116.36	0.000	0.00	9.680277	-----	374.7	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.86	6.89	3.42	0.00	4.89	98.41	0.000	0.00	13.24466	-----	376.3	0.0000	-----
FWH Tube Side Line 3	9.86	7.36	2.49	0.00	5.26	122.84	0.000	0.00	9.680277	-----	296.6	0.0000	-----
FWH Tube Side Line 4	9.86	7.79	2.49	0.00	5.26	125.23	0.000	0.00	9.680277	-----	243.0	0.0000	-----
FWH Tube Side Line 5	9.86	8.23	2.49	0.00	5.26	126.54	0.000	0.00	9.680277	-----	196.4	0.0000	-----
FWH Tube Side Line 6	9.86	8.70	2.49	0.00	5.26	127.28	0.000	0.00	9.680277	-----	155.3	0.0000	-----
FWH Shell Side Line 1	9.86	6.82	3.40	0.00	4.92	58.10	0.000	n/a	1.70592	-----	390.3	0.0000	-----
FWH Shell Side Line 2	9.86	6.89	3.40	0.00	4.92	58.10	0.000	n/a	0.935949	-----	376.9	0.0000	-----
FWH Shell Side Line 3	9.86	7.72	2.46	0.00	5.32	12.50	0.000	n/a	0.53128	-----	250.6	0.0000	-----
FWH Shell Side Line 4	9.86	8.17	2.46	0.00	5.32	12.50	0.000	n/a	0.978697	-----	202.2	0.0000	-----
FWH Shell Side Line 5	9.86	8.60	2.46	0.00	5.32	12.50	0.000	n/a	1.437578	-----	163.7	0.0000	-----
FWH Shell Side Line 6	9.86	9.66	2.46	0.00	5.32	12.50	0.000	n/a	2.209234	-----	88.7	0.0000	-----
Feed Pump Steam & Drain Line 1	9.86	9.52	18.94	0.00	0.29	94.54	0.000	n/a	0.147147	1.0	101.7	0.8749	976.3
Drain Tank Drain Line 1	9.86	6.88	5.95	0.00	3.86	73.11	0.000	0.00	3.564378	197.7	380.8	0.0000	338.7

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:17 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 14
Power Level : 104.95%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		2.987		
Concentration of 1st Constituent (ppm) :	ethanolamine	4.808	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		3.600	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		55.730	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		33.440	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		66.880		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.85	6.43	12.27	0.00	0.87	151.06	0.000	n/a	0.057785	760.4	512.4	0.0000	-----
Main Steam Line 1	9.83	6.43	12.26	0.00	0.87	151.06	0.000	n/a	13.7838	-----	512.4	0.9992	-----
Main Steam Line 2	9.83	6.67	14.71	0.00	0.71	160.22	0.000	n/a	11.07654	388.6	441.8	0.9371	1155.1
Main Steam Line 3	9.82	6.93	16.82	0.00	0.61	61.87	0.000	n/a	9.978813	-----	384.8	0.9900	-----
Main Steam Line 4	9.82	8.56	14.00	0.00	0.35	30.33	0.000	n/a	7.530174	5.8	168.3	0.7711	905.2
HP Extraction Steam Line 1	9.83	6.97	19.51	0.00	0.58	202.87	0.000	n/a	0.984482	208.3	385.2	0.9386	1147.3
HP Extraction Steam Line 2	9.83	6.67	14.71	0.00	0.71	160.22	0.000	n/a	0.852604	388.6	441.8	0.9371	1155.1
Moisture Separator Drain Line 1	9.92	6.94	17.48	0.00	0.60	66.89	0.000	n/a	1.097732	207.2	384.8	0.0002	358.7
Reheater Steam & Drain Line 1	9.83	6.42	4.90	0.00	3.18	34.53	0.000	n/a	0.870169	620.3	489.8	0.0395	504.5
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.548842	77.3	309.6	1.0000	1197.6
LP Extraction Steam Line 2	9.82	7.83	23.11	0.00	0.42	56.14	0.000	n/a	0.472533	32.4	254.8	0.9054	1076.5
LP Extraction Steam Line 3	9.82	8.12	12.50	0.00	0.43	27.37	0.000	n/a	0.475753	13.3	206.9	0.7508	905.9
LP Extraction Steam Line 4	9.82	8.56	14.00	0.00	0.35	30.33	0.000	n/a	0.790585	5.8	168.3	0.7711	905.2
FWH Tube Side Line 1	9.83	6.63	4.81	0.00	3.60	55.75	0.000	0.00	13.84159	-----	430.4	0.0000	-----
FWH Tube Side Line 2	9.82	6.85	3.43	0.00	3.92	66.30	0.000	0.00	10.0366	-----	377.3	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.83	6.86	4.81	0.00	3.60	55.75	0.000	0.00	13.84159	-----	378.9	0.0000	-----
FWH Tube Side Line 3	9.82	7.32	3.43	0.00	3.92	70.60	0.000	0.00	10.0366	-----	298.3	0.0000	-----
FWH Tube Side Line 4	9.82	7.73	3.43	0.00	3.92	72.22	0.000	0.00	10.0366	-----	245.2	0.0000	-----
FWH Tube Side Line 5	9.82	8.18	3.43	0.00	3.92	73.16	0.000	0.00	10.0366	-----	198.0	0.0000	-----
FWH Tube Side Line 6	9.82	8.64	3.43	0.00	3.92	73.65	0.000	0.00	10.0366	-----	156.9	0.0000	-----
FWH Shell Side Line 1	9.83	6.78	4.78	0.00	3.62	33.44	0.000	n/a	1.722773	-----	394.2	0.0000	-----
FWH Shell Side Line 2	9.83	6.85	4.78	0.00	3.62	33.44	0.000	n/a	0.984482	-----	379.8	0.0000	-----
FWH Shell Side Line 3	9.82	7.66	3.38	0.00	3.96	7.35	0.000	n/a	0.548842	-----	253.0	0.0000	-----
FWH Shell Side Line 4	9.82	8.12	3.38	0.00	3.96	7.35	0.000	n/a	1.021375	-----	204.1	0.0000	-----
FWH Shell Side Line 5	9.82	8.54	3.38	0.00	3.96	7.35	0.000	n/a	1.497128	-----	165.7	0.0000	-----
FWH Shell Side Line 6	9.82	9.57	3.38	0.00	3.96	7.35	0.000	n/a	2.287713	-----	91.8	0.0000	-----
Feed Pump Steam & Drain Line 1	9.82	9.59	25.73	0.00	0.21	54.98	0.000	n/a	0.160926	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.86	6.87	8.44	0.00	2.75	43.09	0.000	0.00	3.804987	203.3	383.2	0.0000	342.5

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3)

Report Date/Time: 09-Feb-2010 3:17 pm
Analysis Date/Time: 09-Feb-2010 2:55 pm
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 15
Power Level : 104.95%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		2.820		
Concentration of 1st Constituent (ppm) :	ethanolamine	4.360	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		3.620	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		61.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		36.600	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		73.200		
Concentration of Boron (ppm) :		0.000	, Sampling at	Not Used
Boron Injection Rate (lbm/hr) :		0.000		

Chemistry Analysis Results :

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
Blowdown Line	9.83	6.42	11.16	0.00	0.88	165.33	0.000	n/a	0.057785	760.4	512.4	0.0000	-----
Main Steam Line 1	9.82	6.42	11.15	0.00	0.88	165.33	0.000	n/a	13.7838	-----	512.4	0.9992	-----
Main Steam Line 2	9.82	6.65	13.39	0.00	0.71	175.36	0.000	n/a	11.07654	388.6	441.8	0.9371	1155.1
Main Steam Line 3	9.81	6.91	15.31	0.00	0.61	67.71	0.000	n/a	9.978813	-----	384.8	0.9900	-----
Main Steam Line 4	9.81	8.53	12.68	0.00	0.36	33.20	0.000	n/a	7.530174	5.8	168.3	0.7711	905.2
HP Extraction Steam Line 1	9.82	6.94	17.77	0.00	0.58	222.05	0.000	n/a	0.984482	208.3	385.2	0.9386	1147.3
HP Extraction Steam Line 2	9.82	6.65	13.39	0.00	0.71	175.36	0.000	n/a	0.852604	388.6	441.8	0.9371	1155.1
Moisture Separator Drain Line 1	9.90	6.92	15.92	0.00	0.61	73.21	0.000	n/a	1.097732	207.2	384.8	0.0002	358.7
Reheater Steam & Drain Line 1	9.82	6.41	4.45	0.00	3.20	37.79	0.000	n/a	0.870169	620.3	489.8	0.0395	504.5
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.548842	77.3	309.6	1.0000	1197.6
LP Extraction Steam Line 2	9.81	7.81	20.99	0.00	0.42	61.44	0.000	n/a	0.472533	32.4	254.8	0.9054	1076.5
LP Extraction Steam Line 3	9.81	8.10	11.32	0.00	0.44	29.96	0.000	n/a	0.475753	13.3	206.9	0.7508	905.9
LP Extraction Steam Line 4	9.81	8.53	12.68	0.00	0.36	33.20	0.000	n/a	0.790585	5.8	168.3	0.7711	905.2
FWH Tube Side Line 1	9.82	6.62	4.36	0.00	3.62	61.01	0.000	0.00	13.84159	-----	430.4	0.0000	-----
FWH Tube Side Line 2	9.81	6.84	3.10	0.00	3.94	72.51	0.000	0.00	10.0366	-----	377.3	0.0000	-----

HBD Item Description	(Note 1) Cold pH	Hot pH	1st Constituent ethanolamine (ppm)	2nd Constituent None (ppm)	Ammonia (ppm)	Hydrazine (ppb)	Dis. Oxy (ppb)	Vent Rate (%)	Flow Rate (Mlb/hr)	Pres (psia)	Temp (F)	Quality	Enthalpy (Btu/lb)
FWH Tube Side Line 2 (MIXED)	9.82	6.85	4.36	0.00	3.62	61.01	0.000	0.00	13.84159	-----	378.9	0.0000	-----
FWH Tube Side Line 3	9.81	7.31	3.10	0.00	3.94	77.06	0.000	0.00	10.0366	-----	298.3	0.0000	-----
FWH Tube Side Line 4	9.81	7.72	3.10	0.00	3.94	78.73	0.000	0.00	10.0366	-----	245.2	0.0000	-----
FWH Tube Side Line 5	9.81	8.17	3.10	0.00	3.94	79.70	0.000	0.00	10.0366	-----	198.0	0.0000	-----
FWH Tube Side Line 6	9.81	8.64	3.10	0.00	3.94	80.20	0.000	0.00	10.0366	-----	156.9	0.0000	-----
FWH Shell Side Line 1	9.82	6.77	4.33	0.00	3.64	36.60	0.000	n/a	1.722773	-----	394.2	0.0000	-----
FWH Shell Side Line 2	9.82	6.84	4.33	0.00	3.64	36.60	0.000	n/a	0.984482	-----	379.8	0.0000	-----
FWH Shell Side Line 3	9.81	7.66	3.06	0.00	3.98	8.04	0.000	n/a	0.548842	-----	253.0	0.0000	-----
FWH Shell Side Line 4	9.81	8.11	3.06	0.00	3.98	8.04	0.000	n/a	1.021375	-----	204.1	0.0000	-----
FWH Shell Side Line 5	9.81	8.53	3.06	0.00	3.98	8.04	0.000	n/a	1.497128	-----	165.7	0.0000	-----
FWH Shell Side Line 6	9.81	9.56	3.06	0.00	3.98	8.04	0.000	n/a	2.287713	-----	91.8	0.0000	-----
Feed Pump Steam & Drain Line 1	9.81	9.57	23.29	0.00	0.21	60.17	0.000	n/a	0.160926	1.0	101.7	0.8734	974.8
Drain Tank Drain Line 1	9.85	6.86	7.67	0.00	2.77	47.16	0.000	0.00	3.804987	203.3	383.2	0.0000	342.5

Notes:
1: For two-phase lines, the cold pH reported is for the mixture of steam and water, and the amine concentrations and hot pH are for the water phase only.
2: For Superheated steam, cold pH, hot pH and amine concentration are not reported since there is no water phase.

Appendix H

Pass 1 Wear Rate Analysis Reports

Wear Rate Analysis Run **Page**

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:42:50PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.1 FWH 35 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-06.1-03T	14	7.716	5.044	375.7	15.783	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.1-01T (D/S)	12	5.730	3.746	375.7	15.688	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.1-01T (BR/SE)	12	5.662	3.547	370.3	16.286	0.0	16.000	6.891	0.000	'61.01'	ARD
CD-06.1-03T (D/S)	14	5.237	3.424	375.7	7.891	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.1-01T	12	5.106	3.125	377.3	11.388	0.0	30.000	6.855	0.000	'61.01'	ARD
CD-06.1-03T (BR/SE)	14	4.491	2.936	375.7	12.681	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.1-02P	62	3.062	2.002	375.7	18.139	0.0	28.000	6.865	0.000	'61.01'	ARD
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***								***Sorted By: Average Wear Rate***		
CD-06.2A-24O	6	10.150	6.636	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3A-02N	30	7.395	4.834	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
CD-06.2A-07V	22	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-02E	2	4.752	3.107	375.7	12.699	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-04E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-06E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-09E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-11E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-13E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-15E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-17E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-19E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-20E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-26E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-28E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-33E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-31E	3	4.475	2.925	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-30E	1	4.219	2.758	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-12P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-21P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-29P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***								***Sorted By: Average Wear Rate***		
CD-06.3A-01R (D/S)	17	3.328	2.175	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
CD-06.2A-03P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-05P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-10P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-14P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-16P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-18P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-27P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-32P	53	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-34P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3A-01R	17	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-08P	58	2.813	1.839	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-01P	64	2.566	1.678	375.7	12.681	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-25P	56	2.030	1.327	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-22P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-23P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***								***Sorted By: Average Wear Rate***		
CD-06.2B-08O	6	10.150	6.636	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3B-02N	30	7.395	4.834	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
CD-06.2B-04T (BR/SE)	13	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-04T	13	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-05V	22	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-06E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-10E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-12E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-14E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-01R (D/S)	7	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-07P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-13P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-03T (D/S)	15	3.836	2.508	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-03T	15	3.836	2.508	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3B-01R (D/S)	17	3.328	2.175	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
CD-06.2B-01R	7	3.310	2.164	375.7	7.807	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.2B-02P	57	3.201	2.093	375.7	12.639	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-11P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-15P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3B-01R	17	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-09P	56	2.030	1.327	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***								***Sorted By: Average Wear Rate***		
CD-06.2B-35P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-36P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:42:50PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.1 FWH 35 OUT HDR***									***Sorted By: Flow Order***	
CD-06.1-01T	12	5.106	3.125	377.3	11.388	0.0	30.000	6.855	0.000	'61.01'	ARD
CD-06.1-01T (D/S)	12	5.730	3.746	375.7	15.688	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.1-02P	62	3.062	2.002	375.7	18.139	0.0	28.000	6.865	0.000	'61.01'	ARD
CD-06.1-03T	14	7.716	5.044	375.7	15.783	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.1-03T (BR/SE)	14	4.491	2.936	375.7	12.681	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.1-03T (D/S)	14	5.237	3.424	375.7	7.891	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.1-01T (BR/SE)	12	5.662	3.547	370.3	16.286	0.0	16.000	6.891	0.000	'61.01'	ARD
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***									***Sorted By: Flow Order***	
CD-06.2A-01P	64	2.566	1.678	375.7	12.681	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-02E	2	4.752	3.107	375.7	12.699	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-03P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-04E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-05P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-06E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-07V	22	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-08P	58	2.813	1.839	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-09E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-10P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-11E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-12P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-13E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-14P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-15E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-16P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-17E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-18P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-19E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-20E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-21P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***									***Sorted By: Flow Order***	
CD-06.2A-22P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-23P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-24O	6	10.150	6.636	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-25P	56	2.030	1.327	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-26E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-27P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-28E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-29P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-30E	1	4.219	2.758	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-31E	3	4.475	2.925	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-32P	53	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-33E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2A-34P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3A-01R	17	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3A-01R (D/S)	17	3.328	2.175	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
CD-06.3A-02N	30	7.395	4.834	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***									***Sorted By: Flow Order***	
CD-06.2B-01R	7	3.310	2.164	375.7	7.807	0.0	30.000	6.865	0.000	'61.01'	ARD
CD-06.2B-01R (D/S)	7	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-02P	57	3.201	2.093	375.7	12.639	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-35P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-03T	15	3.836	2.508	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-03T (D/S)	15	3.836	2.508	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-04T	13	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-04T (BR/SE)	13	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-05V	22	6.393	4.179	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-06E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-07P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-36P	9	1.637	1.086	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-08O	6	10.150	6.636	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-09P	56	2.030	1.327	375.7	26.293	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-10E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-11P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-12E	4	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-13P	54	4.091	2.675	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-14E	2	4.731	3.093	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.2B-15P	52	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD
CD-06.3B-01R	17	3.196	2.090	375.7	12.607	0.0	24.000	6.865	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***									***Sorted By: Flow Order***	
CD-06.3B-01R (D/S)	17	3.328	2.175	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD
CD-06.3B-02N	30	7.395	4.834	375.7	22.658	0.0	18.000	6.865	0.000	'61.01'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:42:50PM

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.1 FWH 35 OUT HDR**					***Sorted By:Remaining Life***		
CD-06.1-03T	0.702	0.611	0.561	0.561	85,814	No	203,584
CD-06.1-01T (D/S)	0.659	0.626	0.561	0.561	151,202	No	203,584
CD-06.1-03T (D/S)	0.702	0.630	0.561	0.561	175,745	No	203,584
CD-06.1-01T	0.659	0.633	0.561	0.561	199,342	No	203,584
CD-06.1-01T (BR/SE)	0.000	0.402	0.299	0.299	252,458	Yes	203,584
CD-06.1-03T (BR/SE)	0.721	0.599	0.449	0.449	447,756	No	203,584
CD-06.1-02P	0.663	0.650	0.524	0.524	550,943	No	203,584
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Remaining Life***		
CD-06.2A-24O	0.688	0.452	0.523	0.523	-98,566	No	203,584
CD-06.2A-07V	0.688	0.539	0.559	0.559	-41,936	No	203,584
CD-06.2A-04E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-06E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-09E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-11E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-13E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-15E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-17E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-19E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-20E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-26E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-28E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-33E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-31E	0.688	0.584	0.523	0.523	183,472	No	203,584
CD-06.2A-30E	0.688	0.590	0.523	0.523	213,465	No	203,584
CD-06.2A-12P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2A-21P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2A-29P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2A-02E	0.729	0.619	0.523	0.523	270,192	Yes	203,584
CD-06.2A-03P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-05P	0.688	0.614	0.523	0.523	381,423	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Remaining Life***		
CD-06.2A-10P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-14P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-16P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-18P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-27P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-32P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-34P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.3A-01R	0.000	0.626	0.523	0.523	432,694	Yes	203,584
CD-06.2A-08P	0.688	0.623	0.523	0.523	475,900	No	203,584
CD-06.3A-01R (D/S)	0.000	0.527	0.392	0.392	542,537	Yes	203,584
CD-06.2A-01P	0.721	0.661	0.523	0.523	723,743	Yes	203,584
CD-06.2A-25P	0.688	0.643	0.523	0.523	796,818	Yes	203,584
CD-06.2A-22P	0.688	0.650	0.523	0.523	1,026,098	No	203,584
CD-06.2A-23P	0.688	0.650	0.523	0.523	1,026,098	No	203,584
CD-06.3A-02N	0.562	1.020	0.392	0.392	1,137,429	Yes	203,584
===>Grouped by Line: **CD-06.2B HDR to BFP 32**					***Sorted By:Remaining Life***		
CD-06.2B-08O	0.688	0.452	0.523	0.523	-98,566	No	203,584
CD-06.2B-05V	0.688	0.539	0.559	0.559	-41,936	No	203,584
CD-06.2B-10E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2B-12E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2B-14E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2B-13P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2B-03T	0.688	0.599	0.523	0.523	265,952	No	203,584
CD-06.2B-03T (D/S)	0.000	0.599	0.523	0.523	265,952	No	203,584
CD-06.2B-07P	0.688	0.620	0.523	0.523	317,950	Yes	203,584
CD-06.2B-06E	0.688	0.636	0.523	0.523	320,840	Yes	203,584
CD-06.3B-01R (D/S)	0.000	0.485	0.392	0.392	372,953	No	203,584
CD-06.2B-11P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2B-15P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.3B-01R	0.000	0.614	0.523	0.523	381,423	No	203,584
CD-06.2B-02P	0.702	0.618	0.523	0.523	400,090	Yes	203,584
CD-06.2B-01R (D/S)	0.000	0.672	0.492	0.492	590,565	Yes	203,584
CD-06.2B-09P	0.688	0.616	0.523	0.523	618,602	Yes	203,584
CD-06.2B-04T (BR/SE)	0.000	0.883	0.523	0.523	754,921	Yes	203,584
CD-06.2B-01R	0.000	0.823	0.615	0.615	841,657	Yes	203,584
CD-06.2B-04T	0.688	0.956	0.523	0.523	907,933	Yes	203,584
CD-06.3B-02N	0.562	0.922	0.392	0.392	959,454	No	203,584
CD-06.2B-35P	0.688	0.650	0.523	0.523	1,026,098	No	203,584
CD-06.2B-36P	0.688	0.650	0.523	0.523	1,026,098	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:42:50PM

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.1 FWH 35 OUT HDR**					***Sorted By:Flow Order***		
CD-06.1-01T	0.659	0.633	0.561	0.561	199,342	No	203,584
CD-06.1-01T (D/S)	0.659	0.626	0.561	0.561	151,202	No	203,584
CD-06.1-02P	0.663	0.650	0.524	0.524	550,943	No	203,584
CD-06.1-03T	0.702	0.611	0.561	0.561	85,814	No	203,584
CD-06.1-03T (BR/SE)	0.721	0.599	0.449	0.449	447,756	No	203,584
CD-06.1-03T (D/S)	0.702	0.630	0.561	0.561	175,745	No	203,584
CD-06.1-01T (BR/SE)	0.000	0.402	0.299	0.299	252,458	Yes	203,584
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Flow Order***		
CD-06.2A-01P	0.721	0.661	0.523	0.523	723,743	Yes	203,584
CD-06.2A-02E	0.729	0.619	0.523	0.523	270,192	Yes	203,584
CD-06.2A-03P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-04E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-05P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-06E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-07V	0.688	0.539	0.559	0.559	-41,936	No	203,584
CD-06.2A-08P	0.688	0.623	0.523	0.523	475,900	No	203,584
CD-06.2A-09E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-10P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-11E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-12P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2A-13E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-14P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-15E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-16P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-17E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-18P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-19E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-20E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-21P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2A-22P	0.688	0.650	0.523	0.523	1,026,098	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Flow Order***		
CD-06.2A-23P	0.688	0.650	0.523	0.523	1,026,098	No	203,584
CD-06.2A-24O	0.688	0.452	0.523	0.523	-98,566	No	203,584
CD-06.2A-25P	0.688	0.643	0.523	0.523	796,818	Yes	203,584
CD-06.2A-26E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-27P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-28E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-29P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2A-30E	0.688	0.590	0.523	0.523	213,465	No	203,584
CD-06.2A-31E	0.688	0.584	0.523	0.523	183,472	No	203,584
CD-06.2A-32P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2A-33E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2A-34P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.3A-01R	0.000	0.626	0.523	0.523	432,694	Yes	203,584
CD-06.3A-01R (D/S)	0.000	0.527	0.392	0.392	542,537	Yes	203,584
CD-06.3A-02N	0.562	1.020	0.392	0.392	1,137,429	Yes	203,584
===>Grouped by Line: **CD-06.2B HDR to BFP 32**					***Sorted By:Flow Order***		
CD-06.2B-01R	0.000	0.823	0.615	0.615	841,657	Yes	203,584
CD-06.2B-01R (D/S)	0.000	0.672	0.492	0.492	590,565	Yes	203,584
CD-06.2B-02P	0.702	0.618	0.523	0.523	400,090	Yes	203,584
CD-06.2B-35P	0.688	0.650	0.523	0.523	1,026,098	No	203,584
CD-06.2B-03T	0.688	0.599	0.523	0.523	265,952	No	203,584
CD-06.2B-03T (D/S)	0.000	0.599	0.523	0.523	265,952	No	203,584
CD-06.2B-04T	0.688	0.956	0.523	0.523	907,933	Yes	203,584
CD-06.2B-04T (BR/SE)	0.000	0.883	0.523	0.523	754,921	Yes	203,584
CD-06.2B-05V	0.688	0.539	0.559	0.559	-41,936	No	203,584
CD-06.2B-06E	0.688	0.636	0.523	0.523	320,840	Yes	203,584
CD-06.2B-07P	0.688	0.620	0.523	0.523	317,950	Yes	203,584
CD-06.2B-36P	0.688	0.650	0.523	0.523	1,026,098	No	203,584
CD-06.2B-08O	0.688	0.452	0.523	0.523	-98,566	No	203,584
CD-06.2B-09P	0.688	0.616	0.523	0.523	618,602	Yes	203,584
CD-06.2B-10E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2B-11P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.2B-12E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2B-13P	0.688	0.593	0.523	0.523	229,867	No	203,584
CD-06.2B-14E	0.688	0.578	0.523	0.523	156,722	No	203,584
CD-06.2B-15P	0.688	0.614	0.523	0.523	381,423	No	203,584
CD-06.3B-01R	0.000	0.614	0.523	0.523	381,423	No	203,584
CD-06.3B-01R (D/S)	0.000	0.485	0.392	0.392	372,953	No	203,584
CD-06.3B-02N	0.562	0.922	0.392	0.392	959,454	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:43:00PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.8A HDR to FWH 33A***								***Sorted By: Average Wear Rate***		
CD-02.8A-04V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-08N	30	4.658	3.159	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-02E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-05E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.7-02T (BR/SE)	14	4.076	2.764	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-03P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-06P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.7-02T	14	2.933	2.018	198.0	5.527	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.8A-01P	64	2.329	1.580	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.7-01P	64	1.064	0.732	198.0	5.515	0.0	24.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.8B HDR to FWH 33B***								***Sorted By: Average Wear Rate***		
CD-02.8B-04V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-08N	30	4.658	3.159	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-02E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-05E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-03P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-06P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-01P	64	2.332	1.582	198.0	16.461	0.0	14.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.8C HDR to FWH 33C***								***Sorted By: Average Wear Rate***		
CD-02.8C-04V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-08N	30	4.658	3.159	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-02E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-05E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-03P	54	3.841	2.605	198.0	17.235	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-06P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-01P	64	2.417	1.639	198.0	17.425	0.0	14.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:00PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.8A HDR to FWH 33A***									***Sorted By: Flow Order***	
CD-02.7-01P	64	1.064	0.732	198.0	5.515	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.7-02T	14	2.933	2.018	198.0	5.527	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.7-02T (BR/SE)	14	4.076	2.764	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-01P	64	2.329	1.580	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-02E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-03P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-04V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-05E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-06P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8A-08N	30	4.658	3.159	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.8B HDR to FWH 33B***									***Sorted By: Flow Order***	
CD-02.8B-01P	64	2.332	1.582	198.0	16.461	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-02E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-03P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-04V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-05E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-06P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8B-08N	30	4.658	3.159	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.8C HDR to FWH 33C***									***Sorted By: Flow Order***	
CD-02.8C-01P	64	2.417	1.639	198.0	17.425	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-02E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-03P	54	3.841	2.605	198.0	17.235	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-04V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-05E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-06P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.8C-08N	30	4.658	3.159	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:00PM

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.8A HDR to FWH 33A**					***Sorted By:Remaining Life***		
CD-02.8A-08N	0.438	0.330	0.305	0.305	68,796	No	203,584
CD-02.8A-03P	0.438	0.357	0.305	0.305	179,105	Yes	203,584
CD-02.7-02T (BR/SE)	0.000	0.370	0.305	0.305	205,068	Yes	203,584
CD-02.8A-06P	0.438	0.379	0.305	0.305	255,590	Yes	203,584
CD-02.8A-01P	0.438	0.384	0.305	0.305	437,786	No	203,584
CD-02.8A-05E	0.438	0.451	0.305	0.305	438,412	Yes	203,584
CD-02.8A-07E	0.438	0.456	0.305	0.305	453,400	Yes	203,584
CD-02.7-02T	0.688	0.654	0.523	0.523	570,132	Yes	203,584
CD-02.8A-02E	0.438	0.499	0.305	0.305	581,052	Yes	203,584
CD-02.8A-04V	0.438	0.717	0.326	0.326	866,907	No	203,584
CD-02.7-01P	0.675	0.650	0.523	0.523	1,525,556	No	203,584
===>Grouped by Line: **CD-02.8B HDR to FWH 33B**					***Sorted By:Remaining Life***		
CD-02.8B-04V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.8B-08N	0.438	0.330	0.305	0.305	68,796	No	203,584
CD-02.8B-05E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.8B-07E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.8B-02E	0.000	0.357	0.305	0.305	155,613	Yes	203,584
CD-02.8B-06P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.8B-03P	0.438	0.352	0.305	0.305	164,359	Yes	203,584
CD-02.8B-01P	0.445	0.370	0.305	0.305	360,161	Yes	203,584
===>Grouped by Line: **CD-02.8C HDR to FWH 33C**					***Sorted By:Remaining Life***		
CD-02.8C-03P	0.594	0.351	0.305	0.305	155,099	Yes	203,584
CD-02.8C-06P	0.438	0.375	0.305	0.305	241,726	Yes	203,584
CD-02.8C-02E	0.000	0.399	0.305	0.305	281,514	Yes	203,584
CD-02.8C-08N	0.438	0.447	0.305	0.305	394,180	Yes	203,584
CD-02.8C-05E	0.438	0.451	0.305	0.305	438,872	Yes	203,584
CD-02.8C-07E	0.438	0.456	0.305	0.305	453,400	Yes	203,584
CD-02.8C-04V	0.438	0.967	0.326	0.326	1,421,471	No	203,584
CD-02.8C-01P	0.629	0.573	0.305	0.305	1,431,446	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:00PM

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.8A HDR to FWH 33A**					***Sorted By:Flow Order***		
CD-02.7-01P	0.675	0.650	0.523	0.523	1,525,556	No	203,584
CD-02.7-02T	0.688	0.654	0.523	0.523	570,132	Yes	203,584
CD-02.7-02T (BR/SE)	0.000	0.370	0.305	0.305	205,068	Yes	203,584
CD-02.8A-01P	0.438	0.384	0.305	0.305	437,786	No	203,584
CD-02.8A-02E	0.438	0.499	0.305	0.305	581,052	Yes	203,584
CD-02.8A-03P	0.438	0.357	0.305	0.305	179,105	Yes	203,584
CD-02.8A-04V	0.438	0.717	0.326	0.326	866,907	No	203,584
CD-02.8A-05E	0.438	0.451	0.305	0.305	438,412	Yes	203,584
CD-02.8A-06P	0.438	0.379	0.305	0.305	255,590	Yes	203,584
CD-02.8A-07E	0.438	0.456	0.305	0.305	453,400	Yes	203,584
CD-02.8A-08N	0.438	0.330	0.305	0.305	68,796	No	203,584
===>Grouped by Line: **CD-02.8B HDR to FWH 33B**					***Sorted By:Flow Order***		
CD-02.8B-01P	0.445	0.370	0.305	0.305	360,161	Yes	203,584
CD-02.8B-02E	0.000	0.357	0.305	0.305	155,613	Yes	203,584
CD-02.8B-03P	0.438	0.352	0.305	0.305	164,359	Yes	203,584
CD-02.8B-04V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.8B-05E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.8B-06P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.8B-07E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.8B-08N	0.438	0.330	0.305	0.305	68,796	No	203,584
===>Grouped by Line: **CD-02.8C HDR to FWH 33C**					***Sorted By:Flow Order***		
CD-02.8C-01P	0.629	0.573	0.305	0.305	1,431,446	No	203,584
CD-02.8C-02E	0.000	0.399	0.305	0.305	281,514	Yes	203,584
CD-02.8C-03P	0.594	0.351	0.305	0.305	155,099	Yes	203,584
CD-02.8C-04V	0.438	0.967	0.326	0.326	1,421,471	No	203,584
CD-02.8C-05E	0.438	0.451	0.305	0.305	438,872	Yes	203,584
CD-02.8C-06P	0.438	0.375	0.305	0.305	241,726	Yes	203,584
CD-02.8C-07E	0.438	0.456	0.305	0.305	453,400	Yes	203,584
CD-02.8C-08N	0.438	0.447	0.305	0.305	394,180	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:43:11PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1A FWH 31A to FWH 32A***								***Sorted By: Average Wear Rate***		
CD-01.1A-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
===>Grouped by Line:	***CD-01.1B FWH 31B to FWH 32B***								***Sorted By: Average Wear Rate***		
CD-01.1B-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
===>Grouped by Line:	***CD-01.1C FWH 31C to FWH 32C***								***Sorted By: Average Wear Rate***		
CD-01.1C-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1C FWH 31C to FWH 32C***								***Sorted By: Average Wear Rate***		
CD-01.1C-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:11PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1A FWH 31A to FWH 32A***									***Sorted By: Flow Order***	
CD-01.1A-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1A-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
===>Grouped by Line:	***CD-01.1B FWH 31B to FWH 32B***									***Sorted By: Flow Order***	
CD-01.1B-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1B-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
===>Grouped by Line:	***CD-01.1C FWH 31C to FWH 32C***									***Sorted By: Flow Order***	
CD-01.1C-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1C FWH 31C to FWH 32C***									***Sorted By: Flow Order***	
CD-01.1C-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD
CD-01.1C-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	'80.20'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:11PM

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1A FWH 31A to FWH 32A**					***Sorted By:Remaining Life***		
CD-01.1A-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1A-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
CD-01.1A-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1A-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1A-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
===>Grouped by Line: **CD-01.1B FWH 31B to FWH 32B**					***Sorted By:Remaining Life***		
CD-01.1B-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1B-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
CD-01.1B-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1B-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1B-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Remaining Life***		
CD-01.1C-01N	0.438	0.341	0.305	0.305	114,095	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Remaining Life***		
CD-01.1C-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
CD-01.1C-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1C-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1C-10P	0.438	0.389	0.305	0.305	537,386	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:11PM

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1A FWH 31A to FWH 32A**					***Sorted By:Flow Order***		
CD-01.1A-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1A-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1A-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1A-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1A-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
===>Grouped by Line: **CD-01.1B FWH 31B to FWH 32B**					***Sorted By:Flow Order***		
CD-01.1B-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1B-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1B-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1B-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1B-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Flow Order***		
CD-01.1C-01N	0.438	0.341	0.305	0.305	114,095	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Flow Order***		
CD-01.1C-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1C-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1C-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1C-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-13N	0.438	0.360	0.305	0.305	219,918	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:43:24PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.2 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.1B-11T (D/S)	12	4.494	3.048	198.0	16.115	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.1B-11T (BR/SE)	12	3.960	2.685	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.2-02R	18	3.057	2.073	198.0	16.013	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.1B-11T	12	3.048	2.067	198.0	8.046	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.2-02R (D/S)	18	2.597	1.761	198.0	11.071	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.2-01P	62	2.183	1.481	198.0	16.013	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.2-03P	9	1.502	1.034	198.0	16.013	0.0	20.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.3-15T	14	5.970	4.049	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-15T (D/S)	14	5.842	3.962	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.1C-12T (D/S)	12	4.452	3.019	198.0	16.610	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-04E	2	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-07E	2	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-11E	2	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-13E	4	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.1C-12T (BR/SE)	12	3.960	2.685	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.3-05E	3	3.799	2.576	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-09E	1	3.582	2.429	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.1C-12T	12	3.550	2.408	198.0	11.079	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-14P	54	3.473	2.356	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-02T (D/S)	15	3.256	2.208	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-02T	15	3.256	2.208	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-06P	53	2.714	1.840	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-08P	52	2.714	1.840	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-12P	52	2.714	1.840	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-10P	51	2.388	1.619	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-01P	62	2.183	1.480	198.0	16.740	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-03P	65	2.171	1.472	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-16P	9	1.510	1.039	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.3-15T (BR/SE)	14	0.491	0.338	198.0	1.117	0.0	18.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.4 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.4-02V	23	6.699	4.543	198.0	23.095	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.4-04E	19	5.559	3.770	198.0	24.480	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.4-04E (D/S)	19	4.333	2.939	198.0	16.477	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.4-01R (D/S)	7	4.287	2.907	198.0	23.095	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.5-02E	2	4.068	2.759	198.0	16.868	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.4-01R	7	3.718	2.521	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.4-03P	58	2.947	1.999	198.0	23.095	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.5-01P	69	2.675	1.814	198.0	16.156	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-17P	62	2.124	1.441	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.5 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.5-04T	14	5.998	4.068	198.0	16.723	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-04T (D/S)	14	4.783	3.244	198.0	11.154	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-03T (D/S)	12	4.450	3.018	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-03T	12	4.355	2.953	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-04T (BR/SE)	14	4.076	2.764	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.5-03T (BR/SE)	12	0.484	0.333	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.6 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.6-03T	14	4.764	3.231	198.0	11.083	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-03T (BR/SE)	14	4.076	2.764	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.6-03T (D/S)	14	2.936	2.020	198.0	5.533	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-01T (D/S)	15	2.598	1.762	198.0	11.081	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-01T	15	2.598	1.762	198.0	11.081	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-02P	65	1.732	1.175	198.0	11.081	0.0	24.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:24PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.2 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.1B-11T	12	3.048	2.067	198.0	8.046	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.1B-11T (BR/SE)	12	3.960	2.685	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-11T (D/S)	12	4.494	3.048	198.0	16.115	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.2-01P	62	2.183	1.481	198.0	16.013	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.2-03P	9	1.502	1.034	198.0	16.013	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.2-02R	18	3.057	2.073	198.0	16.013	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.2-02R (D/S)	18	2.597	1.761	198.0	11.071	0.0	24.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.1C-12T (BR/SE)	12	3.960	2.685	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-12T	12	3.550	2.408	198.0	11.079	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.1C-12T (D/S)	12	4.452	3.019	198.0	16.610	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-01P	62	2.183	1.480	198.0	16.740	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-02T	15	3.256	2.208	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-02T (D/S)	15	3.256	2.208	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-03P	65	2.171	1.472	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-04E	2	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-05E	3	3.799	2.576	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-06P	53	2.714	1.840	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-07E	2	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-08P	52	2.714	1.840	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-09E	1	3.582	2.429	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-10P	51	2.388	1.619	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-16P	9	1.510	1.039	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-11E	2	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-12P	52	2.714	1.840	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-13E	4	4.016	2.724	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-14P	54	3.473	2.356	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-15T	14	5.970	4.049	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.3-15T (D/S)	14	5.842	3.962	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.3-15T (BR/SE)	14	0.491	0.338	198.0	1.117	0.0	18.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.4 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.3-17P	62	2.124	1.441	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.4-01R	7	3.718	2.521	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.4-01R (D/S)	7	4.287	2.907	198.0	23.095	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.4-02V	23	6.699	4.543	198.0	23.095	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.4-03P	58	2.947	1.999	198.0	23.095	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.4-04E	19	5.559	3.770	198.0	24.480	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.4-04E (D/S)	19	4.333	2.939	198.0	16.477	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-01P	69	2.675	1.814	198.0	16.156	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-02E	2	4.068	2.759	198.0	16.868	0.0	24.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.5 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.5-03T (BR/SE)	12	0.484	0.333	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.5-03T	12	4.355	2.953	198.0	15.968	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-03T (D/S)	12	4.450	3.018	198.0	16.599	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-04T	14	5.998	4.068	198.0	16.723	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.5-04T (BR/SE)	14	4.076	2.764	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.5-04T (D/S)	14	4.783	3.244	198.0	11.154	0.0	24.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.6 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.6-01T (D/S)	15	2.598	1.762	198.0	11.081	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-02P	65	1.732	1.175	198.0	11.081	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-03T	14	4.764	3.231	198.0	11.083	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-03T (D/S)	14	2.936	2.020	198.0	5.533	0.0	24.000	7.056	0.000	'79.70'	HBD
CD-02.6-03T (BR/SE)	14	4.076	2.764	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.6-01T	15	2.598	1.762	198.0	11.081	0.0	24.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:24PM

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.2 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.1B-11T (BR/SE)	0.000	0.351	0.305	0.305	151,055	Yes	203,584
CD-02.1B-11T (D/S)	0.624	0.550	0.436	0.436	327,536	Yes	203,584
CD-02.1B-11T	0.624	0.555	0.436	0.436	505,068	Yes	203,584
CD-02.2-01P	0.594	0.549	0.436	0.436	671,405	Yes	203,584
CD-02.2-02R (D/S)	0.000	0.675	0.523	0.523	757,724	Yes	203,584
CD-02.2-02R	0.000	0.682	0.436	0.436	1,040,640	Yes	203,584
CD-02.2-03P	0.594	0.559	0.436	0.436	1,046,110	No	203,584
===>Grouped by Line: **CD-02.3 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.3-15T	0.688	0.549	0.523	0.523	57,391	No	203,584
CD-02.3-15T (D/S)	0.000	0.552	0.523	0.523	65,219	No	203,584
CD-02.1C-12T (BR/SE)	0.000	0.374	0.305	0.305	224,490	Yes	203,584
CD-02.3-04E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-07E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-11E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-13E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-05E	0.688	0.600	0.523	0.523	261,725	No	203,584
CD-02.3-09E	0.688	0.605	0.523	0.523	295,781	No	203,584
CD-02.3-14P	0.688	0.607	0.523	0.523	314,406	No	203,584
CD-02.1C-12T (D/S)	0.692	0.632	0.523	0.523	317,936	Yes	203,584
CD-02.3-02T	0.688	0.612	0.523	0.523	355,379	No	203,584
CD-02.3-02T (D/S)	0.000	0.612	0.523	0.523	355,379	No	203,584
CD-02.1C-12T	0.692	0.636	0.523	0.523	411,380	Yes	203,584
CD-02.3-06P	0.688	0.625	0.523	0.523	486,494	No	203,584
CD-02.3-08P	0.688	0.625	0.523	0.523	486,494	No	203,584
CD-02.3-12P	0.688	0.625	0.523	0.523	486,494	No	203,584
CD-02.3-10P	0.688	0.633	0.523	0.523	593,769	No	203,584
CD-02.3-03P	0.688	0.638	0.523	0.523	683,166	No	203,584
CD-02.3-01P	0.736	0.669	0.523	0.523	867,715	Yes	203,584
CD-02.3-16P	0.688	0.653	0.523	0.523	1,097,305	No	203,584
CD-02.3-15T (BR/SE)	0.000	0.489	0.392	0.392	2,502,372	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.4 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.4-02V	0.594	0.438	0.466	0.466	-54,287	No	203,584
CD-02.4-01R (D/S)	0.000	0.494	0.436	0.436	177,034	No	203,584
CD-02.4-01R	0.000	0.602	0.523	0.523	274,027	No	203,584
CD-02.4-03P	0.594	0.526	0.436	0.436	393,957	No	203,584
CD-02.5-02E	0.994	0.667	0.523	0.523	456,968	No	203,584
CD-02.4-04E	0.864	0.735	0.436	0.436	695,242	No	203,584
CD-02.3-17P	0.688	0.639	0.523	0.523	704,694	No	203,584
CD-02.4-04E (D/S)	0.864	0.763	0.523	0.523	717,049	Yes	203,584
CD-02.5-01P	0.754	0.692	0.523	0.523	816,505	No	203,584
===>Grouped by Line: **CD-02.5 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.5-04T (BR/SE)	0.000	0.359	0.305	0.305	170,210	Yes	203,584
CD-02.5-03T	0.688	0.612	0.523	0.523	263,587	Yes	203,584
CD-02.5-04T	0.730	0.650	0.523	0.523	274,318	Yes	203,584
CD-02.5-03T (D/S)	0.000	0.619	0.523	0.523	278,339	Yes	203,584
CD-02.5-04T (D/S)	0.730	0.640	0.523	0.523	315,916	Yes	203,584
CD-02.5-03T (BR/SE)	0.000	0.551	0.392	0.392	4,177,694	No	203,584
===>Grouped by Line: **CD-02.6 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.6-03T (BR/SE)	0.000	0.349	0.305	0.305	138,318	Yes	203,584
CD-02.6-03T	0.694	0.632	0.523	0.523	297,514	Yes	203,584
CD-02.6-03T (D/S)	0.694	0.636	0.523	0.523	492,173	Yes	203,584
CD-02.6-01T	0.693	0.631	0.523	0.523	538,423	Yes	203,584
CD-02.6-01T (D/S)	0.693	0.647	0.523	0.523	617,969	Yes	203,584
CD-02.6-02P	0.693	0.638	0.523	0.523	862,855	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:24PM

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.2 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.1B-11T	0.624	0.555	0.436	0.436	505,068	Yes	203,584
CD-02.1B-11T (BR/SE)	0.000	0.351	0.305	0.305	151,055	Yes	203,584
CD-02.1B-11T (D/S)	0.624	0.550	0.436	0.436	327,536	Yes	203,584
CD-02.2-01P	0.594	0.549	0.436	0.436	671,405	Yes	203,584
CD-02.2-03P	0.594	0.559	0.436	0.436	1,046,110	No	203,584
CD-02.2-02R	0.000	0.682	0.436	0.436	1,040,640	Yes	203,584
CD-02.2-02R (D/S)	0.000	0.675	0.523	0.523	757,724	Yes	203,584
===>Grouped by Line: **CD-02.3 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.1C-12T (BR/SE)	0.000	0.374	0.305	0.305	224,490	Yes	203,584
CD-02.1C-12T	0.692	0.636	0.523	0.523	411,380	Yes	203,584
CD-02.1C-12T (D/S)	0.692	0.632	0.523	0.523	317,936	Yes	203,584
CD-02.3-01P	0.736	0.669	0.523	0.523	867,715	Yes	203,584
CD-02.3-02T	0.688	0.612	0.523	0.523	355,379	No	203,584
CD-02.3-02T (D/S)	0.000	0.612	0.523	0.523	355,379	No	203,584
CD-02.3-03P	0.688	0.638	0.523	0.523	683,166	No	203,584
CD-02.3-04E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-05E	0.688	0.600	0.523	0.523	261,725	No	203,584
CD-02.3-06P	0.688	0.625	0.523	0.523	486,494	No	203,584
CD-02.3-07E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-08P	0.688	0.625	0.523	0.523	486,494	No	203,584
CD-02.3-09E	0.688	0.605	0.523	0.523	295,781	No	203,584
CD-02.3-10P	0.688	0.633	0.523	0.523	593,769	No	203,584
CD-02.3-16P	0.688	0.653	0.523	0.523	1,097,305	No	203,584
CD-02.3-11E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-12P	0.688	0.625	0.523	0.523	486,494	No	203,584
CD-02.3-13E	0.688	0.595	0.523	0.523	231,351	No	203,584
CD-02.3-14P	0.688	0.607	0.523	0.523	314,406	No	203,584
CD-02.3-15T	0.688	0.549	0.523	0.523	57,391	No	203,584
CD-02.3-15T (D/S)	0.000	0.552	0.523	0.523	65,219	No	203,584
CD-02.3-15T (BR/SE)	0.000	0.489	0.392	0.392	2,502,372	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.4 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.3-17P	0.688	0.639	0.523	0.523	704,694	No	203,584
CD-02.4-01R	0.000	0.602	0.523	0.523	274,027	No	203,584
CD-02.4-01R (D/S)	0.000	0.494	0.436	0.436	177,034	No	203,584
CD-02.4-02V	0.594	0.438	0.466	0.466	-54,287	No	203,584
CD-02.4-03P	0.594	0.526	0.436	0.436	393,957	No	203,584
CD-02.4-04E	0.864	0.735	0.436	0.436	695,242	No	203,584
CD-02.4-04E (D/S)	0.864	0.763	0.523	0.523	717,049	Yes	203,584
CD-02.5-01P	0.754	0.692	0.523	0.523	816,505	No	203,584
CD-02.5-02E	0.994	0.667	0.523	0.523	456,968	No	203,584
===>Grouped by Line: **CD-02.5 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.5-03T (BR/SE)	0.000	0.551	0.392	0.392	4,177,694	No	203,584
CD-02.5-03T	0.688	0.612	0.523	0.523	263,587	Yes	203,584
CD-02.5-03T (D/S)	0.000	0.619	0.523	0.523	278,339	Yes	203,584
CD-02.5-04T	0.730	0.650	0.523	0.523	274,318	Yes	203,584
CD-02.5-04T (BR/SE)	0.000	0.359	0.305	0.305	170,210	Yes	203,584
CD-02.5-04T (D/S)	0.730	0.640	0.523	0.523	315,916	Yes	203,584
===>Grouped by Line: **CD-02.6 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.6-01T (D/S)	0.693	0.647	0.523	0.523	617,969	Yes	203,584
CD-02.6-02P	0.693	0.638	0.523	0.523	862,855	Yes	203,584
CD-02.6-03T	0.694	0.632	0.523	0.523	297,514	Yes	203,584
CD-02.6-03T (D/S)	0.694	0.636	0.523	0.523	492,173	Yes	203,584
CD-02.6-03T (BR/SE)	0.000	0.349	0.305	0.305	138,318	Yes	203,584
CD-02.6-01T	0.693	0.631	0.523	0.523	538,423	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:43:34PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1A FWH 32A to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1A-01N	31	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-05V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-03E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-06E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-09E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-11E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-08P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-12P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-13R	18	3.261	2.211	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-02P	61	3.144	2.132	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-04P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-10P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-13R (D/S)	18	2.221	1.506	198.0	7.994	0.0	20.000	7.056	0.000	'79.70'	HBD
CD-02.1A-14P	9	1.615	1.111	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.1B FWH 32B to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1B-01N	31	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-07V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-03E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-05E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-06E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-09E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-02P	61	3.144	2.132	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-10P	52	3.041	2.062	198.0	17.602	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-04P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-08P	58	2.562	1.738	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1C-01N	31	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-08V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1C-10E	2	4.425	3.001	198.0	17.134	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-03E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-05E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-06E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-07P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-02P	61	3.144	2.132	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-04P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-11P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-09P	58	2.562	1.738	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:34PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1A FWH 32A to HDR***									***Sorted By: Flow Order***	
CD-02.1A-01N	31	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-02P	61	3.144	2.132	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-03E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-04P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-05V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-06E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-07E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-08P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-09E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-10P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-11E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-12P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-14P	9	1.615	1.111	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-13R	18	3.261	2.211	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1A-13R (D/S)	18	2.221	1.506	198.0	7.994	0.0	20.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.1B FWH 32B to HDR***									***Sorted By: Flow Order***	
CD-02.1B-01N	31	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-02P	61	3.144	2.132	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-03E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-04P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-05E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-06E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-07V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-08P	58	2.562	1.738	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-09E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1B-10P	52	3.041	2.062	198.0	17.602	0.0	14.000	7.056	0.000	'79.70'	HBD
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***									***Sorted By: Flow Order***	
CD-02.1C-01N	31	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-02P	61	3.144	2.132	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***									***Sorted By: Flow Order***	
CD-02.1C-03E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-04P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-05E	2	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-06E	4	4.309	2.922	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-07P	54	3.727	2.527	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-08V	22	5.823	3.949	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-09P	58	2.562	1.738	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-10E	2	4.425	3.001	198.0	17.134	0.0	14.000	7.056	0.000	'79.70'	HBD
CD-02.1C-11P	52	2.912	1.975	198.0	16.426	0.0	14.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:34PM

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1A FWH 32A to HDR**					***Sorted By:Remaining Life***		
CD-02.1A-05V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.1A-01N	0.438	0.303	0.305	0.305	-5,002	No	203,584
CD-02.1A-09E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-11E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-06E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-07E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-03E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-12P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.1A-08P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.1A-02P	0.438	0.365	0.305	0.305	246,458	No	203,584
CD-02.1A-10P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1A-04P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1A-13R (D/S)	0.000	0.552	0.436	0.436	676,333	Yes	203,584
CD-02.1A-14P	0.438	0.400	0.305	0.305	752,974	No	203,584
CD-02.1A-13R	0.000	0.603	0.305	0.305	1,179,614	Yes	203,584
===>Grouped by Line: **CD-02.1B FWH 32B to HDR**					***Sorted By:Remaining Life***		
CD-02.1B-07V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.1B-01N	0.438	0.303	0.305	0.305	-5,002	No	203,584
CD-02.1B-03E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1B-05E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1B-06E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1B-02P	0.438	0.365	0.305	0.305	246,458	No	203,584
CD-02.1B-04P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1B-08P	0.438	0.378	0.305	0.305	370,697	No	203,584
CD-02.1B-09E	0.438	0.479	0.305	0.305	521,099	Yes	203,584
CD-02.1B-10P	0.661	0.590	0.305	0.305	1,212,296	No	203,584
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Remaining Life***		
CD-02.1C-08V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.1C-01N	0.438	0.303	0.305	0.305	-5,002	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Remaining Life***		
CD-02.1C-03E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1C-05E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1C-06E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1C-07P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.1C-02P	0.438	0.365	0.305	0.305	246,458	No	203,584
CD-02.1C-04P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1C-11P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1C-09P	0.438	0.378	0.305	0.305	370,697	No	203,584
CD-02.1C-10E	0.575	0.495	0.305	0.305	556,075	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:34PM

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1A FWH 32A to HDR**					***Sorted By:Flow Order***		
CD-02.1A-01N	0.438	0.303	0.305	0.305	-5,002	No	203,584
CD-02.1A-02P	0.438	0.365	0.305	0.305	246,458	No	203,584
CD-02.1A-03E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-04P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1A-05V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.1A-06E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-07E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-08P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.1A-09E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-10P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1A-11E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1A-12P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.1A-14P	0.438	0.400	0.305	0.305	752,974	No	203,584
CD-02.1A-13R	0.000	0.603	0.305	0.305	1,179,614	Yes	203,584
CD-02.1A-13R (D/S)	0.000	0.552	0.436	0.436	676,333	Yes	203,584
===>Grouped by Line: **CD-02.1B FWH 32B to HDR**					***Sorted By:Flow Order***		
CD-02.1B-01N	0.438	0.303	0.305	0.305	-5,002	No	203,584
CD-02.1B-02P	0.438	0.365	0.305	0.305	246,458	No	203,584
CD-02.1B-03E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1B-04P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1B-05E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1B-06E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1B-07V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.1B-08P	0.438	0.378	0.305	0.305	370,697	No	203,584
CD-02.1B-09E	0.438	0.479	0.305	0.305	521,099	Yes	203,584
CD-02.1B-10P	0.661	0.590	0.305	0.305	1,212,296	No	203,584
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Flow Order***		
CD-02.1C-01N	0.438	0.303	0.305	0.305	-5,002	No	203,584
CD-02.1C-02P	0.438	0.365	0.305	0.305	246,458	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Flow Order***		
CD-02.1C-03E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1C-04P	0.438	0.370	0.305	0.305	290,190	No	203,584
CD-02.1C-05E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1C-06E	0.438	0.338	0.305	0.305	98,714	No	203,584
CD-02.1C-07P	0.438	0.351	0.305	0.305	161,043	No	203,584
CD-02.1C-08V	0.438	0.303	0.326	0.326	-52,912	No	203,584
CD-02.1C-09P	0.438	0.378	0.305	0.305	370,697	No	203,584
CD-02.1C-10E	0.575	0.495	0.305	0.305	556,075	Yes	203,584
CD-02.1C-11P	0.438	0.370	0.305	0.305	290,190	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:43:45PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1A FWH 33A to FWH 34A***								***Sorted By: Average Wear Rate***		
CD-03.1A-01N	31	8.782	5.797	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-13N	30	7.025	4.638	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-02E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-03E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-06E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-10E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-05E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-08E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-12E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-04P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-07P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-11P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-15P	51	3.864	2.551	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-09P	51	3.864	2.551	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-14P	9	2.452	1.642	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
===>Grouped by Line:	***CD-03.1B FWH 33B to FWH 34B***								***Sorted By: Average Wear Rate***		
CD-03.1B-01N	31	8.782	5.797	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-11N	30	7.025	4.638	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-06E	4	6.647	4.388	245.2	17.379	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-05E	2	6.637	4.381	245.2	17.336	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-02E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-03E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-08E	2	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-10E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-07P	54	5.663	3.738	245.2	16.966	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-04P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-09P	52	4.391	2.899	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-12P	9	2.452	1.642	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
===>Grouped by Line:	***CD-03.1C FWH 33C to FWH 34C***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1C FWH 33C to FWH 34C***								***Sorted By: Average Wear Rate***		
CD-03.1C-01N	31	8.782	5.797	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-11N	30	7.025	4.638	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-02E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-03E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-05E	2	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-06E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-08E	2	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-10E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-04P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-07P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-09P	52	4.391	2.899	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-12P	9	2.452	1.642	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:45PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1A FWH 33A to FWH 34A***									***Sorted By: Flow Order***	
CD-03.1A-01N	31	8.782	5.797	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-02E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-03E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-04P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-05E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-15P	51	3.864	2.551	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-06E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-07P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-14P	9	2.452	1.642	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-08E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-09P	51	3.864	2.551	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-10E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-11P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-12E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1A-13N	30	7.025	4.638	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
===>Grouped by Line:	***CD-03.1B FWH 33B to FWH 34B***									***Sorted By: Flow Order***	
CD-03.1B-01N	31	8.782	5.797	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-02E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-03E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-04P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-05E	2	6.637	4.381	245.2	17.336	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-06E	4	6.647	4.388	245.2	17.379	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-07P	54	5.663	3.738	245.2	16.966	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-12P	9	2.452	1.642	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-08E	2	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-09P	52	4.391	2.899	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-10E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1B-11N	30	7.025	4.638	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
===>Grouped by Line:	***CD-03.1C FWH 33C to FWH 34C***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1C FWH 33C to FWH 34C***									***Sorted By: Flow Order***	
CD-03.1C-01N	31	8.782	5.797	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-02E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-03E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-04P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-05E	2	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-06E	4	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-07P	54	5.620	3.710	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-12P	9	2.452	1.642	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-08E	2	6.498	4.290	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-09P	52	4.391	2.899	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-10E	1	5.796	3.826	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD
CD-03.1C-11N	30	7.025	4.638	245.2	16.765	0.0	14.000	7.056	0.000	'78.73'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:45PM

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1A FWH 33A to FWH 34A**					***Sorted By:Remaining Life***		
CD-03.1A-13N	0.438	0.275	0.305	0.305	-58,154	No	203,584
CD-03.1A-10E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1A-06E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1A-12E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1A-08E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1A-05E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1A-11P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1A-07P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1A-01N	0.438	0.388	0.305	0.305	126,174	Yes	203,584
CD-03.1A-04P	0.438	0.367	0.305	0.305	145,976	Yes	203,584
CD-03.1A-09P	0.438	0.348	0.305	0.305	148,620	No	203,584
CD-03.1A-15P	0.438	0.348	0.305	0.305	148,620	No	203,584
CD-03.1A-02E	0.438	0.457	0.305	0.305	311,548	Yes	203,584
CD-03.1A-03E	0.438	0.472	0.305	0.305	342,179	Yes	203,584
CD-03.1A-14P	0.438	0.381	0.305	0.305	406,064	No	203,584
===>Grouped by Line: **CD-03.1B FWH 33B to FWH 34B**					***Sorted By:Remaining Life***		
CD-03.1B-01N	0.438	0.234	0.305	0.305	-109,373	No	203,584
CD-03.1B-11N	0.438	0.275	0.305	0.305	-58,154	No	203,584
CD-03.1B-08E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1B-10E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1B-09P	0.438	0.336	0.305	0.305	93,778	No	203,584
CD-03.1B-07P	0.477	0.346	0.305	0.305	95,984	Yes	203,584
CD-03.1B-04P	0.438	0.389	0.305	0.305	198,043	Yes	203,584
CD-03.1B-05E	0.547	0.410	0.305	0.305	210,206	Yes	203,584
CD-03.1B-02E	0.438	0.442	0.305	0.305	280,217	Yes	203,584
CD-03.1B-03E	0.438	0.468	0.305	0.305	332,346	Yes	203,584
CD-03.1B-06E	0.555	0.478	0.305	0.305	346,488	Yes	203,584
CD-03.1B-12P	0.438	0.381	0.305	0.305	406,064	No	203,584
===>Grouped by Line: **CD-03.1C FWH 33C to FWH 34C**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1C FWH 33C to FWH 34C**					***Sorted By:Remaining Life***		
CD-03.1C-11N	0.438	0.275	0.305	0.305	-58,154	No	203,584
CD-03.1C-03E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-05E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-06E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-08E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-10E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1C-04P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1C-07P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1C-09P	0.438	0.336	0.305	0.305	93,778	No	203,584
CD-03.1C-01N	0.438	0.421	0.305	0.305	175,183	Yes	203,584
CD-03.1C-02E	0.438	0.434	0.305	0.305	262,785	Yes	203,584
CD-03.1C-12P	0.438	0.381	0.305	0.305	406,064	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:45PM

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1A FWH 33A to FWH 34A**					***Sorted By:Flow Order***		
CD-03.1A-01N	0.438	0.388	0.305	0.305	126,174	Yes	203,584
CD-03.1A-02E	0.438	0.457	0.305	0.305	311,548	Yes	203,584
CD-03.1A-03E	0.438	0.472	0.305	0.305	342,179	Yes	203,584
CD-03.1A-04P	0.438	0.367	0.305	0.305	145,976	Yes	203,584
CD-03.1A-05E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1A-15P	0.438	0.348	0.305	0.305	148,620	No	203,584
CD-03.1A-06E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1A-07P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1A-14P	0.438	0.381	0.305	0.305	406,064	No	203,584
CD-03.1A-08E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1A-09P	0.438	0.348	0.305	0.305	148,620	No	203,584
CD-03.1A-10E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1A-11P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1A-12E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1A-13N	0.438	0.275	0.305	0.305	-58,154	No	203,584
===>Grouped by Line: **CD-03.1B FWH 33B to FWH 34B**					***Sorted By:Flow Order***		
CD-03.1B-01N	0.438	0.234	0.305	0.305	-109,373	No	203,584
CD-03.1B-02E	0.438	0.442	0.305	0.305	280,217	Yes	203,584
CD-03.1B-03E	0.438	0.468	0.305	0.305	332,346	Yes	203,584
CD-03.1B-04P	0.438	0.389	0.305	0.305	198,043	Yes	203,584
CD-03.1B-05E	0.547	0.410	0.305	0.305	210,206	Yes	203,584
CD-03.1B-06E	0.555	0.478	0.305	0.305	346,488	Yes	203,584
CD-03.1B-07P	0.477	0.346	0.305	0.305	95,984	Yes	203,584
CD-03.1B-12P	0.438	0.381	0.305	0.305	406,064	No	203,584
CD-03.1B-08E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1B-09P	0.438	0.336	0.305	0.305	93,778	No	203,584
CD-03.1B-10E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1B-11N	0.438	0.275	0.305	0.305	-58,154	No	203,584
===>Grouped by Line: **CD-03.1C FWH 33C to FWH 34C**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1C FWH 33C to FWH 34C**					***Sorted By:Flow Order***		
CD-03.1C-01N	0.438	0.421	0.305	0.305	175,183	Yes	203,584
CD-03.1C-02E	0.438	0.434	0.305	0.305	262,785	Yes	203,584
CD-03.1C-03E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-04P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1C-05E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-06E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-07P	0.438	0.307	0.305	0.305	5,802	No	203,584
CD-03.1C-12P	0.438	0.381	0.305	0.305	406,064	No	203,584
CD-03.1C-08E	0.438	0.287	0.305	0.305	-36,698	No	203,584
CD-03.1C-09P	0.438	0.336	0.305	0.305	93,778	No	203,584
CD-03.1C-10E	0.438	0.303	0.305	0.305	-3,720	No	203,584
CD-03.1C-11N	0.438	0.275	0.305	0.305	-58,154	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:43:58PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1A FWH 34A to FWH 35A***								***Sorted By: Average Wear Rate***		
CD-04.1A-01N	31	11.454	7.550	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-14N	30	9.163	6.040	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-02E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-03E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-05E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-07E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-09E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-11E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-13E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-04P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-10P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-06P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-08P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-12P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-15P	9	3.223	2.156	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***								***Sorted By: Average Wear Rate***		
CD-04.1B-01N	31	11.454	7.550	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-16N	30	9.163	6.040	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-02E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-03E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-05E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-08E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-10E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-13E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-06E	3	8.018	5.285	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-12E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-15E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-04P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-09P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***								***Sorted By: Average Wear Rate***		
CD-04.1B-11P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-14P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-07P	53	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-17P	9	3.223	2.156	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
===>Grouped by Line:	***CD-04.1C FWH 34C to FWH 35C***								***Sorted By: Average Wear Rate***		
CD-04.1C-01N	31	11.454	7.550	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-13N	30	9.163	6.040	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-02E	4	8.737	5.758	298.3	18.078	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-03E	4	8.696	5.731	298.3	17.943	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-05E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-07E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-08E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-10E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-12E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-04P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-09P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-06P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-11P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-14P	9	3.223	2.156	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:58PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1A FWH 34A to FWH 35A***									***Sorted By: Flow Order***	
CD-04.1A-01N	31	11.454	7.550	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-02E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-03E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-04P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-05E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-06P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-07E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-08P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-09E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-10P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-15P	9	3.223	2.156	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-11E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-12P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-13E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1A-14N	30	9.163	6.040	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***									***Sorted By: Flow Order***	
CD-04.1B-01N	31	11.454	7.550	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-02E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-03E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-04P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-05E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-06E	3	8.018	5.285	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-07P	53	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-08E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-09P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-10E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-11P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-17P	9	3.223	2.156	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-12E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***									***Sorted By: Flow Order***	
CD-04.1B-13E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-14P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-15E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1B-16N	30	9.163	6.040	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
===>Grouped by Line:	***CD-04.1C FWH 34C to FWH 35C***									***Sorted By: Flow Order***	
CD-04.1C-01N	31	11.454	7.550	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-02E	4	8.737	5.758	298.3	18.078	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-03E	4	8.696	5.731	298.3	17.943	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-04P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-05E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-06P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-07E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-08E	4	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-09P	54	7.331	4.832	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-14P	9	3.223	2.156	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-10E	2	8.476	5.587	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-11P	52	5.727	3.775	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-12E	1	7.560	4.983	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD
CD-04.1C-13N	30	9.163	6.040	298.3	17.229	0.0	14.000	7.056	0.000	'77.06'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:58PM

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-04.1A FWH 34A to FWH 35A**					***Sorted By:Remaining Life***		
CD-04.1A-14N	0.438	0.225	0.305	0.305	-114,545	No	203,584
CD-04.1A-11E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-09E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-07E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-05E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-13E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1A-10P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1A-01N	0.438	0.299	0.305	0.305	-6,462	No	203,584
CD-04.1A-12P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1A-08P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1A-06P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1A-04P	0.438	0.356	0.305	0.305	91,769	Yes	203,584
CD-04.1A-02E	0.438	0.448	0.305	0.305	224,807	Yes	203,584
CD-04.1A-03E	0.438	0.452	0.305	0.305	231,079	Yes	203,584
CD-04.1A-15P	0.438	0.363	0.305	0.305	236,435	No	203,584
===>Grouped by Line: **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Remaining Life***		
CD-04.1B-16N	0.438	0.225	0.305	0.305	-114,545	No	203,584
CD-04.1B-10E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-08E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-05E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-13E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-06E	0.438	0.252	0.305	0.305	-94,379	No	203,584
CD-04.1B-12E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1B-15E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1B-11P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1B-09P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1B-14P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1B-07P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1B-01N	0.438	0.364	0.305	0.305	68,922	Yes	203,584
CD-04.1B-04P	0.438	0.382	0.305	0.305	140,402	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Remaining Life***		
CD-04.1B-03E	0.438	0.438	0.305	0.305	208,346	Yes	203,584
CD-04.1B-17P	0.438	0.363	0.305	0.305	236,435	No	203,584
CD-04.1B-02E	0.438	0.460	0.305	0.305	242,842	Yes	203,584
===>Grouped by Line: **CD-04.1C FWH 34C to FWH 35C**					***Sorted By:Remaining Life***		
CD-04.1C-13N	0.438	0.225	0.305	0.305	-114,545	No	203,584
CD-04.1C-08E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1C-10E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1C-12E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1C-04P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1C-09P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1C-11P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1C-03E	0.570	0.393	0.305	0.305	134,932	Yes	203,584
CD-04.1C-01N	0.438	0.444	0.305	0.305	161,557	No	203,584
CD-04.1C-02E	0.594	0.412	0.305	0.305	162,573	Yes	203,584
CD-04.1C-07E	0.438	0.428	0.305	0.305	192,445	Yes	203,584
CD-04.1C-14P	0.438	0.363	0.305	0.305	236,435	No	203,584
CD-04.1C-05E	0.438	0.460	0.305	0.305	242,621	Yes	203,584
CD-04.1C-06P	0.438	0.423	0.305	0.305	273,033	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:43:58PM

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-04.1A FWH 34A to FWH 35A**					***Sorted By:Flow Order***		
CD-04.1A-01N	0.438	0.299	0.305	0.305	-6,462	No	203,584
CD-04.1A-02E	0.438	0.448	0.305	0.305	224,807	Yes	203,584
CD-04.1A-03E	0.438	0.452	0.305	0.305	231,079	Yes	203,584
CD-04.1A-04P	0.438	0.356	0.305	0.305	91,769	Yes	203,584
CD-04.1A-05E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-06P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1A-07E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-08P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1A-09E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-10P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1A-15P	0.438	0.363	0.305	0.305	236,435	No	203,584
CD-04.1A-11E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1A-12P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1A-13E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1A-14N	0.438	0.225	0.305	0.305	-114,545	No	203,584
===>Grouped by Line: **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Flow Order***		
CD-04.1B-01N	0.438	0.364	0.305	0.305	68,922	Yes	203,584
CD-04.1B-02E	0.438	0.460	0.305	0.305	242,842	Yes	203,584
CD-04.1B-03E	0.438	0.438	0.305	0.305	208,346	Yes	203,584
CD-04.1B-04P	0.438	0.382	0.305	0.305	140,402	Yes	203,584
CD-04.1B-05E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-06E	0.438	0.252	0.305	0.305	-94,379	No	203,584
CD-04.1B-07P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1B-08E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-09P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1B-10E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1B-11P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1B-17P	0.438	0.363	0.305	0.305	236,435	No	203,584
CD-04.1B-12E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1B-13E	0.438	0.241	0.305	0.305	-103,786	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**CD-04.1B FWH 34B to FWH 35B**				***Sorted By:Flow Order***		
CD-04.1B-14P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1B-15E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1B-16N	0.438	0.225	0.305	0.305	-114,545	No	203,584
===>Grouped by Line:	**CD-04.1C FWH 34C to FWH 35C**				***Sorted By:Flow Order***		
CD-04.1C-01N	0.438	0.444	0.305	0.305	161,557	No	203,584
CD-04.1C-02E	0.594	0.412	0.305	0.305	162,573	Yes	203,584
CD-04.1C-03E	0.570	0.393	0.305	0.305	134,932	Yes	203,584
CD-04.1C-04P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1C-05E	0.438	0.460	0.305	0.305	242,621	Yes	203,584
CD-04.1C-06P	0.438	0.423	0.305	0.305	273,033	Yes	203,584
CD-04.1C-07E	0.438	0.428	0.305	0.305	192,445	Yes	203,584
CD-04.1C-08E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1C-09P	0.438	0.268	0.305	0.305	-69,991	No	203,584
CD-04.1C-14P	0.438	0.363	0.305	0.305	236,435	No	203,584
CD-04.1C-10E	0.438	0.241	0.305	0.305	-103,786	No	203,584
CD-04.1C-11P	0.438	0.305	0.305	0.305	-59	No	203,584
CD-04.1C-12E	0.438	0.262	0.305	0.305	-78,896	No	203,584
CD-04.1C-13N	0.438	0.225	0.305	0.305	-114,545	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:44:06PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1A FWH 35A to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1A-01N	31	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-05V	22	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-02E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-03E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-07E	2	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-09E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-04P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-10P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-11R	18	4.956	3.176	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-08P	52	4.425	2.836	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-06P	58	3.894	2.496	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-11R (D/S)	18	2.503	1.628	377.3	6.095	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.2-01P	68	2.086	1.357	377.3	6.095	0.0	24.000	6.841	0.000	'72.51'	HBD
===>Grouped by Line:	***CD-05.1B FWH 35B to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1B-01N	31	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-05V	22	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-07E	2	6.726	4.310	377.3	18.894	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-02E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-03E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-04P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-08P	52	4.448	2.851	377.3	18.263	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-06P	58	3.894	2.496	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1C-01N	31	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-05V	22	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-02E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-03E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-07E	2	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-08E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1C-09P	54	5.730	3.672	377.3	18.449	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-04P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-06P	58	3.894	2.496	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:06PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1A FWH 35A to HDR***									***Sorted By: Flow Order***	
CD-05.1A-01N	31	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-02E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-03E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-04P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-05V	22	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-06P	58	3.894	2.496	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-07E	2	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-08P	52	4.425	2.836	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-09E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-10P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-11R	18	4.956	3.176	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1A-11R (D/S)	18	2.503	1.628	377.3	6.095	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.2-01P	68	2.086	1.357	377.3	6.095	0.0	24.000	6.841	0.000	'72.51'	HBD
===>Grouped by Line:	***CD-05.1B FWH 35B to HDR***									***Sorted By: Flow Order***	
CD-05.1B-01N	31	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-02E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-03E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-04P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-05V	22	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-06P	58	3.894	2.496	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-07E	2	6.726	4.310	377.3	18.894	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-08P	52	4.448	2.851	377.3	18.263	0.0	14.000	6.841	0.000	'72.51'	HBD
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***									***Sorted By: Flow Order***	
CD-05.1C-01N	31	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-02E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-03E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-04P	54	5.664	3.630	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-05V	22	8.851	5.672	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-06P	58	3.894	2.496	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***									***Sorted By: Flow Order***	
CD-05.1C-07E	2	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-08E	4	6.550	4.197	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-09P	54	5.730	3.672	377.3	18.449	0.0	14.000	6.841	0.000	'72.51'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:06PM

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1A FWH 35A to HDR**					***Sorted By:Remaining Life***		
CD-05.1A-05V	0.438	0.232	0.326	0.326	-129,292	No	203,584
CD-05.1A-01N	0.438	0.232	0.305	0.305	-111,545	No	203,584
CD-05.1A-09E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1A-07E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1A-10P	0.438	0.306	0.305	0.305	3,454	No	203,584
CD-05.1A-04P	0.438	0.306	0.305	0.305	3,454	No	203,584
CD-05.1A-11R	0.000	0.323	0.305	0.305	49,330	No	203,584
CD-05.1A-08P	0.438	0.335	0.305	0.305	93,371	No	203,584
CD-05.1A-02E	0.438	0.355	0.305	0.305	105,067	Yes	203,584
CD-05.1A-03E	0.438	0.363	0.305	0.305	121,764	Yes	203,584
CD-05.1A-06P	0.438	0.347	0.305	0.305	149,424	No	203,584
CD-05.1A-11R (D/S)	0.000	0.630	0.523	0.523	576,200	No	203,584
CD-05.2-01P	0.688	0.640	0.523	0.523	754,016	No	203,584
===>Grouped by Line: **CD-05.1B FWH 35B to HDR**					***Sorted By:Remaining Life***		
CD-05.1B-05V	0.438	0.232	0.326	0.326	-129,292	No	203,584
CD-05.1B-01N	0.438	0.232	0.305	0.305	-111,545	No	203,584
CD-05.1B-04P	0.438	0.358	0.305	0.305	128,402	Yes	203,584
CD-05.1B-06P	0.438	0.347	0.305	0.305	149,424	No	203,584
CD-05.1B-08P	0.465	0.362	0.305	0.305	174,213	Yes	203,584
CD-05.1B-07E	0.575	0.419	0.305	0.305	231,224	Yes	203,584
CD-05.1B-02E	0.438	0.424	0.305	0.305	249,206	Yes	203,584
CD-05.1B-03E	0.438	0.482	0.305	0.305	370,257	Yes	203,584
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Remaining Life***		
CD-05.1C-05V	0.438	0.232	0.326	0.326	-129,292	No	203,584
CD-05.1C-02E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1C-03E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1C-07E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1C-04P	0.438	0.306	0.305	0.305	3,454	No	203,584
CD-05.1C-01N	0.438	0.392	0.305	0.305	134,478	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Remaining Life***		
CD-05.1C-09P	0.498	0.365	0.305	0.305	142,893	No	203,584
CD-05.1C-06P	0.438	0.347	0.305	0.305	149,424	No	203,584
CD-05.1C-08E	0.438	0.423	0.305	0.305	247,272	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:06PM

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1A FWH 35A to HDR**					***Sorted By:Flow Order***		
CD-05.1A-01N	0.438	0.232	0.305	0.305	-111,545	No	203,584
CD-05.1A-02E	0.438	0.355	0.305	0.305	105,067	Yes	203,584
CD-05.1A-03E	0.438	0.363	0.305	0.305	121,764	Yes	203,584
CD-05.1A-04P	0.438	0.306	0.305	0.305	3,454	No	203,584
CD-05.1A-05V	0.438	0.232	0.326	0.326	-129,292	No	203,584
CD-05.1A-06P	0.438	0.347	0.305	0.305	149,424	No	203,584
CD-05.1A-07E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1A-08P	0.438	0.335	0.305	0.305	93,371	No	203,584
CD-05.1A-09E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1A-10P	0.438	0.306	0.305	0.305	3,454	No	203,584
CD-05.1A-11R	0.000	0.323	0.305	0.305	49,330	No	203,584
CD-05.1A-11R (D/S)	0.000	0.630	0.523	0.523	576,200	No	203,584
CD-05.2-01P	0.688	0.640	0.523	0.523	754,016	No	203,584
===>Grouped by Line: **CD-05.1B FWH 35B to HDR**					***Sorted By:Flow Order***		
CD-05.1B-01N	0.438	0.232	0.305	0.305	-111,545	No	203,584
CD-05.1B-02E	0.438	0.424	0.305	0.305	249,206	Yes	203,584
CD-05.1B-03E	0.438	0.482	0.305	0.305	370,257	Yes	203,584
CD-05.1B-04P	0.438	0.358	0.305	0.305	128,402	Yes	203,584
CD-05.1B-05V	0.438	0.232	0.326	0.326	-129,292	No	203,584
CD-05.1B-06P	0.438	0.347	0.305	0.305	149,424	No	203,584
CD-05.1B-07E	0.575	0.419	0.305	0.305	231,224	Yes	203,584
CD-05.1B-08P	0.465	0.362	0.305	0.305	174,213	Yes	203,584
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Flow Order***		
CD-05.1C-01N	0.438	0.392	0.305	0.305	134,478	Yes	203,584
CD-05.1C-02E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1C-03E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1C-04P	0.438	0.306	0.305	0.305	3,454	No	203,584
CD-05.1C-05V	0.438	0.232	0.326	0.326	-129,292	No	203,584
CD-05.1C-06P	0.438	0.347	0.305	0.305	149,424	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Flow Order***		
CD-05.1C-07E	0.438	0.286	0.305	0.305	-40,024	No	203,584
CD-05.1C-08E	0.438	0.423	0.305	0.305	247,272	Yes	203,584
CD-05.1C-09P	0.498	0.365	0.305	0.305	142,893	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:44:14PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.9 FWH HDR to SGBD HX3***								***Sorted By: Average Wear Rate***		
CD-02.10-11N	30	2.923	2.011	198.0	6.587	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.9-17T (BR/SE)	14	2.333	1.605	198.0	5.966	0.0	8.000	7.056	0.000	'79.70'	HBD
CD-02.10-04E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-06E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-08E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-10E	4	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-05P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-07P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-09P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-03P	56	1.227	0.832	198.0	14.012	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-01P	64	1.145	0.788	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.9-17T	14	0.782	0.538	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-04V	22	0.711	0.489	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-02E	4	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-06E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-08E	4	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-11E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-13E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-16E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-03P	54	0.455	0.313	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-09P	54	0.455	0.313	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-07P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-12P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-14P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-05P	58	0.313	0.215	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-01P	63	0.284	0.196	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-10P	9	0.156	0.108	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-15P	9	0.156	0.108	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:14PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.9 FWH HDR to SGBD HX3***									***Sorted By: Flow Order***	
CD-02.9-01P	63	0.284	0.196	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-02E	4	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-03P	54	0.455	0.313	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-04V	22	0.711	0.489	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-05P	58	0.313	0.215	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-06E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-07P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-08E	4	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-09P	54	0.455	0.313	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-10P	9	0.156	0.108	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-11E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-12P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-13E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-14P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-15P	9	0.156	0.108	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-16E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-17T	14	0.782	0.538	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.9-17T (BR/SE)	14	2.333	1.605	198.0	5.966	0.0	8.000	7.056	0.000	'79.70'	HBD
CD-02.10-01P	64	1.145	0.788	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-03P	56	1.227	0.832	198.0	14.012	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-04E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-05P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-06E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-07P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-08E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-09P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-10E	4	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.10-11N	30	2.923	2.011	198.0	6.587	0.0	8.625	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:14PM

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.9 FWH HDR to SGBD HX3**					***Sorted By:Remaining Life***		
CD-02.10-06E	0.322	0.273	0.188	0.188	510,056	No	203,584
CD-02.9-17T (BR/SE)	0.000	0.268	0.174	0.174	510,496	No	203,584
CD-02.10-04E	0.322	0.284	0.188	0.188	578,046	Yes	203,584
CD-02.10-10E	0.322	0.288	0.188	0.188	603,457	Yes	203,584
CD-02.10-08E	0.322	0.306	0.188	0.188	711,595	Yes	203,584
CD-02.10-05P	0.322	0.289	0.188	0.188	896,884	No	203,584
CD-02.10-07P	0.322	0.289	0.188	0.188	896,884	No	203,584
CD-02.10-09P	0.322	0.304	0.188	0.188	1,035,703	Yes	203,584
CD-02.10-03P	0.322	0.293	0.188	0.188	1,112,259	No	203,584
CD-02.10-01P	0.322	0.295	0.188	0.188	1,195,064	No	203,584
CD-02.9-04V	0.562	0.545	0.420	0.420	2,254,273	No	203,584
CD-02.10-11N	0.812	0.744	0.188	0.188	2,422,502	No	203,584
CD-02.9-17T	0.562	0.544	0.392	0.392	2,469,619	No	203,584
CD-02.9-16E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-13E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-11E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-08E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-06E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-02E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-09P	0.562	0.551	0.392	0.392	4,457,289	No	203,584
CD-02.9-03P	0.562	0.551	0.392	0.392	4,457,289	No	203,584
CD-02.9-12P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.9-14P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.9-07P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.9-05P	0.562	0.555	0.392	0.392	6,617,800	No	203,584
CD-02.9-01P	0.562	0.555	0.392	0.392	7,309,163	No	203,584
CD-02.9-15P	0.562	0.558	0.392	0.392	13,531,433	No	203,584
CD-02.9-10P	0.562	0.558	0.392	0.392	13,531,433	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:14PM

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.9 FWH HDR to SGBD HX3**					***Sorted By:Flow Order***		
CD-02.9-01P	0.562	0.555	0.392	0.392	7,309,163	No	203,584
CD-02.9-02E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-03P	0.562	0.551	0.392	0.392	4,457,289	No	203,584
CD-02.9-04V	0.562	0.545	0.420	0.420	2,254,273	No	203,584
CD-02.9-05P	0.562	0.555	0.392	0.392	6,617,800	No	203,584
CD-02.9-06E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-07P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.9-08E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-09P	0.562	0.551	0.392	0.392	4,457,289	No	203,584
CD-02.9-10P	0.562	0.558	0.392	0.392	13,531,433	No	203,584
CD-02.9-11E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-12P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.9-13E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-14P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.9-15P	0.562	0.558	0.392	0.392	13,531,433	No	203,584
CD-02.9-16E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.9-17T	0.562	0.544	0.392	0.392	2,469,619	No	203,584
CD-02.9-17T (BR/SE)	0.000	0.268	0.174	0.174	510,496	No	203,584
CD-02.10-01P	0.322	0.295	0.188	0.188	1,195,064	No	203,584
CD-02.10-03P	0.322	0.293	0.188	0.188	1,112,259	No	203,584
CD-02.10-04E	0.322	0.284	0.188	0.188	578,046	Yes	203,584
CD-02.10-05P	0.322	0.289	0.188	0.188	896,884	No	203,584
CD-02.10-06E	0.322	0.273	0.188	0.188	510,056	No	203,584
CD-02.10-07P	0.322	0.289	0.188	0.188	896,884	No	203,584
CD-02.10-08E	0.322	0.306	0.188	0.188	711,595	Yes	203,584
CD-02.10-09P	0.322	0.304	0.188	0.188	1,035,703	Yes	203,584
CD-02.10-10E	0.322	0.288	0.188	0.188	603,457	Yes	203,584
CD-02.10-11N	0.812	0.744	0.188	0.188	2,422,502	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:44:21PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.11 SGBD HX3 to FWH HDR***								***Sorted By: Average Wear Rate***		
CD-02.11-01N	31	3.653	2.514	198.0	6.587	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-13T (BR/SE)	10	2.666	1.835	198.0	5.966	0.0	8.000	7.056	0.000	'79.70'	HBD
CD-02.11-03E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-07E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-10E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-12E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-05E	1	1.890	1.301	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-02P	61	1.546	1.064	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-04P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-08P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-11P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-06P	51	1.260	0.867	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-13T (D/S)	10	0.711	0.489	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-04V	22	0.711	0.489	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.11-09P	9	0.630	0.434	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.12-02E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-06E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-08E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-10E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-01P	60	0.427	0.294	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-03P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-07P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-09P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-11P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-05P	58	0.313	0.215	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:21PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.11 SGBD HX3 to FWH HDR***									***Sorted By: Flow Order***	
CD-02.11-01N	31	3.653	2.514	198.0	6.587	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-02P	61	1.546	1.064	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-03E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-04P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-05E	1	1.890	1.301	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-06P	51	1.260	0.867	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-07E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-08P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-09P	9	0.630	0.434	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-10E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-11P	52	1.432	0.985	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-12E	2	2.119	1.458	198.0	5.068	0.0	8.625	7.056	0.000	'79.70'	HBD
CD-02.11-13T (BR/SE)	10	2.666	1.835	198.0	5.966	0.0	8.000	7.056	0.000	'79.70'	HBD
CD-02.11-13T (D/S)	10	0.711	0.489	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-01P	60	0.427	0.294	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-02E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-03P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-04V	22	0.711	0.489	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-05P	58	0.313	0.215	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-06E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-07P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-08E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-09P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-10E	2	0.526	0.362	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD
CD-02.12-11P	52	0.356	0.245	198.0	1.134	0.0	18.000	7.056	0.000	'79.70'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:21PM

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.11 SGBD HX3 to FWH HDR**					***Sorted By:Remaining Life***		
CD-02.11-13T (BR/SE)	0.000	0.279	0.174	0.174	497,962	No	203,584
CD-02.11-03E	0.322	0.293	0.188	0.188	632,700	Yes	203,584
CD-02.11-12E	0.322	0.301	0.188	0.188	681,487	No	203,584
CD-02.11-10E	0.322	0.308	0.188	0.188	723,541	Yes	203,584
CD-02.11-07E	0.322	0.312	0.188	0.188	743,338	Yes	203,584
CD-02.11-02P	0.322	0.286	0.188	0.188	808,535	No	203,584
CD-02.11-05E	0.322	0.312	0.188	0.188	836,298	Yes	203,584
CD-02.11-04P	0.322	0.293	0.188	0.188	935,660	Yes	203,584
CD-02.11-08P	0.322	0.295	0.188	0.188	955,462	Yes	203,584
CD-02.11-11P	0.322	0.306	0.188	0.188	1,048,369	Yes	203,584
CD-02.11-06P	0.322	0.302	0.188	0.188	1,153,267	Yes	203,584
CD-02.11-01N	0.812	0.727	0.188	0.188	1,878,835	No	203,584
CD-02.12-04V	0.562	0.545	0.420	0.420	2,254,273	No	203,584
CD-02.11-09P	0.322	0.307	0.188	0.188	2,414,890	No	203,584
CD-02.11-13T (D/S)	0.000	0.548	0.392	0.392	2,798,681	Yes	203,584
CD-02.12-10E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.12-08E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.12-02E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.12-01P	0.562	0.552	0.392	0.392	4,774,164	No	203,584
CD-02.12-09P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-11P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-07P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-03P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-05P	0.562	0.544	0.392	0.392	6,195,746	Yes	203,584
CD-02.12-06E	0.562	0.692	0.392	0.392	7,244,313	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:21PM

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.11 SGBD HX3 to FWH HDR**					***Sorted By:Flow Order***		
CD-02.11-01N	0.812	0.727	0.188	0.188	1,878,835	No	203,584
CD-02.11-02P	0.322	0.286	0.188	0.188	808,535	No	203,584
CD-02.11-03E	0.322	0.293	0.188	0.188	632,700	Yes	203,584
CD-02.11-04P	0.322	0.293	0.188	0.188	935,660	Yes	203,584
CD-02.11-05E	0.322	0.312	0.188	0.188	836,298	Yes	203,584
CD-02.11-06P	0.322	0.302	0.188	0.188	1,153,267	Yes	203,584
CD-02.11-07E	0.322	0.312	0.188	0.188	743,338	Yes	203,584
CD-02.11-08P	0.322	0.295	0.188	0.188	955,462	Yes	203,584
CD-02.11-09P	0.322	0.307	0.188	0.188	2,414,890	No	203,584
CD-02.11-10E	0.322	0.308	0.188	0.188	723,541	Yes	203,584
CD-02.11-11P	0.322	0.306	0.188	0.188	1,048,369	Yes	203,584
CD-02.11-12E	0.322	0.301	0.188	0.188	681,487	No	203,584
CD-02.11-13T (BR/SE)	0.000	0.279	0.174	0.174	497,962	No	203,584
CD-02.11-13T (D/S)	0.000	0.548	0.392	0.392	2,798,681	Yes	203,584
CD-02.12-01P	0.562	0.552	0.392	0.392	4,774,164	No	203,584
CD-02.12-02E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.12-03P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-04V	0.562	0.545	0.420	0.420	2,254,273	No	203,584
CD-02.12-05P	0.562	0.544	0.392	0.392	6,195,746	Yes	203,584
CD-02.12-06E	0.562	0.692	0.392	0.392	7,244,313	Yes	203,584
CD-02.12-07P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-08E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.12-09P	0.562	0.554	0.392	0.392	5,788,164	No	203,584
CD-02.12-10E	0.562	0.550	0.392	0.392	3,814,975	No	203,584
CD-02.12-11P	0.562	0.554	0.392	0.392	5,788,164	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:44:25PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.3 FWH 35 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-05.1B-09T (BR/SE)	12	6.018	3.857	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-09T (D/S)	12	5.416	3.471	377.3	12.287	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.1B-09T	12	3.441	2.239	377.3	6.134	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.3-01P	62	2.642	1.693	377.3	12.287	0.0	24.000	6.841	0.000	'72.51'	HBD
===>Grouped by Line:	***CD-05.4 FWH 35 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-05.1C-10T (D/S)	12	6.764	4.335	377.3	18.304	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-03T (BR/SE)	10	6.605	4.233	377.3	18.329	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-03T (D/S)	10	6.140	3.935	377.3	11.447	0.0	30.000	6.841	0.000	'72.51'	HBD
CD-05.4-01E	4	6.104	3.912	377.3	18.304	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.1C-10T (BR/SE)	12	6.018	3.857	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-10T	12	5.394	3.457	377.3	12.208	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-02P	54	5.299	3.396	377.3	18.414	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-05P	60	3.661	2.346	377.3	11.334	0.0	30.000	6.841	0.000	'72.51'	HBD
CD-05.4-04P	62	3.300	2.115	377.3	18.304	0.0	24.000	6.841	0.000	'72.51'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:25PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.3 FWH 35 OUT HDR***									***Sorted By: Flow Order***	
CD-05.1B-09T	12	3.441	2.239	377.3	6.134	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.1B-09T (BR/SE)	12	6.018	3.857	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1B-09T (D/S)	12	5.416	3.471	377.3	12.287	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.3-01P	62	2.642	1.693	377.3	12.287	0.0	24.000	6.841	0.000	'72.51'	HBD
===>Grouped by Line:	***CD-05.4 FWH 35 OUT HDR***									***Sorted By: Flow Order***	
CD-05.1C-10T (BR/SE)	12	6.018	3.857	377.3	18.113	0.0	14.000	6.841	0.000	'72.51'	HBD
CD-05.1C-10T	12	5.394	3.457	377.3	12.208	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.1C-10T (D/S)	12	6.764	4.335	377.3	18.304	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-04P	62	3.300	2.115	377.3	18.304	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-01E	4	6.104	3.912	377.3	18.304	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-02P	54	5.299	3.396	377.3	18.414	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-03T (BR/SE)	10	6.605	4.233	377.3	18.329	0.0	24.000	6.841	0.000	'72.51'	HBD
CD-05.4-03T (D/S)	10	6.140	3.935	377.3	11.447	0.0	30.000	6.841	0.000	'72.51'	HBD
CD-05.4-05P	60	3.661	2.346	377.3	11.334	0.0	30.000	6.841	0.000	'72.51'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:25PM

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.3 FWH 35 OUT HDR**					***Sorted By:Remaining Life***		
CD-05.1B-09T (BR/SE)	0.000	0.407	0.305	0.305	231,895	Yes	203,584
CD-05.1B-09T (D/S)	0.724	0.653	0.523	0.523	329,381	Yes	203,584
CD-05.1B-09T	0.724	0.635	0.523	0.523	440,275	Yes	203,584
CD-05.3-01P	0.724	0.661	0.523	0.523	717,286	Yes	203,584
===>Grouped by Line: **CD-05.4 FWH 35 OUT HDR**					***Sorted By:Remaining Life***		
CD-05.4-03T (D/S)	0.696	0.656	0.653	0.653	4,827	Yes	203,584
CD-05.4-02P	0.722	0.599	0.523	0.523	196,313	No	203,584
CD-05.1C-10T (BR/SE)	0.000	0.403	0.305	0.305	221,657	Yes	203,584
CD-05.1C-10T (D/S)	0.000	0.656	0.523	0.523	268,488	Yes	203,584
CD-05.4-01E	0.688	0.644	0.523	0.523	271,659	Yes	203,584
CD-05.4-03T (BR/SE)	0.696	0.658	0.523	0.523	279,700	Yes	203,584
CD-05.4-05P	0.625	0.660	0.561	0.561	366,490	No	203,584
CD-05.1C-10T	0.000	0.673	0.523	0.523	381,560	Yes	203,584
CD-05.4-04P	0.688	0.636	0.523	0.523	470,161	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:25PM

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.3 FWH 35 OUT HDR**					***Sorted By:Flow Order***		
CD-05.1B-09T	0.724	0.635	0.523	0.523	440,275	Yes	203,584
CD-05.1B-09T (BR/SE)	0.000	0.407	0.305	0.305	231,895	Yes	203,584
CD-05.1B-09T (D/S)	0.724	0.653	0.523	0.523	329,381	Yes	203,584
CD-05.3-01P	0.724	0.661	0.523	0.523	717,286	Yes	203,584
===>Grouped by Line: **CD-05.4 FWH 35 OUT HDR**					***Sorted By:Flow Order***		
CD-05.1C-10T (BR/SE)	0.000	0.403	0.305	0.305	221,657	Yes	203,584
CD-05.1C-10T	0.000	0.673	0.523	0.523	381,560	Yes	203,584
CD-05.1C-10T (D/S)	0.000	0.656	0.523	0.523	268,488	Yes	203,584
CD-05.4-04P	0.688	0.636	0.523	0.523	470,161	No	203,584
CD-05.4-01E	0.688	0.644	0.523	0.523	271,659	Yes	203,584
CD-05.4-02P	0.722	0.599	0.523	0.523	196,313	No	203,584
CD-05.4-03T (BR/SE)	0.696	0.658	0.523	0.523	279,700	Yes	203,584
CD-05.4-03T (D/S)	0.696	0.656	0.653	0.653	4,827	Yes	203,584
CD-05.4-05P	0.625	0.660	0.561	0.561	366,490	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:44:27PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-BFPT #31 Drain to Condenser***								***Sorted By: Average Wear Rate***		
TEMP04	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	'60.17'	HBD
===>Grouped by Line:	***EX-BFPT #32 Drain to Condenser***								***Sorted By: Average Wear Rate***		
TEMP05	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	'60.17'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:27PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-BFPT #31 Drain to Condenser***								***Sorted By: Flow Order***		
TEMP04	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	'60.17'	HBD
===>Grouped by Line:	***EX-BFPT #32 Drain to Condenser***								***Sorted By: Flow Order***		
TEMP05	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	'60.17'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:27PM

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-BFPT #31 Drain to Condenser**					***Sorted By:Remaining Life***		
TEMP04	0.000	0.618	0.080	0.080	15,630,105	No	203,584
===>Grouped by Line: **EX-BFPT #32 Drain to Condenser**					***Sorted By:Remaining Life***		
TEMP05	0.000	0.618	0.080	0.080	15,630,105	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:27PM

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-BFPT #31 Drain to Condenser**					***Sorted By:Flow Order***		
TEMP04	0.000	0.618	0.080	0.080	15,630,105	No	203,584
===>Grouped by Line: **EX-BFPT #32 Drain to Condenser**					***Sorted By:Flow Order***		
TEMP05	0.000	0.618	0.080	0.080	15,630,105	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:44:37PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.16 HDR 35 to FWH 35A***								***Sorted By: Average Wear Rate***		
EX-02.16-05V	22	23.025	27.586	385.2	29.945	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-08E	2	22.897	26.776	385.2	35.427	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-09N	30	20.993	25.176	385.2	29.549	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-07P	54	0.094	0.096	385.2	30.292	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-03E	2	0.091	0.093	385.2	30.943	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-06E	4	0.090	0.092	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-01R (D/S)	7	0.074	0.083	385.2	29.715	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-02P	57	0.073	0.074	385.2	29.474	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-04P	52	0.061	0.062	385.2	30.232	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-01R	7	0.059	0.066	385.2	7.029	93.8	28.000	0.000	0.000	'0.00'	ARD
EX-02.19-01P	64	0.027	0.031	385.2	7.029	93.8	28.000	0.000	0.000	'0.00'	ARD
===>Grouped by Line:	***EX-02.17 HDR 35 to FWH 35B***								***Sorted By: Average Wear Rate***		
EX-02.17-02V	22	23.025	27.586	385.2	29.945	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-05E	2	23.018	26.921	385.2	35.888	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-06N	30	20.993	25.176	385.2	29.549	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-04P	54	0.094	0.096	385.2	30.276	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-03E	4	0.090	0.092	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-01P	64	0.032	0.036	385.2	30.483	93.8	18.000	0.000	0.000	'0.00'	ARD
===>Grouped by Line:	***EX-02.18 HDR 35 to FWH 35C***								***Sorted By: Average Wear Rate***		
EX-02.18-02V	22	23.025	27.586	385.2	29.945	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-05E	2	21.408	24.981	385.2	29.715	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-06N	30	20.993	25.176	385.2	29.549	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-03E	4	0.083	0.092	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-04P	54	0.077	0.086	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-01P	64	0.032	0.036	385.2	30.483	93.8	18.000	0.000	0.000	'0.00'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:37PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.16 HDR 35 to FWH 35A***									***Sorted By: Flow Order***	
EX-02.19-01P	64	0.027	0.031	385.2	7.029	93.8	28.000	0.000	0.000	'0.00'	ARD
EX-02.16-01R	7	0.059	0.066	385.2	7.029	93.8	28.000	0.000	0.000	'0.00'	ARD
EX-02.16-01R (D/S)	7	0.074	0.083	385.2	29.715	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-02P	57	0.073	0.074	385.2	29.474	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-03E	2	0.091	0.093	385.2	30.943	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-04P	52	0.061	0.062	385.2	30.232	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-05V	22	23.025	27.586	385.2	29.945	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-06E	4	0.090	0.092	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-07P	54	0.094	0.096	385.2	30.292	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-08E	2	22.897	26.776	385.2	35.427	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.16-09N	30	20.993	25.176	385.2	29.549	93.8	18.000	0.000	0.000	'0.00'	ARD
===>Grouped by Line:	***EX-02.17 HDR 35 to FWH 35B***									***Sorted By: Flow Order***	
EX-02.17-01P	64	0.032	0.036	385.2	30.483	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-02V	22	23.025	27.586	385.2	29.945	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-03E	4	0.090	0.092	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-04P	54	0.094	0.096	385.2	30.276	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-05E	2	23.018	26.921	385.2	35.888	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.17-06N	30	20.993	25.176	385.2	29.549	93.8	18.000	0.000	0.000	'0.00'	ARD
===>Grouped by Line:	***EX-02.18 HDR 35 to FWH 35C***									***Sorted By: Flow Order***	
EX-02.18-01P	64	0.032	0.036	385.2	30.483	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-02V	22	23.025	27.586	385.2	29.945	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-03E	4	0.083	0.092	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-04P	54	0.077	0.086	385.2	30.250	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-05E	2	21.408	24.981	385.2	29.715	93.8	18.000	0.000	0.000	'0.00'	ARD
EX-02.18-06N	30	20.993	25.176	385.2	29.549	93.8	18.000	0.000	0.000	'0.00'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:37PM

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.16 HDR 35 to FWH 35A**					***Sorted By:Remaining Life***		
EX-02.16-05V	0.312	-0.223	0.160	0.160	-137,903	No	203,584
EX-02.16-09N	0.293	-0.195	0.149	0.149	-135,502	No	203,584
EX-02.16-08E	0.924	0.691	0.149	0.149	177,335	Yes	164,791
EX-02.16-02P	0.284	0.283	0.149	0.149	15,821,618	No	82,559
EX-02.16-06E	0.000	0.374	0.149	0.149	21,400,018	No	82,559
EX-02.16-07P	0.380	0.403	0.149	0.149	23,125,928	No	82,559
EX-02.16-04P	0.346	0.345	0.149	0.149	27,746,512	No	82,559
EX-02.16-03E	0.455	0.454	0.149	0.149	28,752,866	No	82,559
EX-02.16-01R (D/S)	0.000	0.513	0.149	0.149	38,524,680	No	124,935
EX-02.19-01P	0.375	0.375	0.232	0.232	40,915,640	No	124,935
EX-02.16-01R	0.000	0.603	0.232	0.232	49,545,628	No	124,935
===>Grouped by Line: **EX-02.17 HDR 35 to FWH 35B**					***Sorted By:Remaining Life***		
EX-02.17-02V	0.312	-0.223	0.160	0.160	-137,903	No	203,584
EX-02.17-05E	0.968	0.157	0.149	0.149	2,663	Yes	164,791
EX-02.17-06N	0.293	0.486	0.149	0.149	117,300	Yes	203,584
EX-02.17-04P	0.378	0.377	0.149	0.149	20,789,490	No	82,559
EX-02.17-03E	0.375	0.374	0.149	0.149	21,400,018	No	82,559
EX-02.17-01P	0.375	0.375	0.149	0.149	55,314,548	No	124,935
===>Grouped by Line: **EX-02.18 HDR 35 to FWH 35C**					***Sorted By:Remaining Life***		
EX-02.18-02V	0.312	-0.223	0.160	0.160	-137,903	No	203,584
EX-02.18-06N	0.293	0.480	0.149	0.149	115,226	Yes	203,584
EX-02.18-05E	0.312	0.722	0.149	0.149	200,769	Yes	164,791
EX-02.18-04P	0.375	0.383	0.149	0.149	23,764,734	No	124,935
EX-02.18-03E	0.375	0.558	0.149	0.149	38,857,948	No	124,935
EX-02.18-01P	0.375	0.375	0.149	0.149	55,314,548	No	124,935

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:44:37PM

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.16 HDR 35 to FWH 35A**					***Sorted By:Flow Order***		
EX-02.19-01P	0.375	0.375	0.232	0.232	40,915,640	No	124,935
EX-02.16-01R	0.000	0.603	0.232	0.232	49,545,628	No	124,935
EX-02.16-01R (D/S)	0.000	0.513	0.149	0.149	38,524,680	No	124,935
EX-02.16-02P	0.284	0.283	0.149	0.149	15,821,618	No	82,559
EX-02.16-03E	0.455	0.454	0.149	0.149	28,752,866	No	82,559
EX-02.16-04P	0.346	0.345	0.149	0.149	27,746,512	No	82,559
EX-02.16-05V	0.312	-0.223	0.160	0.160	-137,903	No	203,584
EX-02.16-06E	0.000	0.374	0.149	0.149	21,400,018	No	82,559
EX-02.16-07P	0.380	0.403	0.149	0.149	23,125,928	No	82,559
EX-02.16-08E	0.924	0.691	0.149	0.149	177,335	Yes	164,791
EX-02.16-09N	0.293	-0.195	0.149	0.149	-135,502	No	203,584
===>Grouped by Line: **EX-02.17 HDR 35 to FWH 35B**					***Sorted By:Flow Order***		
EX-02.17-01P	0.375	0.375	0.149	0.149	55,314,548	No	124,935
EX-02.17-02V	0.312	-0.223	0.160	0.160	-137,903	No	203,584
EX-02.17-03E	0.375	0.374	0.149	0.149	21,400,018	No	82,559
EX-02.17-04P	0.378	0.377	0.149	0.149	20,789,490	No	82,559
EX-02.17-05E	0.968	0.157	0.149	0.149	2,663	Yes	164,791
EX-02.17-06N	0.293	0.486	0.149	0.149	117,300	Yes	203,584
===>Grouped by Line: **EX-02.18 HDR 35 to FWH 35C**					***Sorted By:Flow Order***		
EX-02.18-01P	0.375	0.375	0.149	0.149	55,314,548	No	124,935
EX-02.18-02V	0.312	-0.223	0.160	0.160	-137,903	No	203,584
EX-02.18-03E	0.375	0.558	0.149	0.149	38,857,948	No	124,935
EX-02.18-04P	0.375	0.383	0.149	0.149	23,764,734	No	124,935
EX-02.18-05E	0.312	0.722	0.149	0.149	200,769	Yes	164,791
EX-02.18-06N	0.293	0.480	0.149	0.149	115,226	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:45:07PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5A HP EX HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
EX-01.5A-11V	22	13.907	6.337	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-07L (D/S)	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-16L (D/S)	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-07L	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-16L	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-09E	102	0.011	0.008	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-03E	102	0.011	0.008	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-14E	4	0.008	0.006	441.8	38.106	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-15N	30	0.008	0.006	441.8	35.935	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-06P	54	0.008	0.005	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-13E	2	0.008	0.005	441.8	37.496	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-05E	4	0.008	0.005	441.8	37.401	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-01R (D/S)	7	0.007	0.005	441.8	35.727	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-02P	57	0.006	0.004	441.8	36.793	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-17P	52	0.005	0.004	441.8	36.275	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-10P	52	0.005	0.004	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-01R	7	0.005	0.003	441.8	15.740	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.5A-04P	52	0.004	0.003	441.8	53.650	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-12P	58	0.004	0.002	441.8	37.331	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-08P	62	0.002	0.002	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.7-01P	63	0.002	0.001	441.8	15.740	93.7	18.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
EX-01.5B-09V	22	13.907	6.337	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-04L (D/S)	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5B-14L (D/S)	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-04L	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5B-14L	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-12E	4	0.008	0.006	441.8	39.151	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-13N	30	0.008	0.006	441.8	35.935	93.7	12.750	6.653	0.000	'175.36'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
EX-01.5B-08P	54	0.008	0.005	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-02E	2	0.008	0.005	441.8	38.209	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-11E	2	0.008	0.005	441.8	37.854	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-07E	4	0.008	0.005	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-06E	1	0.006	0.004	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-15P	52	0.005	0.004	441.8	36.954	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-03P	52	0.005	0.004	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-10P	58	0.004	0.002	441.8	37.153	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-05P	62	0.002	0.002	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-01P	64	0.002	0.002	441.8	53.069	93.7	12.750	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.5C HP EX HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
EX-01.5C-09V	22	13.907	6.337	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5C-14L (D/S)	12	0.014	0.009	441.8	36.778	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5C-14L	12	0.014	0.009	441.8	36.778	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-04L	12	0.014	0.009	441.8	36.659	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-04L (D/S)	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-12E	4	0.008	0.006	441.8	38.321	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-13N	30	0.008	0.006	441.8	35.935	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-08P	54	0.008	0.005	441.8	36.913	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-11E	2	0.008	0.005	441.8	37.800	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-02E	2	0.008	0.005	441.8	37.455	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-07E	4	0.008	0.005	441.8	37.360	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-06E	1	0.007	0.005	441.8	37.564	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-03P	52	0.005	0.004	441.8	36.831	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-15P	52	0.005	0.004	441.8	36.301	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-10P	58	0.004	0.002	441.8	36.939	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-01P	64	0.003	0.002	441.8	54.131	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-05P	62	0.002	0.002	441.8	36.778	93.7	12.750	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:07PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5A HP EX HDR to FWH 36A***									***Sorted By: Flow Order***	
EX-01.7-01P	63	0.002	0.001	441.8	15.740	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.5A-01R	7	0.005	0.003	441.8	15.740	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.5A-01R (D/S)	7	0.007	0.005	441.8	35.727	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-02P	57	0.006	0.004	441.8	36.793	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-03E	102	0.011	0.008	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-04P	52	0.004	0.003	441.8	53.650	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-05E	4	0.008	0.005	441.8	37.401	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-06P	54	0.008	0.005	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-16L	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-16L (D/S)	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-07L	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-07L (D/S)	12	0.014	0.009	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-08P	62	0.002	0.002	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-09E	102	0.011	0.008	441.8	36.805	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-10P	52	0.005	0.004	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-11V	22	13.907	6.337	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-12P	58	0.004	0.002	441.8	37.331	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-13E	2	0.008	0.005	441.8	37.496	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-17P	52	0.005	0.004	441.8	36.275	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-14E	4	0.008	0.006	441.8	38.106	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5A-15N	30	0.008	0.006	441.8	35.935	93.7	12.750	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***									***Sorted By: Flow Order***	
EX-01.5B-01P	64	0.002	0.002	441.8	53.069	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-02E	2	0.008	0.005	441.8	38.209	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-03P	52	0.005	0.004	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5B-14L	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5B-14L (D/S)	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-04L	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-04L (D/S)	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***									***Sorted By: Flow Order***	
EX-01.5B-05P	62	0.002	0.002	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-06E	1	0.006	0.004	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-07E	4	0.008	0.005	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-08P	54	0.008	0.005	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-09V	22	13.907	6.337	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-10P	58	0.004	0.002	441.8	37.153	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-11E	2	0.008	0.005	441.8	37.854	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-15P	52	0.005	0.004	441.8	36.954	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-12E	4	0.008	0.006	441.8	39.151	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5B-13N	30	0.008	0.006	441.8	35.935	93.7	12.750	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.5C HP EX HDR to FWH 36C***									***Sorted By: Flow Order***	
EX-01.5C-01P	64	0.003	0.002	441.8	54.131	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-02E	2	0.008	0.005	441.8	37.455	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-03P	52	0.005	0.004	441.8	36.831	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5C-14L	12	0.014	0.009	441.8	36.778	93.7	12.750	6.653	0.000	'175.36'	HBD
EX.01.5C-14L (D/S)	12	0.014	0.009	441.8	36.778	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-04L	12	0.014	0.009	441.8	36.659	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-04L (D/S)	12	0.013	0.009	441.8	36.210	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-05P	62	0.002	0.002	441.8	36.778	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-06E	1	0.007	0.005	441.8	37.564	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-07E	4	0.008	0.005	441.8	37.360	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-08P	54	0.008	0.005	441.8	36.913	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-09V	22	13.907	6.337	441.8	36.567	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-10P	58	0.004	0.002	441.8	36.939	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-11E	2	0.008	0.005	441.8	37.800	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-15P	52	0.005	0.004	441.8	36.301	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-12E	4	0.008	0.006	441.8	38.321	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.5C-13N	30	0.008	0.006	441.8	35.935	93.7	12.750	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:07PM

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5A HP EX HDR to FWH 36A**					***Sorted By:Remaining Life***		
EX-01.5A-11V	0.330	0.007	0.202	0.202	-155,031	No	203,584
EX-01.5A-08P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-06P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.7-01P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-01R	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-02P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5A-01R (D/S)	0.293	0.293	0.195	0.195	100,000,000	No	111,379
EX-01.5A-05E	0.419	0.419	0.195	0.195	100,000,000	No	111,379
EX-01.5A-03E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-09E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-10P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5A-12P	0.387	0.387	0.195	0.195	100,000,000	No	111,379
EX-01.5A-13E	0.426	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.5A-17P	0.335	0.335	0.195	0.195	100,000,000	No	111,379
EX-01.5A-14E	0.470	0.470	0.195	0.195	100,000,000	No	111,379
EX-01.5A-04P	0.411	0.411	0.195	0.195	100,000,000	No	111,379
EX-01.5A-15N	0.309	1.170	0.195	0.195	100,000,000	No	111,379
EX-01.5A-07L (D/S)	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-07L	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-16L (D/S)	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-16L	0.000	0.375	0.195	0.195	168,587,920	No	111,379
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Remaining Life***		
EX-01.5B-09V	0.330	0.007	0.202	0.202	-155,031	No	203,584
EX-01.5B-01P	0.363	0.363	0.195	0.195	100,000,000	No	111,379
EX-01.5B-02E	0.477	0.477	0.195	0.195	100,000,000	No	111,379
EX-01.5B-03P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-07E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-08P	0.330	0.330	0.195	0.195	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Remaining Life***		
EX-01.5B-10P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5B-11E	0.452	0.452	0.195	0.195	100,000,000	No	111,379
EX-01.5B-15P	0.386	0.386	0.195	0.195	100,000,000	No	111,379
EX-01.5B-12E	0.543	0.543	0.195	0.195	100,000,000	No	111,379
EX-01.5B-13N	0.309	0.377	0.195	0.195	100,000,000	No	111,379
EX.01.5B-14L	0.330	0.330	0.195	0.195	127,515,960	No	111,379
EX.01.5B-14L (D/S)	0.000	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5B-04L	0.330	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5B-04L (D/S)	0.000	0.330	0.195	0.195	127,515,960	No	111,379
===>Grouped by Line: **EX-01.5C HP EX HDR to FWH 36C**					***Sorted By:Remaining Life***		
EX-01.5C-09V	0.330	0.007	0.202	0.202	-155,031	No	203,584
EX-01.5C-01P	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.5C-02E	0.423	0.423	0.195	0.195	100,000,000	No	111,379
EX-01.5C-03P	0.377	0.377	0.195	0.195	100,000,000	No	111,379
EX-01.5C-05P	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX-01.5C-06E	0.431	0.431	0.195	0.195	100,000,000	No	111,379
EX-01.5C-07E	0.416	0.416	0.195	0.195	100,000,000	No	111,379
EX-01.5C-08P	0.356	0.356	0.195	0.195	100,000,000	No	111,379
EX-01.5C-10P	0.358	0.358	0.195	0.195	100,000,000	No	111,379
EX-01.5C-11E	0.448	0.448	0.195	0.195	100,000,000	No	111,379
EX-01.5C-15P	0.337	0.337	0.195	0.195	100,000,000	No	111,379
EX-01.5C-12E	0.485	0.485	0.195	0.195	100,000,000	No	111,379
EX-01.5C-13N	0.309	1.166	0.195	0.195	100,000,000	No	111,379
EX-01.5C-04L (D/S)	0.000	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5C-04L	0.364	0.364	0.195	0.195	158,614,432	No	111,379
EX.01.5C-14L	0.373	0.373	0.195	0.195	166,776,000	No	111,379
EX.01.5C-14L (D/S)	0.373	0.373	0.195	0.195	166,776,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:07PM

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5A HP EX HDR to FWH 36A**					***Sorted By:Flow Order***		
EX-01.7-01P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-01R	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-01R (D/S)	0.293	0.293	0.195	0.195	100,000,000	No	111,379
EX-01.5A-02P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5A-03E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-04P	0.411	0.411	0.195	0.195	100,000,000	No	111,379
EX-01.5A-05E	0.419	0.419	0.195	0.195	100,000,000	No	111,379
EX-01.5A-06P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-16L	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-16L (D/S)	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-07L	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-07L (D/S)	0.000	0.375	0.195	0.195	168,587,920	No	111,379
EX-01.5A-08P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-09E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-10P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5A-11V	0.330	0.007	0.202	0.202	-155,031	No	203,584
EX-01.5A-12P	0.387	0.387	0.195	0.195	100,000,000	No	111,379
EX-01.5A-13E	0.426	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.5A-17P	0.335	0.335	0.195	0.195	100,000,000	No	111,379
EX-01.5A-14E	0.470	0.470	0.195	0.195	100,000,000	No	111,379
EX-01.5A-15N	0.309	1.170	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Flow Order***		
EX-01.5B-01P	0.363	0.363	0.195	0.195	100,000,000	No	111,379
EX-01.5B-02E	0.477	0.477	0.195	0.195	100,000,000	No	111,379
EX-01.5B-03P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX.01.5B-14L	0.330	0.330	0.195	0.195	127,515,960	No	111,379
EX.01.5B-14L (D/S)	0.000	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5B-04L	0.330	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5B-04L (D/S)	0.000	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5B-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Flow Order***		
EX-01.5B-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-07E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-08P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-09V	0.330	0.007	0.202	0.202	-155,031	No	203,584
EX-01.5B-10P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5B-11E	0.452	0.452	0.195	0.195	100,000,000	No	111,379
EX-01.5B-15P	0.386	0.386	0.195	0.195	100,000,000	No	111,379
EX-01.5B-12E	0.543	0.543	0.195	0.195	100,000,000	No	111,379
EX-01.5B-13N	0.309	0.377	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.5C HP EX HDR to FWH 36C**					***Sorted By:Flow Order***		
EX-01.5C-01P	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.5C-02E	0.423	0.423	0.195	0.195	100,000,000	No	111,379
EX-01.5C-03P	0.377	0.377	0.195	0.195	100,000,000	No	111,379
EX.01.5C-14L	0.373	0.373	0.195	0.195	166,776,000	No	111,379
EX.01.5C-14L (D/S)	0.373	0.373	0.195	0.195	166,776,000	No	111,379
EX-01.5C-04L	0.364	0.364	0.195	0.195	158,614,432	No	111,379
EX-01.5C-04L (D/S)	0.000	0.330	0.195	0.195	127,515,960	No	111,379
EX-01.5C-05P	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX-01.5C-06E	0.431	0.431	0.195	0.195	100,000,000	No	111,379
EX-01.5C-07E	0.416	0.416	0.195	0.195	100,000,000	No	111,379
EX-01.5C-08P	0.356	0.356	0.195	0.195	100,000,000	No	111,379
EX-01.5C-09V	0.330	0.007	0.202	0.202	-155,031	No	203,584
EX-01.5C-10P	0.358	0.358	0.195	0.195	100,000,000	No	111,379
EX-01.5C-11E	0.448	0.448	0.195	0.195	100,000,000	No	111,379
EX-01.5C-15P	0.337	0.337	0.195	0.195	100,000,000	No	111,379
EX-01.5C-12E	0.485	0.485	0.195	0.195	100,000,000	No	111,379
EX-01.5C-13N	0.309	1.166	0.195	0.195	100,000,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:45:35PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.1 HP EXT to FWH 36 HDR***								***Sorted By: Average Wear Rate***		
EX-01.1-01N	31	23.711	10.778	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-06E	2	0.010	0.007	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-03P	54	0.010	0.007	441.8	55.741	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-04E	4	0.010	0.007	441.8	57.672	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-02E	4	0.010	0.007	441.8	57.590	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-05P	54	0.008	0.005	441.8	75.097	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-07P	52	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-08R	18	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-08R (D/S)	18	0.005	0.003	441.8	26.318	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.6-01P	68	0.003	0.002	441.8	25.914	93.7	18.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.2 HP EXT to FWH 36 HDR***								***Sorted By: Average Wear Rate***		
EX-01.2-01N	31	23.711	10.778	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-02E	4	0.010	0.007	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-03P	54	0.010	0.007	441.8	56.380	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-06E	4	0.009	0.006	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-04E	3	0.009	0.006	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-08E	1	0.008	0.006	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-07P	54	0.008	0.005	441.8	74.401	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-05P	53	0.008	0.005	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-09P	51	0.004	0.003	441.8	74.893	93.7	12.750	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***								***Sorted By: Average Wear Rate***		
EX-01.3-07V	25	18.172	8.254	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-08V	25	18.172	8.254	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-06V	22	16.660	7.568	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-23T	14	0.019	0.013	441.8	56.075	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.2-10L (D/S)	12	0.016	0.011	441.8	55.283	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-23T (D/S)	14	0.015	0.011	441.8	36.716	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.2-10L	12	0.011	0.008	441.8	26.618	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.2-10L (BR/SE)	12	0.011	0.008	441.8	56.495	93.7	12.750	6.653	0.000	'175.36'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***								***Sorted By: Average Wear Rate***		
EX-01.3-19E	4	0.010	0.007	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-21E	2	0.010	0.007	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-20P	54	0.009	0.006	441.8	55.224	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-02E	2	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-13E	2	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-15E	2	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-09E	4	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-17T	15	0.007	0.005	441.8	55.547	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-04T	15	0.007	0.005	441.8	55.094	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-05P	65	0.007	0.005	441.8	55.038	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-10P	54	0.007	0.005	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-17T (D/S)	15	0.006	0.004	441.8	55.547	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-04T (D/S)	15	0.006	0.004	441.8	55.094	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-22P	52	0.006	0.004	441.8	55.924	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-16P	52	0.006	0.004	441.8	54.987	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-14P	52	0.006	0.004	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-03P	52	0.006	0.004	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-23T (BR/SE)	14	0.006	0.004	441.8	39.487	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.3-11T	15	0.005	0.004	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-12P	65	0.005	0.004	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-11T (D/S)	15	0.005	0.003	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-01P	62	0.003	0.002	441.8	54.933	93.7	18.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.4 HP EXT FWH 36 HEADER***								***Sorted By: Average Wear Rate***		
EX-01.4-02T	14	0.015	0.010	441.8	35.801	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.4-02T (D/S)	14	0.011	0.008	441.8	15.745	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.4-02T (BR/SE)	14	0.006	0.004	441.8	36.644	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.4-01P	63	0.002	0.002	441.8	36.616	93.7	18.000	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:35PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.1 HP EXT to FWH 36 HDR***									***Sorted By: Flow Order***	
EX-01.1-01N	31	23.711	10.778	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-02E	4	0.010	0.007	441.8	57.590	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-03P	54	0.010	0.007	441.8	55.741	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-04E	4	0.010	0.007	441.8	57.672	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-05P	54	0.008	0.005	441.8	75.097	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-06E	2	0.010	0.007	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-07P	52	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-08R	18	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.1-08R (D/S)	18	0.005	0.003	441.8	26.318	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.6-01P	68	0.003	0.002	441.8	25.914	93.7	18.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.2 HP EXT to FWH 36 HDR***									***Sorted By: Flow Order***	
EX-01.2-01N	31	23.711	10.778	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-02E	4	0.010	0.007	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-03P	54	0.010	0.007	441.8	56.380	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-04E	3	0.009	0.006	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-05P	53	0.008	0.005	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-06E	4	0.009	0.006	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-07P	54	0.008	0.005	441.8	74.401	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-08E	1	0.008	0.006	441.8	55.320	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-09P	51	0.004	0.003	441.8	74.893	93.7	12.750	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***									***Sorted By: Flow Order***	
EX-01.2-10L	12	0.011	0.008	441.8	26.618	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.2-10L (BR/SE)	12	0.011	0.008	441.8	56.495	93.7	12.750	6.653	0.000	'175.36'	HBD
EX-01.2-10L (D/S)	12	0.016	0.011	441.8	55.283	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-01P	62	0.003	0.002	441.8	54.933	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-02E	2	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-03P	52	0.006	0.004	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-04T	15	0.007	0.005	441.8	55.094	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-04T (D/S)	15	0.006	0.004	441.8	55.094	93.7	18.000	6.653	0.000	'175.36'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***									***Sorted By: Flow Order***	
EX-01.3-05P	65	0.007	0.005	441.8	55.038	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-06V	22	16.660	7.568	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-07V	25	18.172	8.254	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-08V	25	18.172	8.254	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-09E	4	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-10P	54	0.007	0.005	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-11T	15	0.005	0.004	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-11T (D/S)	15	0.005	0.003	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-12P	65	0.005	0.004	441.8	83.334	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-13E	2	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-14P	52	0.006	0.004	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-15E	2	0.009	0.006	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-16P	52	0.006	0.004	441.8	54.987	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-17T	15	0.007	0.005	441.8	55.547	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-17T (D/S)	15	0.006	0.004	441.8	55.547	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-19E	4	0.010	0.007	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-20P	54	0.009	0.006	441.8	55.224	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-21E	2	0.010	0.007	441.8	54.693	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-22P	52	0.006	0.004	441.8	55.924	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-23T	14	0.019	0.013	441.8	56.075	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-23T (D/S)	14	0.015	0.011	441.8	36.716	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.3-23T (BR/SE)	14	0.006	0.004	441.8	39.487	93.7	12.750	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***EX-01.4 HP EXT FWH 36 HEADER***									***Sorted By: Flow Order***	
EX-01.4-01P	63	0.002	0.002	441.8	36.616	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.4-02T	14	0.015	0.010	441.8	35.801	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.4-02T (D/S)	14	0.011	0.008	441.8	15.745	93.7	18.000	6.653	0.000	'175.36'	HBD
EX-01.4-02T (BR/SE)	14	0.006	0.004	441.8	36.644	93.7	12.750	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:35PM

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.1 HP EXT to FWH 36 HDR**					***Sorted By:Remaining Life***		
EX-01.1-01N	0.330	0.326	0.189	0.189	111,625	No	203,584
EX-01.1-08R (D/S)	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.6-01P	0.378	0.378	0.275	0.275	100,000,000	No	111,379
EX-01.1-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-08R	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-05P	0.368	0.368	0.195	0.195	100,000,000	No	111,379
EX-01.1-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-03P	0.352	0.352	0.195	0.195	100,000,000	No	111,379
EX-01.1-04E	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.1-02E	0.446	0.446	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.2 HP EXT to FWH 36 HDR**					***Sorted By:Remaining Life***		
EX-01.2-01N	0.330	-0.221	0.189	0.189	-174,788	No	203,584
EX-01.2-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-03P	0.385	0.385	0.195	0.195	100,000,000	No	111,379
EX-01.2-04E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-02E	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-08E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-09P	0.357	0.357	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Remaining Life***		
EX-01.3-07V	0.438	0.016	0.286	0.286	-159,987	No	203,584
EX-01.3-08V	0.438	0.016	0.286	0.286	-159,987	No	203,584
EX-01.3-06V	0.438	0.051	0.286	0.286	-155,269	No	203,584
EX-01.3-13E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-14P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-15E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-16P	0.460	0.460	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T	0.501	0.501	0.275	0.275	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Remaining Life***		
EX-01.3-17T (D/S)	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-19E	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-20P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-21E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-22P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T (BR/SE)	0.566	0.566	0.195	0.195	100,000,000	No	111,379
EX-01.2-10L	0.482	0.548	0.275	0.275	100,000,000	No	111,379
EX-01.2-10L (BR/SE)	0.391	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.3-01P	0.456	0.456	0.275	0.275	100,000,000	No	111,379
EX-01.3-02E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-03P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T	0.468	0.468	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T (D/S)	0.468	0.468	0.275	0.275	100,000,000	No	111,379
EX-01.3-05P	0.464	0.464	0.275	0.275	100,000,000	No	111,379
EX-01.3-09E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-10P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T (D/S)	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-12P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T	0.539	0.539	0.275	0.275	176,559,792	No	111,379
EX-01.3-23T (D/S)	0.539	0.539	0.275	0.275	218,247,856	No	111,379
EX-01.2-10L (D/S)	0.482	0.552	0.275	0.275	219,216,960	No	111,379
===>Grouped by Line: **EX-01.4 HP EXT FWH 36 HEADER**					***Sorted By:Remaining Life***		
EX-01.4-01P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T (D/S)	0.439	0.439	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T (BR/SE)	0.363	0.363	0.195	0.195	100,000,000	No	111,379
EX-01.4-02T	0.439	0.439	0.275	0.275	137,363,888	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:35PM

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.1 HP EXT to FWH 36 HDR**					***Sorted By:Flow Order***		
EX-01.1-01N	0.330	0.326	0.189	0.189	111,625	No	203,584
EX-01.1-02E	0.446	0.446	0.195	0.195	100,000,000	No	111,379
EX-01.1-03P	0.352	0.352	0.195	0.195	100,000,000	No	111,379
EX-01.1-04E	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.1-05P	0.368	0.368	0.195	0.195	100,000,000	No	111,379
EX-01.1-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-08R	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-08R (D/S)	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.6-01P	0.378	0.378	0.275	0.275	100,000,000	No	111,379
===>Grouped by Line: **EX-01.2 HP EXT to FWH 36 HDR**					***Sorted By:Flow Order***		
EX-01.2-01N	0.330	-0.221	0.189	0.189	-174,788	No	203,584
EX-01.2-02E	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-03P	0.385	0.385	0.195	0.195	100,000,000	No	111,379
EX-01.2-04E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-08E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-09P	0.357	0.357	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Flow Order***		
EX-01.2-10L	0.482	0.548	0.275	0.275	100,000,000	No	111,379
EX-01.2-10L (BR/SE)	0.391	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.2-10L (D/S)	0.482	0.552	0.275	0.275	219,216,960	No	111,379
EX-01.3-01P	0.456	0.456	0.275	0.275	100,000,000	No	111,379
EX-01.3-02E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-03P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T	0.468	0.468	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T (D/S)	0.468	0.468	0.275	0.275	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Flow Order***		
EX-01.3-05P	0.464	0.464	0.275	0.275	100,000,000	No	111,379
EX-01.3-06V	0.438	0.051	0.286	0.286	-155,269	No	203,584
EX-01.3-07V	0.438	0.016	0.286	0.286	-159,987	No	203,584
EX-01.3-08V	0.438	0.016	0.286	0.286	-159,987	No	203,584
EX-01.3-09E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-10P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T (D/S)	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-12P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-13E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-14P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-15E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-16P	0.460	0.460	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T (D/S)	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-19E	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-20P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-21E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-22P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T	0.539	0.539	0.275	0.275	176,559,792	No	111,379
EX-01.3-23T (D/S)	0.539	0.539	0.275	0.275	218,247,856	No	111,379
EX-01.3-23T (BR/SE)	0.566	0.566	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.4 HP EXT FWH 36 HEADER**					***Sorted By:Flow Order***		
EX-01.4-01P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T	0.439	0.439	0.275	0.275	137,363,888	No	111,379
EX-01.4-02T (D/S)	0.439	0.439	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T (BR/SE)	0.363	0.363	0.195	0.195	100,000,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:45:50PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.1A LP EXT 19 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.1A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.1B LP EXT 19 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.1B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.1C LP EXT 19 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.1C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.2A LP EXT 17 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.2A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.2B LP EXT 17 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.2B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.2C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.2C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.3A LP EXT 20 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.3A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-04E	1	3.984	3.508	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.3B LP EXT 20 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.3B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.3C LP EXT 20 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.3C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.4A LP EXT 18 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.4A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.4B LP EXT 18 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.4B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.4C LP EXT 18 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.4C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	'33.20'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:50PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.1A LP EXT 19 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.1A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.1B LP EXT 19 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.1B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.1C LP EXT 19 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.1C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.1C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.2A LP EXT 17 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.2A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.2B LP EXT 17 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.2B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.2C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.2C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.2C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.3A LP EXT 20 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.3A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-04E	1	3.984	3.508	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.3B LP EXT 20 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.3B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.3C LP EXT 20 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.3C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.3C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.4A LP EXT 18 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.4A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.4B LP EXT 18 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.4B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD
===>Grouped by Line:	***EX-06.4C LP EXT 18 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.4C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	'33.20'	HBD
EX-06.4C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	'33.20'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:50PM

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-06.1A LP EXT 19 to FWH 31A**					***Sorted By:Remaining Life***		
EX-06.1A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.1B LP EXT 19 to FWH 31B**					***Sorted By:Remaining Life***		
EX-06.1B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.1C LP EXT 19 to FWH 31C**					***Sorted By:Remaining Life***		
EX-06.1C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2A LP EXT 17 to FWH 31A**					***Sorted By:Remaining Life***		
EX-06.2A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2B LP EXT 17 to FWH 31B**					***Sorted By:Remaining Life***		
EX-06.2B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2C LP EXT 17 to FWH 31C**					***Sorted By:Remaining Life***		
EX-06.2C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-06.2C LP EXT 17 to FWH 31C**				***Sorted By:Remaining Life***		
EX-06.2C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3A LP EXT 20 to FWH 31A**				***Sorted By:Remaining Life***		
EX-06.3A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3A-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.3A-04E	0.313	0.220	0.043	0.043	442,369	No	203,584
===>Grouped by Line:	**EX-06.3B LP EXT 20 to FWH 31B**				***Sorted By:Remaining Life***		
EX-06.3B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3B-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3C LP EXT 20 to FWH 31C**				***Sorted By:Remaining Life***		
EX-06.3C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3C-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.4A LP EXT 18 to FWH 31A**				***Sorted By:Remaining Life***		
EX-06.4A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4A-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4A-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.4A-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
===>Grouped by Line:	**EX-06.4B LP EXT 18 to FWH 31B**				***Sorted By:Remaining Life***		
EX-06.4B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4B-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.4B-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
===>Grouped by Line:	**EX-06.4C LP EXT 18 to FWH 31C**				***Sorted By:Remaining Life***		
EX-06.4C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-06.4C LP EXT 18 to FWH 31C**					***Sorted By:Remaining Life***		
EX-06.4C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4C-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.4C-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:50PM

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-06.1A LP EXT 19 to FWH 31A**				***Sorted By:Flow Order***		
EX-06.1A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.1B LP EXT 19 to FWH 31B**				***Sorted By:Flow Order***		
EX-06.1B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.1C LP EXT 19 to FWH 31C**				***Sorted By:Flow Order***		
EX-06.1C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.2A LP EXT 17 to FWH 31A**				***Sorted By:Flow Order***		
EX-06.2A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.2B LP EXT 17 to FWH 31B**				***Sorted By:Flow Order***		
EX-06.2B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.2C LP EXT 17 to FWH 31C**				***Sorted By:Flow Order***		
EX-06.2C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-06.2C LP EXT 17 to FWH 31C**				***Sorted By:Flow Order***		
EX-06.2C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3A LP EXT 20 to FWH 31A**				***Sorted By:Flow Order***		
EX-06.3A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3A-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3A-04E	0.313	0.220	0.043	0.043	442,369	No	203,584
EX-06.3A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3B LP EXT 20 to FWH 31B**				***Sorted By:Flow Order***		
EX-06.3B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3C LP EXT 20 to FWH 31C**				***Sorted By:Flow Order***		
EX-06.3C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.4A LP EXT 18 to FWH 31A**				***Sorted By:Flow Order***		
EX-06.4A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4A-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4A-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
EX-06.4A-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.4B LP EXT 18 to FWH 31B**				***Sorted By:Flow Order***		
EX-06.4B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4B-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4B-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
EX-06.4B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.4C LP EXT 18 to FWH 31C**				***Sorted By:Flow Order***		
EX-06.4C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-06.4C LP EXT 18 to FWH 31C**					***Sorted By:Flow Order***		
EX-06.4C-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4C-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
EX-06.4C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:45:59PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.1A LP EXT 16 to FWH 32A***								***Sorted By: Average Wear Rate***		
EX-05.1A-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1A-04N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1A-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1A-02P	61	4.428	3.178	206.9	36.385	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.1B LP EXT 16 to FWH 32B***								***Sorted By: Average Wear Rate***		
EX-05.1B-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1B-04N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1B-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1B-02P	61	4.428	3.178	206.9	36.385	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.1C LP EXT 16 to FWH 32C***								***Sorted By: Average Wear Rate***		
EX-05.1C-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1C-04N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1C-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1C-02P	61	4.428	3.178	206.9	36.385	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.2A LP EXT 15 to FWH 32A***								***Sorted By: Average Wear Rate***		
EX-05.2A-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-06N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-02E	4	15.903	8.476	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-05E	1	13.620	7.258	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-04P	53	12.949	6.902	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.2B LP EXT 15 to FWH 32B***								***Sorted By: Average Wear Rate***		
EX-05.2B-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-06N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-02E	4	15.903	8.476	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-05E	1	13.620	7.258	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-04P	53	12.949	6.902	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.2C LP EXT 15 to FWH 32C***								***Sorted By: Average Wear Rate***		
EX-05.2C-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-06N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-02E	4	15.903	8.476	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-05E	1	13.620	7.258	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-04P	53	12.949	6.902	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:59PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.1A LP EXT 16 to FWH 32A***									***Sorted By: Flow Order***	
EX-05.1A-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1A-02P	61	4.428	3.178	206.9	36.385	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1A-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1A-04N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.1B LP EXT 16 to FWH 32B***									***Sorted By: Flow Order***	
EX-05.1B-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1B-02P	61	4.428	3.178	206.9	36.385	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1B-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1B-04N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.1C LP EXT 16 to FWH 32C***									***Sorted By: Flow Order***	
EX-05.1C-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1C-02P	61	4.428	3.178	206.9	36.385	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1C-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.1C-04N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.2A LP EXT 15 to FWH 32A***									***Sorted By: Flow Order***	
EX-05.2A-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-02E	4	15.903	8.476	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-04P	53	12.949	6.902	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-05E	1	13.620	7.258	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2A-06N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD
===>Grouped by Line:	***EX-05.2B LP EXT 15 to FWH 32B***									***Sorted By: Flow Order***	
EX-05.2B-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-02E	4	15.903	8.476	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-04P	53	12.949	6.902	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-05E	1	13.620	7.258	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2B-06N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.2C LP EXT 15 to FWH 32C***									***Sorted By: Flow Order***	
EX-05.2C-01N	31	25.259	13.283	206.9	8.945	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-02E	4	15.903	8.476	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-03E	3	14.445	7.698	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-04P	53	12.949	6.902	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-05E	1	13.620	7.258	206.9	8.117	75.1	22.000	7.089	0.000	'29.96'	HBD
EX-05.2C-06N	30	16.915	8.915	206.9	8.800	75.1	22.000	7.089	0.000	'29.96'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:59PM

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.1A LP EXT 16 to FWH 32A**					***Sorted By:Remaining Life***		
EX-05.1A-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.1A-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.1A-04N	0.375	-0.018	0.037	0.037	-53,970	No	203,584
EX-05.1A-02P	0.250	0.147	0.037	0.037	304,527	No	203,584
===>Grouped by Line: **EX-05.1B LP EXT 16 to FWH 32B**					***Sorted By:Remaining Life***		
EX-05.1B-01N	0.400	0.291	0.037	0.037	167,537	No	203,584
EX-05.1B-03E	0.250	0.225	0.037	0.037	214,749	Yes	203,584
EX-05.1B-04N	0.375	0.294	0.037	0.037	253,327	Yes	203,584
EX-05.1B-02P	0.250	0.274	0.037	0.037	654,314	Yes	203,584
===>Grouped by Line: **EX-05.1C LP EXT 16 to FWH 32C**					***Sorted By:Remaining Life***		
EX-05.1C-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.1C-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.1C-04N	0.375	-0.018	0.037	0.037	-53,970	Yes	203,584
EX-05.1C-02P	0.250	0.147	0.037	0.037	304,527	No	203,584
===>Grouped by Line: **EX-05.2A LP EXT 15 to FWH 32A**					***Sorted By:Remaining Life***		
EX-05.2A-02E	0.250	-0.120	0.037	0.037	-119,094	No	203,584
EX-05.2A-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.2A-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.2A-05E	0.250	-0.067	0.037	0.037	-100,735	No	203,584
EX-05.2A-04P	0.250	-0.051	0.037	0.037	-93,599	No	203,584
EX-05.2A-06N	0.375	-0.018	0.037	0.037	-53,970	No	203,584
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Remaining Life***		
EX-05.2B-01N	0.400	0.235	0.037	0.037	130,606	Yes	203,584
EX-05.2B-06N	0.375	0.199	0.037	0.037	159,982	Yes	203,584
EX-05.2B-02E	0.250	0.228	0.037	0.037	197,734	Yes	203,584
EX-05.2B-03E	0.250	0.215	0.037	0.037	203,370	Yes	203,584
EX-05.2B-05E	0.250	0.223	0.037	0.037	224,740	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Remaining Life***		
EX-05.2B-04P	0.250	0.221	0.037	0.037	233,816	Yes	203,584
===>Grouped by Line: **EX-05.2C LP EXT 15 to FWH 32C**					***Sorted By:Remaining Life***		
EX-05.2C-02E	0.250	-0.120	0.037	0.037	-119,094	No	203,584
EX-05.2C-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.2C-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.2C-05E	0.250	-0.067	0.037	0.037	-100,735	No	203,584
EX-05.2C-04P	0.250	-0.051	0.037	0.037	-93,599	No	203,584
EX-05.2C-06N	0.375	-0.018	0.037	0.037	-53,970	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:45:59PM

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.1A LP EXT 16 to FWH 32A**					***Sorted By:Flow Order***		
EX-05.1A-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.1A-02P	0.250	0.147	0.037	0.037	304,527	No	203,584
EX-05.1A-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.1A-04N	0.375	-0.018	0.037	0.037	-53,970	No	203,584
===>Grouped by Line: **EX-05.1B LP EXT 16 to FWH 32B**					***Sorted By:Flow Order***		
EX-05.1B-01N	0.400	0.291	0.037	0.037	167,537	No	203,584
EX-05.1B-02P	0.250	0.274	0.037	0.037	654,314	Yes	203,584
EX-05.1B-03E	0.250	0.225	0.037	0.037	214,749	Yes	203,584
EX-05.1B-04N	0.375	0.294	0.037	0.037	253,327	Yes	203,584
===>Grouped by Line: **EX-05.1C LP EXT 16 to FWH 32C**					***Sorted By:Flow Order***		
EX-05.1C-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.1C-02P	0.250	0.147	0.037	0.037	304,527	No	203,584
EX-05.1C-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.1C-04N	0.375	-0.018	0.037	0.037	-53,970	Yes	203,584
===>Grouped by Line: **EX-05.2A LP EXT 15 to FWH 32A**					***Sorted By:Flow Order***		
EX-05.2A-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.2A-02E	0.250	-0.120	0.037	0.037	-119,094	No	203,584
EX-05.2A-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.2A-04P	0.250	-0.051	0.037	0.037	-93,599	No	203,584
EX-05.2A-05E	0.250	-0.067	0.037	0.037	-100,735	No	203,584
EX-05.2A-06N	0.375	-0.018	0.037	0.037	-53,970	No	203,584
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Flow Order***		
EX-05.2B-01N	0.400	0.235	0.037	0.037	130,606	Yes	203,584
EX-05.2B-02E	0.250	0.228	0.037	0.037	197,734	Yes	203,584
EX-05.2B-03E	0.250	0.215	0.037	0.037	203,370	Yes	203,584
EX-05.2B-04P	0.250	0.221	0.037	0.037	233,816	Yes	203,584
EX-05.2B-05E	0.250	0.223	0.037	0.037	224,740	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Flow Order***		
EX-05.2B-06N	0.375	0.199	0.037	0.037	159,982	Yes	203,584
===>Grouped by Line: **EX-05.2C LP EXT 15 to FWH 32C**					***Sorted By:Flow Order***		
EX-05.2C-01N	0.400	-0.187	0.037	0.037	-111,820	No	203,584
EX-05.2C-02E	0.250	-0.120	0.037	0.037	-119,094	No	203,584
EX-05.2C-03E	0.250	-0.086	0.037	0.037	-108,357	No	203,584
EX-05.2C-04P	0.250	-0.051	0.037	0.037	-93,599	No	203,584
EX-05.2C-05E	0.250	-0.067	0.037	0.037	-100,735	No	203,584
EX-05.2C-06N	0.375	-0.018	0.037	0.037	-53,970	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:46:47PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.1 LPEX14 to FWH33A HDR***								***Sorted By: Average Wear Rate***		
EX-04.1-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-06T (BR/SE)	10	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-06T (D/S)	10	3.441	3.753	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.1-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-08X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-07P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.3-01P	60	1.249	1.362	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.11-19T	14	8.160	9.850	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.9-09T (D/S)	12	6.952	8.391	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-19T (D/S)	14	5.281	5.759	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-06V	25	5.089	6.143	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.9-09T	12	4.495	4.902	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-08E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-13E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-15E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.9-09T (BR/SE)	12	4.019	5.118	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.11-04V	22	3.800	4.668	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-09E	3	3.546	4.280	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-11E	3	3.546	4.280	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-02T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-17T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-12P	53	3.180	3.838	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-03P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-18P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-02T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.11-17T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-16P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-19T (BR/SE)	14	2.585	3.294	254.8	7.012	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.11-07P	58	1.866	2.253	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-10P	53	1.848	1.768	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-14P	52	1.540	1.473	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-05P	58	1.520	1.867	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-01P	62	1.273	1.537	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-20P	9	0.933	1.126	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.13 LP EXT 32 to FWH 33B***								***Sorted By: Average Wear Rate***		
EX-04.13-06N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-03E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-01R (D/S)	7	3.074	3.914	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-07T	15	2.771	3.529	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-02P	57	2.770	3.528	254.8	6.994	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-07T (D/S)	15	2.439	3.106	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-04P	52	2.284	2.904	254.8	7.164	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-01R	7	2.123	2.316	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.12-01P	64	1.104	1.205	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.14 LP EXT 32 to FWH 33B***								***Sorted By: Average Wear Rate***		
EX-04.14-03N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.14-02E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.14-01P	64	1.459	1.855	254.8	7.285	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.15 LPEX14 to FWH33C HDR***								***Sorted By: Average Wear Rate***		
EX-04.15-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-06T (BR/SE)	10	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-06T (D/S)	10	3.441	3.753	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.15-05E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-07P	52	2.309	2.941	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-08X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.17-01P	60	1.249	1.362	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.16 LPEX13 to FWH33C HDR***								***Sorted By: Average Wear Rate***		
EX-04.16-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.16 LPEX13 to FWH33C HDR***								***Sorted By: Average Wear Rate***		
EX-04.16-07E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-05E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-06P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-10X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-08P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.20-16T	14	8.103	9.806	254.8	5.676	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.16-09T (D/S)	12	6.952	8.391	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-16T (D/S)	14	5.427	5.917	254.8	0.304	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-06V	25	5.089	6.143	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.16-09T	12	4.495	4.902	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-02E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-04E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-06E	4	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-08E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-10E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-12E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-07P	54	4.070	4.913	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.16-09T (BR/SE)	12	4.019	5.118	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.18-04V	22	3.800	4.668	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.19-01R	7	3.266	3.942	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-02T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-14T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-03P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-15P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.19-01R (D/S)	7	2.857	3.450	254.8	14.052	90.5	24.000	7.228	0.000	'61.45'	HBD
EX-04.18-02T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-14T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.19-03R (D/S)	18	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-05P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-09P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-13P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-16T (BR/SE)	14	2.587	3.294	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.19-02V	23	2.581	3.097	254.8	14.424	90.5	24.000	7.228	0.000	'61.45'	HBD
EX-04.20-01P	68	2.121	2.560	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.19-03R	18	2.115	2.554	254.8	14.052	90.5	24.000	7.228	0.000	'61.45'	HBD
EX-04.20-03P	52	1.540	1.473	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-11P	52	1.540	1.473	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-05P	58	1.520	1.867	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-01P	62	1.273	1.537	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.2 LPEX13 to FWH33A HDR***								***Sorted By: Average Wear Rate***		
EX-04.2-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-07E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-05E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-06P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-10X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-08P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.21 LP EXT 31 to FWH 33C***								***Sorted By: Average Wear Rate***		
EX-04.21-06N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-03E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-01R (D/S)	7	3.074	3.914	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-07T	15	2.771	3.529	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-02P	57	2.767	3.527	254.8	7.050	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-07T (D/S)	15	2.439	3.106	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-04P	52	2.284	2.904	254.8	7.164	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-01R	7	2.123	2.316	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-17P	64	1.104	1.205	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.22 LP EXT 31 to FWH 33C***								***Sorted By: Average Wear Rate***		
EX-04.22-03N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.22-02E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.22-01P	64	1.460	1.857	254.8	7.260	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.4-22T	14	8.128	9.825	254.8	5.575	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.2-09T (D/S)	12	6.952	8.391	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-22T (D/S)	14	5.361	5.845	254.8	0.297	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-06V	25	5.089	6.143	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.2-09T	12	4.495	4.902	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-08E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.4-10E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-12E	4	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-14E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-16E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-18E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-13P	54	4.070	4.913	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.2-09T (BR/SE)	12	4.019	5.118	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.4-04V	22	3.800	4.668	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-02T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-20T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-21P	65	3.137	3.786	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-03P	65	3.137	3.786	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-20T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-02T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-11P	52	2.650	3.199	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-15P	52	2.650	3.199	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-19P	52	2.650	3.199	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-22T (BR/SE)	14	2.585	3.294	254.8	7.012	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.4-07P	58	1.866	2.253	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-09P	52	1.540	1.473	254.8	17.235	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-17P	52	1.540	1.473	254.8	17.235	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-05P	58	1.520	1.867	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-01P	62	1.273	1.537	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-23P	9	0.933	1.126	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.6 LP EXT to FWH 33A***								***Sorted By: Average Wear Rate***		
EX-04.6-06N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-03E	2	3.591	4.513	254.8	7.997	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-01R (D/S)	7	3.074	3.914	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-07T	15	2.769	3.528	254.8	7.025	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-02P	57	2.768	3.528	254.8	7.033	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-07T (D/S)	15	2.437	3.105	254.8	7.025	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-04P	52	2.279	2.896	254.8	7.299	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-01R	7	2.123	2.316	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.5-01P	64	1.104	1.205	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.7 LP EXT to FWH 33A***								***Sorted By: Average Wear Rate***		
EX-04.7-03N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.7-02E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.7 LP EXT to FWH 33A***								***Sorted By: Average Wear Rate***		
EX-04.7-01P	64	1.461	1.859	254.8	7.229	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.8 LPEX14 to FWH33B HDR***								***Sorted By: Average Wear Rate***		
EX-04.8-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-06T (BR/SE)	10	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-06T (D/S)	10	3.441	3.753	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.8-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-08X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-07P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.10-01P	60	1.249	1.362	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.9 LPEX13 to FWH33B HDR***								***Sorted By: Average Wear Rate***		
EX-04.9-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-07E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-05E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-06P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-10X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-08P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:46:47PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.1 LPEX14 to FWH33A HDR***									***Sorted By: Flow Order***	
EX-04.1-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-08X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-07P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-06T (BR/SE)	10	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.1-06T (D/S)	10	3.441	3.753	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.3-01P	60	1.249	1.362	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***									***Sorted By: Flow Order***	
EX-04.9-09T (D/S)	12	6.952	8.391	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-01P	62	1.273	1.537	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-02T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-02T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-03P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-04V	22	3.800	4.668	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-05P	58	1.520	1.867	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-06V	25	5.089	6.143	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-07P	58	1.866	2.253	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-08E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-09E	3	3.546	4.280	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-10P	53	1.848	1.768	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-11E	3	3.546	4.280	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-12P	53	3.180	3.838	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-13E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-14P	52	1.540	1.473	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-15E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-16P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***									***Sorted By: Flow Order***	
EX-04.11-17T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-17T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-18P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-20P	9	0.933	1.126	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-19T	14	8.160	9.850	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-19T (D/S)	14	5.281	5.759	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.11-19T (BR/SE)	14	2.585	3.294	254.8	7.012	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-09T	12	4.495	4.902	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.9-09T (BR/SE)	12	4.019	5.118	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.13 LP EXT 32 to FWH 33B***									***Sorted By: Flow Order***	
EX-04.12-01P	64	1.104	1.205	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.13-01R	7	2.123	2.316	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.13-01R (D/S)	7	3.074	3.914	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-02P	57	2.770	3.528	254.8	6.994	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-07T	15	2.771	3.529	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-07T (D/S)	15	2.439	3.106	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-03E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-04P	52	2.284	2.904	254.8	7.164	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.13-06N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.14 LP EXT 32 to FWH 33B***									***Sorted By: Flow Order***	
EX-04.14-01P	64	1.459	1.855	254.8	7.285	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.14-02E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.14-03N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.15 LPEX14 to FWH33C HDR***									***Sorted By: Flow Order***	
EX-04.15-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-08X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-05E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-07P	52	2.309	2.941	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-06T (BR/SE)	10	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.15-06T (D/S)	10	3.441	3.753	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.17-01P	60	1.249	1.362	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.16 LPEX13 to FWH33C HDR***									***Sorted By: Flow Order***	
EX-04.16-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.16 LPEX13 to FWH33C HDR***									***Sorted By: Flow Order***	
EX-04.16-10X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-05E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-06P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-07E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-08P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***									***Sorted By: Flow Order***	
EX-04.16-09T	12	4.495	4.902	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.16-09T (BR/SE)	12	4.019	5.118	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.16-09T (D/S)	12	6.952	8.391	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-01P	62	1.273	1.537	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-02T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-02T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-03P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-04V	22	3.800	4.668	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-05P	58	1.520	1.867	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.18-06V	25	5.089	6.143	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.19-01R	7	3.266	3.942	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.19-01R (D/S)	7	2.857	3.450	254.8	14.052	90.5	24.000	7.228	0.000	'61.45'	HBD
EX-04.19-02V	23	2.581	3.097	254.8	14.424	90.5	24.000	7.228	0.000	'61.45'	HBD
EX-04.19-03R	18	2.115	2.554	254.8	14.052	90.5	24.000	7.228	0.000	'61.45'	HBD
EX-04.19-03R (D/S)	18	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-01P	68	2.121	2.560	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-02E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-03P	52	1.540	1.473	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-04E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-05P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-06E	4	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-07P	54	4.070	4.913	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-08E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-09P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-10E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-11P	52	1.540	1.473	254.8	17.234	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-12E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-13P	52	2.650	3.199	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-14T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***									***Sorted By: Flow Order***	
EX-04.20-14T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-15P	65	3.137	3.786	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-16T	14	8.103	9.806	254.8	5.676	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-16T (D/S)	14	5.427	5.917	254.8	0.304	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.20-16T (BR/SE)	14	2.587	3.294	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.2 LPEX13 to FWH33A HDR***									***Sorted By: Flow Order***	
EX-04.2-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-10X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-05E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-06P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-07E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-08P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.21 LP EXT 31 to FWH 33C***									***Sorted By: Flow Order***	
EX-04.20-17P	64	1.104	1.205	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.21-01R	7	2.123	2.316	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.21-01R (D/S)	7	3.074	3.914	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-02P	57	2.767	3.527	254.8	7.050	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-07T	15	2.771	3.529	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-07T (D/S)	15	2.439	3.106	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-03E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-04P	52	2.284	2.904	254.8	7.164	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.21-06N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.22 LP EXT 31 to FWH 33C***									***Sorted By: Flow Order***	
EX-04.22-01P	64	1.460	1.857	254.8	7.260	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.22-02E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.22-03N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***									***Sorted By: Flow Order***	
EX-04.2-09T	12	4.495	4.902	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.2-09T (BR/SE)	12	4.019	5.118	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.2-09T (D/S)	12	6.952	8.391	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-01P	62	1.273	1.537	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-02T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-02T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***									***Sorted By: Flow Order***	
EX-04.4-03P	65	3.137	3.786	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-04V	22	3.800	4.668	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-05P	58	1.520	1.867	254.8	12.606	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-06V	25	5.089	6.143	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-07P	58	1.866	2.253	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-08E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-09P	52	1.540	1.473	254.8	17.235	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-10E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-11P	52	2.650	3.199	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-12E	4	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-13P	54	4.070	4.913	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-14E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-15P	52	2.650	3.199	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-16E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-17P	52	1.540	1.473	254.8	17.235	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-18E	2	4.200	5.070	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-19P	52	2.650	3.199	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-20T	15	3.180	3.839	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-20T (D/S)	15	2.799	3.379	254.8	5.453	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-21P	65	3.137	3.786	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-23P	9	0.933	1.126	254.8	5.454	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-22T	14	8.128	9.825	254.8	5.575	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-22T (D/S)	14	5.361	5.845	254.8	0.297	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.4-22T (BR/SE)	14	2.585	3.294	254.8	7.012	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.6 LP EXT to FWH 33A***									***Sorted By: Flow Order***	
EX-04.5-01P	64	1.104	1.205	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.6-01R	7	2.123	2.316	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.6-01R (D/S)	7	3.074	3.914	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-02P	57	2.768	3.528	254.8	7.033	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-07T	15	2.769	3.528	254.8	7.025	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-07T (D/S)	15	2.437	3.105	254.8	7.025	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-03E	2	3.591	4.513	254.8	7.997	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-04P	52	2.279	2.896	254.8	7.299	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.6-06N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.7 LP EXT to FWH 33A***									***Sorted By: Flow Order***	
EX-04.7-01P	64	1.461	1.859	254.8	7.229	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.7-02E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.7 LP EXT to FWH 33A***									***Sorted By: Flow Order***	
EX-04.7-03N	30	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.8 LPEX14 to FWH33B HDR***									***Sorted By: Flow Order***	
EX-04.8-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-08X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-05E	2	3.659	4.660	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-07P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-06T (BR/SE)	10	3.695	4.705	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.8-06T (D/S)	10	3.441	3.753	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
EX-04.10-01P	60	1.249	1.362	254.8	0.289	90.5	28.000	7.228	0.000	'61.45'	HBD
===>Grouped by Line:	***EX-04.9 LPEX13 to FWH33B HDR***									***Sorted By: Flow Order***	
EX-04.9-01N	31	5.470	6.916	254.8	7.691	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-10X	6	2.199	2.103	254.8	21.028	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-02E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-03E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-04P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-05E	3	3.089	3.934	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-06P	53	2.771	3.528	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-07E	2	3.401	4.332	254.8	6.971	90.5	20.000	7.228	0.000	'61.45'	HBD
EX-04.9-08P	52	1.605	1.535	254.8	17.033	90.5	20.000	7.228	0.000	'61.45'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:46:47PM

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.1 LPEX14 to FWH33A HDR**					***Sorted By:Remaining Life***		
EX-04.1-06T (BR/SE)	0.250	0.164	0.045	0.045	222,329	No	203,584
EX-04.1-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.1-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.1-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.1-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.1-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.1-06T (D/S)	0.000	0.233	0.063	0.063	396,644	No	203,584
EX-04.1-08X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.1-07P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
EX-04.3-01P	0.313	0.284	0.063	0.063	1,423,535	No	203,584
===>Grouped by Line: **EX-04.11 LPEX FWH 33B IN HDR**					***Sorted By:Remaining Life***		
EX-04.9-09T (D/S)	0.000	0.151	0.063	0.063	92,215	No	203,584
EX-04.11-19T	0.313	0.270	0.063	0.063	184,701	No	203,584
EX-04.9-09T (BR/SE)	0.250	0.157	0.045	0.045	191,484	No	203,584
EX-04.11-06V	0.313	0.194	0.050	0.050	205,786	No	203,584
EX-04.9-09T	0.313	0.209	0.063	0.063	260,757	No	203,584
EX-04.11-15E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.11-13E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.11-04V	0.313	0.224	0.050	0.050	327,043	No	203,584
EX-04.11-19T (D/S)	0.000	0.287	0.063	0.063	341,015	No	203,584
EX-04.11-19T (BR/SE)	0.259	0.181	0.045	0.045	363,271	Yes	203,584
EX-04.11-09E	0.313	0.230	0.047	0.047	375,521	No	203,584
EX-04.11-11E	0.313	0.230	0.047	0.047	375,521	No	203,584
EX-04.11-12P	0.313	0.239	0.063	0.063	401,658	No	203,584
EX-04.11-17T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.11-02T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.11-18P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.11-03P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.11-17T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.11-02T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.11 LPEX FWH 33B IN HDR**				***Sorted By:Remaining Life***		
EX-04.11-16P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.11-08E	0.313	0.390	0.047	0.047	592,730	Yes	203,584
EX-04.11-07P	0.313	0.269	0.063	0.063	802,977	No	203,584
EX-04.11-05P	0.313	0.277	0.063	0.063	1,006,635	No	203,584
EX-04.11-10P	0.313	0.270	0.063	0.063	1,025,432	No	203,584
EX-04.11-01P	0.313	0.283	0.063	0.063	1,258,531	No	203,584
EX-04.11-14P	0.313	0.277	0.063	0.063	1,272,986	No	203,584
EX-04.11-20P	0.313	0.334	0.063	0.063	2,115,510	No	203,584
===>Grouped by Line:	**EX-04.13 LP EXT 32 to FWH 33B**				***Sorted By:Remaining Life***		
EX-04.13-06N	0.250	0.164	0.033	0.033	243,617	No	203,584
EX-04.13-03E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.13-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.13-02P	0.255	0.157	0.033	0.033	308,049	Yes	203,584
EX-04.13-07T	0.250	0.209	0.033	0.033	435,002	Yes	203,584
EX-04.13-07T (D/S)	0.000	0.193	0.033	0.033	451,392	No	203,584
EX-04.13-01R (D/S)	0.000	0.244	0.033	0.033	472,452	No	203,584
EX-04.13-04P	0.250	0.197	0.033	0.033	493,614	No	203,584
EX-04.13-01R	0.000	0.372	0.047	0.047	1,229,115	No	203,584
EX-04.12-01P	0.313	0.287	0.063	0.063	1,630,623	No	203,584
===>Grouped by Line:	**EX-04.14 LP EXT 32 to FWH 33B**				***Sorted By:Remaining Life***		
EX-04.14-03N	0.250	0.164	0.033	0.033	243,617	No	203,584
EX-04.14-02E	0.250	0.387	0.033	0.033	665,100	Yes	203,584
EX-04.14-01P	0.276	0.214	0.033	0.033	855,185	Yes	203,584
===>Grouped by Line:	**EX-04.15 LPEX14 to FWH33C HDR**				***Sorted By:Remaining Life***		
EX-04.15-06T (BR/SE)	0.250	0.164	0.045	0.045	222,329	No	203,584
EX-04.15-05E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.15-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.15-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.15-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.15-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.15-06T (D/S)	0.000	0.233	0.063	0.063	396,644	No	203,584
EX-04.15-07P	0.250	0.196	0.033	0.033	485,704	No	203,584
EX-04.15-08X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.17-01P	0.313	0.284	0.063	0.063	1,423,535	No	203,584
===>Grouped by Line:	**EX-04.16 LPEX13 to FWH33C HDR**				***Sorted By:Remaining Life***		
EX-04.16-07E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.16-01N	0.400	0.273	0.033	0.033	303,488	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.16 LPEX13 to FWH33C HDR**					***Sorted By:Remaining Life***		
EX-04.16-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.16-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.16-05E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.16-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.16-06P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.16-10X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.16-08P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
===>Grouped by Line: **EX-04.18 LPEX FWH 33C IN HDR**					***Sorted By:Remaining Life***		
EX-04.16-09T (D/S)	0.000	0.151	0.063	0.063	92,215	No	203,584
EX-04.20-16T	0.384	0.259	0.063	0.063	175,512	No	203,584
EX-04.16-09T (BR/SE)	0.250	0.157	0.045	0.045	191,484	No	203,584
EX-04.18-06V	0.313	0.194	0.050	0.050	205,786	No	203,584
EX-04.16-09T	0.313	0.209	0.063	0.063	260,757	No	203,584
EX-04.20-07P	0.313	0.218	0.063	0.063	276,900	No	203,584
EX-04.20-02E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-04E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-06E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-08E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-10E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-12E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.18-04V	0.313	0.224	0.050	0.050	327,043	No	203,584
EX-04.20-16T (D/S)	0.384	0.292	0.063	0.063	339,169	No	203,584
EX-04.19-01R (D/S)	0.000	0.184	0.040	0.040	364,807	No	203,584
EX-04.20-16T (BR/SE)	0.000	0.182	0.045	0.045	365,733	No	203,584
EX-04.18-02T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.20-14T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.18-03P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.20-15P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.19-01R	0.000	0.237	0.047	0.047	422,212	No	203,584
EX-04.18-02T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.20-14T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.20-05P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.20-09P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.20-13P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.19-03R (D/S)	0.000	0.247	0.047	0.047	520,690	No	203,584
EX-04.19-03R	0.000	0.201	0.040	0.040	551,767	No	203,584
EX-04.19-02V	0.313	0.253	0.043	0.043	594,673	No	203,584
EX-04.20-01P	0.313	0.263	0.063	0.063	686,382	No	203,584
EX-04.18-05P	0.313	0.277	0.063	0.063	1,006,635	No	203,584
EX-04.18-01P	0.313	0.283	0.063	0.063	1,258,531	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.18 LPEX FWH 33C IN HDR**				***Sorted By:Remaining Life***		
EX-04.20-03P	0.313	0.277	0.063	0.063	1,272,986	No	203,584
EX-04.20-11P	0.313	0.277	0.063	0.063	1,272,986	No	203,584
===>Grouped by Line:	**EX-04.2 LPEX13 to FWH33A HDR**				***Sorted By:Remaining Life***		
EX-04.2-07E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.2-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.2-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.2-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.2-05E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.2-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.2-06P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.2-10X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.2-08P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
===>Grouped by Line:	**EX-04.21 LP EXT 31 to FWH 33C**				***Sorted By:Remaining Life***		
EX-04.21-06N	0.250	0.164	0.033	0.033	243,617	No	203,584
EX-04.21-02P	0.267	0.149	0.033	0.033	287,790	Yes	203,584
EX-04.21-01R (D/S)	0.000	0.190	0.033	0.033	351,608	No	203,584
EX-04.21-07T	0.250	0.181	0.033	0.033	367,076	Yes	203,584
EX-04.21-03E	0.250	0.268	0.033	0.033	441,113	Yes	203,584
EX-04.21-04P	0.250	0.183	0.033	0.033	451,811	Yes	203,584
EX-04.21-07T (D/S)	0.000	0.200	0.033	0.033	470,152	Yes	203,584
EX-04.21-05E	0.250	0.374	0.033	0.033	640,663	Yes	203,584
EX-04.21-01R	0.000	0.338	0.047	0.047	1,100,493	Yes	203,584
EX-04.20-17P	0.313	0.287	0.063	0.063	1,630,623	No	203,584
===>Grouped by Line:	**EX-04.22 LP EXT 31 to FWH 33C**				***Sorted By:Remaining Life***		
EX-04.22-02E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.22-03N	0.250	0.234	0.033	0.033	373,454	Yes	203,584
EX-04.22-01P	0.271	0.237	0.033	0.033	961,016	Yes	203,584
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**				***Sorted By:Remaining Life***		
EX-04.2-09T (D/S)	0.000	0.151	0.063	0.063	92,215	No	203,584
EX-04.4-22T	0.352	0.260	0.063	0.063	176,257	No	203,584
EX-04.4-06V	0.313	0.194	0.050	0.050	205,786	No	203,584
EX-04.4-13P	0.313	0.218	0.063	0.063	277,800	No	203,584
EX-04.4-16E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-18E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-10E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-12E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-14E	0.313	0.215	0.047	0.047	290,783	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: EX-04.4 LPEX FWH 33A IN HDR					Sorted By:Remaining Life		
EX-04.4-04V	0.313	0.224	0.050	0.050	327,043	No	203,584
EX-04.4-22T (D/S)	0.352	0.282	0.063	0.063	329,316	No	203,584
EX-04.4-22T (BR/SE)	0.259	0.192	0.045	0.045	392,543	No	203,584
EX-04.4-20T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.4-02T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.4-21P	0.313	0.240	0.063	0.063	410,642	No	203,584
EX-04.4-03P	0.313	0.240	0.063	0.063	410,642	No	203,584
EX-04.2-09T (BR/SE)	0.250	0.291	0.045	0.045	422,301	Yes	203,584
EX-04.4-20T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.4-02T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.2-09T	0.313	0.348	0.063	0.063	510,465	Yes	203,584
EX-04.4-15P	0.313	0.251	0.063	0.063	516,963	No	203,584
EX-04.4-19P	0.313	0.251	0.063	0.063	516,963	No	203,584
EX-04.4-11P	0.313	0.251	0.063	0.063	516,963	No	203,584
EX-04.4-08E	0.313	0.414	0.047	0.047	634,200	Yes	203,584
EX-04.4-07P	0.313	0.270	0.063	0.063	804,933	No	203,584
EX-04.4-05P	0.313	0.278	0.063	0.063	1,008,980	No	203,584
EX-04.4-01P	0.313	0.283	0.063	0.063	1,258,531	No	203,584
EX-04.4-17P	0.313	0.277	0.063	0.063	1,275,890	No	203,584
EX-04.4-09P	0.313	0.277	0.063	0.063	1,275,890	No	203,584
EX-04.4-23P	0.313	0.291	0.063	0.063	1,780,037	No	203,584
===>Grouped by Line: EX-04.6 LP EXT to FWH 33A					Sorted By:Remaining Life		
EX-04.6-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.6-02P	0.264	0.188	0.033	0.033	384,557	Yes	203,584
EX-04.6-07T	0.262	0.203	0.033	0.033	421,763	Yes	203,584
EX-04.6-01R (D/S)	0.000	0.224	0.033	0.033	427,695	No	203,584
EX-04.6-03E	0.461	0.267	0.033	0.033	453,500	Yes	203,584
EX-04.6-07T (D/S)	0.262	0.215	0.033	0.033	512,547	No	203,584
EX-04.6-04P	0.279	0.226	0.033	0.033	582,929	Yes	203,584
EX-04.6-06N	0.250	0.431	0.033	0.033	740,522	Yes	203,584
EX-04.6-01R	0.000	0.322	0.047	0.047	1,039,964	Yes	203,584
EX-04.5-01P	0.313	0.287	0.063	0.063	1,633,928	No	203,584
===>Grouped by Line: EX-04.7 LP EXT to FWH 33A					Sorted By:Remaining Life		
EX-04.7-03N	0.250	0.164	0.033	0.033	243,617	No	203,584
EX-04.7-02E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.7-01P	0.264	0.230	0.033	0.033	927,360	Yes	203,584
===>Grouped by Line: EX-04.8 LPEX14 to FWH33B HDR					Sorted By:Remaining Life		
EX-04.8-06T (BR/SE)	0.250	0.164	0.045	0.045	222,329	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.8 LPEX14 to FWH33B HDR**					***Sorted By:Remaining Life***		
EX-04.8-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.8-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.8-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.8-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.8-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.8-06T (D/S)	0.000	0.233	0.063	0.063	396,644	No	203,584
EX-04.8-08X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.8-07P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
EX-04.10-01P	0.313	0.284	0.063	0.063	1,423,535	No	203,584
===>Grouped by Line: **EX-04.9 LPEX13 to FWH33B HDR**					***Sorted By:Remaining Life***		
EX-04.9-07E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.9-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.9-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.9-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.9-05E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.9-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.9-06P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.9-10X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.9-08P	0.250	0.213	0.033	0.033	1,024,029	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:46:47PM

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.1 LPEX14 to FWH33A HDR**					***Sorted By:Flow Order***		
EX-04.1-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.1-08X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.1-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.1-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.1-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.1-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.1-07P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
EX-04.1-06T (BR/SE)	0.250	0.164	0.045	0.045	222,329	No	203,584
EX-04.1-06T (D/S)	0.000	0.233	0.063	0.063	396,644	No	203,584
EX-04.3-01P	0.313	0.284	0.063	0.063	1,423,535	No	203,584
===>Grouped by Line: **EX-04.11 LPEX FWH 33B IN HDR**					***Sorted By:Flow Order***		
EX-04.9-09T (D/S)	0.000	0.151	0.063	0.063	92,215	No	203,584
EX-04.11-01P	0.313	0.283	0.063	0.063	1,258,531	No	203,584
EX-04.11-02T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.11-02T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.11-03P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.11-04V	0.313	0.224	0.050	0.050	327,043	No	203,584
EX-04.11-05P	0.313	0.277	0.063	0.063	1,006,635	No	203,584
EX-04.11-06V	0.313	0.194	0.050	0.050	205,786	No	203,584
EX-04.11-07P	0.313	0.269	0.063	0.063	802,977	No	203,584
EX-04.11-08E	0.313	0.390	0.047	0.047	592,730	Yes	203,584
EX-04.11-09E	0.313	0.230	0.047	0.047	375,521	No	203,584
EX-04.11-10P	0.313	0.270	0.063	0.063	1,025,432	No	203,584
EX-04.11-11E	0.313	0.230	0.047	0.047	375,521	No	203,584
EX-04.11-12P	0.313	0.239	0.063	0.063	401,658	No	203,584
EX-04.11-13E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.11-14P	0.313	0.277	0.063	0.063	1,272,986	No	203,584
EX-04.11-15E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.11-16P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.11-17T	0.313	0.239	0.063	0.063	402,693	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: EX-04.11 LPEX FWH 33B IN HDR					Sorted By:Flow Order		
EX-04.11-17T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.11-18P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.11-20P	0.313	0.334	0.063	0.063	2,115,510	No	203,584
EX-04.11-19T	0.313	0.270	0.063	0.063	184,701	No	203,584
EX-04.11-19T (D/S)	0.000	0.287	0.063	0.063	341,015	No	203,584
EX-04.11-19T (BR/SE)	0.259	0.181	0.045	0.045	363,271	Yes	203,584
EX-04.9-09T	0.313	0.209	0.063	0.063	260,757	No	203,584
EX-04.9-09T (BR/SE)	0.250	0.157	0.045	0.045	191,484	No	203,584
===>Grouped by Line: EX-04.13 LP EXT 32 to FWH 33B					Sorted By:Flow Order		
EX-04.12-01P	0.313	0.287	0.063	0.063	1,630,623	No	203,584
EX-04.13-01R	0.000	0.372	0.047	0.047	1,229,115	No	203,584
EX-04.13-01R (D/S)	0.000	0.244	0.033	0.033	472,452	No	203,584
EX-04.13-02P	0.255	0.157	0.033	0.033	308,049	Yes	203,584
EX-04.13-07T	0.250	0.209	0.033	0.033	435,002	Yes	203,584
EX-04.13-07T (D/S)	0.000	0.193	0.033	0.033	451,392	No	203,584
EX-04.13-03E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.13-04P	0.250	0.197	0.033	0.033	493,614	No	203,584
EX-04.13-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.13-06N	0.250	0.164	0.033	0.033	243,617	No	203,584
===>Grouped by Line: EX-04.14 LP EXT 32 to FWH 33B					Sorted By:Flow Order		
EX-04.14-01P	0.276	0.214	0.033	0.033	855,185	Yes	203,584
EX-04.14-02E	0.250	0.387	0.033	0.033	665,100	Yes	203,584
EX-04.14-03N	0.250	0.164	0.033	0.033	243,617	No	203,584
===>Grouped by Line: EX-04.15 LPEX14 to FWH33C HDR					Sorted By:Flow Order		
EX-04.15-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.15-08X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.15-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.15-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.15-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.15-05E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.15-07P	0.250	0.196	0.033	0.033	485,704	No	203,584
EX-04.15-06T (BR/SE)	0.250	0.164	0.045	0.045	222,329	No	203,584
EX-04.15-06T (D/S)	0.000	0.233	0.063	0.063	396,644	No	203,584
EX-04.17-01P	0.313	0.284	0.063	0.063	1,423,535	No	203,584
===>Grouped by Line: EX-04.16 LPEX13 to FWH33C HDR					Sorted By:Flow Order		
EX-04.16-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.16-10X	0.000	0.199	0.033	0.033	689,697	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **EX-04.16 LPEX13 to FWH33C HDR**					***Sorted By:Flow Order***		
EX-04.16-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.16-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.16-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.16-05E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.16-06P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.16-07E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.16-08P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
===>*Grouped by Line:* **EX-04.18 LPEX FWH 33C IN HDR**					***Sorted By:Flow Order***		
EX-04.16-09T	0.313	0.209	0.063	0.063	260,757	No	203,584
EX-04.16-09T (BR/SE)	0.250	0.157	0.045	0.045	191,484	No	203,584
EX-04.16-09T (D/S)	0.000	0.151	0.063	0.063	92,215	No	203,584
EX-04.18-01P	0.313	0.283	0.063	0.063	1,258,531	No	203,584
EX-04.18-02T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.18-02T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.18-03P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.18-04V	0.313	0.224	0.050	0.050	327,043	No	203,584
EX-04.18-05P	0.313	0.277	0.063	0.063	1,006,635	No	203,584
EX-04.18-06V	0.313	0.194	0.050	0.050	205,786	No	203,584
EX-04.19-01R	0.000	0.237	0.047	0.047	422,212	No	203,584
EX-04.19-01R (D/S)	0.000	0.184	0.040	0.040	364,807	No	203,584
EX-04.19-02V	0.313	0.253	0.043	0.043	594,673	No	203,584
EX-04.19-03R	0.000	0.201	0.040	0.040	551,767	No	203,584
EX-04.19-03R (D/S)	0.000	0.247	0.047	0.047	520,690	No	203,584
EX-04.20-01P	0.313	0.263	0.063	0.063	686,382	No	203,584
EX-04.20-02E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-03P	0.313	0.277	0.063	0.063	1,272,986	No	203,584
EX-04.20-04E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-05P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.20-06E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-07P	0.313	0.218	0.063	0.063	276,900	No	203,584
EX-04.20-08E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-09P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.20-10E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-11P	0.313	0.277	0.063	0.063	1,272,986	No	203,584
EX-04.20-12E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.20-13P	0.313	0.251	0.063	0.063	515,583	No	203,584
EX-04.20-14T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.20-14T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.20-15P	0.313	0.240	0.063	0.063	409,476	No	203,584
EX-04.20-16T	0.384	0.259	0.063	0.063	175,512	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.18 LPEX FWH 33C IN HDR**				***Sorted By:Flow Order***		
EX-04.20-16T (D/S)	0.384	0.292	0.063	0.063	339,169	No	203,584
EX-04.20-16T (BR/SE)	0.000	0.182	0.045	0.045	365,733	No	203,584
===>Grouped by Line:	**EX-04.2 LPEX13 to FWH33A HDR**				***Sorted By:Flow Order***		
EX-04.2-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.2-10X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.2-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.2-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.2-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.2-05E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.2-06P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.2-07E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.2-08P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
===>Grouped by Line:	**EX-04.21 LP EXT 31 to FWH 33C**				***Sorted By:Flow Order***		
EX-04.20-17P	0.313	0.287	0.063	0.063	1,630,623	No	203,584
EX-04.21-01R	0.000	0.338	0.047	0.047	1,100,493	Yes	203,584
EX-04.21-01R (D/S)	0.000	0.190	0.033	0.033	351,608	No	203,584
EX-04.21-02P	0.267	0.149	0.033	0.033	287,790	Yes	203,584
EX-04.21-07T	0.250	0.181	0.033	0.033	367,076	Yes	203,584
EX-04.21-07T (D/S)	0.000	0.200	0.033	0.033	470,152	Yes	203,584
EX-04.21-03E	0.250	0.268	0.033	0.033	441,113	Yes	203,584
EX-04.21-04P	0.250	0.183	0.033	0.033	451,811	Yes	203,584
EX-04.21-05E	0.250	0.374	0.033	0.033	640,663	Yes	203,584
EX-04.21-06N	0.250	0.164	0.033	0.033	243,617	No	203,584
===>Grouped by Line:	**EX-04.22 LP EXT 31 to FWH 33C**				***Sorted By:Flow Order***		
EX-04.22-01P	0.271	0.237	0.033	0.033	961,016	Yes	203,584
EX-04.22-02E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.22-03N	0.250	0.234	0.033	0.033	373,454	Yes	203,584
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**				***Sorted By:Flow Order***		
EX-04.2-09T	0.313	0.348	0.063	0.063	510,465	Yes	203,584
EX-04.2-09T (BR/SE)	0.250	0.291	0.045	0.045	422,301	Yes	203,584
EX-04.2-09T (D/S)	0.000	0.151	0.063	0.063	92,215	No	203,584
EX-04.4-01P	0.313	0.283	0.063	0.063	1,258,531	No	203,584
EX-04.4-02T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.4-02T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.4-03P	0.313	0.240	0.063	0.063	410,642	No	203,584
EX-04.4-04V	0.313	0.224	0.050	0.050	327,043	No	203,584
EX-04.4-05P	0.313	0.278	0.063	0.063	1,008,980	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.4 LPEX FWH 33A IN HDR**					***Sorted By:Flow Order***		
EX-04.4-06V	0.313	0.194	0.050	0.050	205,786	No	203,584
EX-04.4-07P	0.313	0.270	0.063	0.063	804,933	No	203,584
EX-04.4-08E	0.313	0.414	0.047	0.047	634,200	Yes	203,584
EX-04.4-09P	0.313	0.277	0.063	0.063	1,275,890	No	203,584
EX-04.4-10E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-11P	0.313	0.251	0.063	0.063	516,963	No	203,584
EX-04.4-12E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-13P	0.313	0.218	0.063	0.063	277,800	No	203,584
EX-04.4-14E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-15P	0.313	0.251	0.063	0.063	516,963	No	203,584
EX-04.4-16E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-17P	0.313	0.277	0.063	0.063	1,275,890	No	203,584
EX-04.4-18E	0.313	0.215	0.047	0.047	290,783	No	203,584
EX-04.4-19P	0.313	0.251	0.063	0.063	516,963	No	203,584
EX-04.4-20T	0.313	0.239	0.063	0.063	402,693	No	203,584
EX-04.4-20T (D/S)	0.000	0.247	0.063	0.063	479,190	No	203,584
EX-04.4-21P	0.313	0.240	0.063	0.063	410,642	No	203,584
EX-04.4-23P	0.313	0.291	0.063	0.063	1,780,037	No	203,584
EX-04.4-22T	0.352	0.260	0.063	0.063	176,257	No	203,584
EX-04.4-22T (D/S)	0.352	0.282	0.063	0.063	329,316	No	203,584
EX-04.4-22T (BR/SE)	0.259	0.192	0.045	0.045	392,543	No	203,584
===>Grouped by Line: **EX-04.6 LP EXT to FWH 33A**					***Sorted By:Flow Order***		
EX-04.5-01P	0.313	0.287	0.063	0.063	1,633,928	No	203,584
EX-04.6-01R	0.000	0.322	0.047	0.047	1,039,964	Yes	203,584
EX-04.6-01R (D/S)	0.000	0.224	0.033	0.033	427,695	No	203,584
EX-04.6-02P	0.264	0.188	0.033	0.033	384,557	Yes	203,584
EX-04.6-07T	0.262	0.203	0.033	0.033	421,763	Yes	203,584
EX-04.6-07T (D/S)	0.262	0.215	0.033	0.033	512,547	No	203,584
EX-04.6-03E	0.461	0.267	0.033	0.033	453,500	Yes	203,584
EX-04.6-04P	0.279	0.226	0.033	0.033	582,929	Yes	203,584
EX-04.6-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.6-06N	0.250	0.431	0.033	0.033	740,522	Yes	203,584
===>Grouped by Line: **EX-04.7 LP EXT to FWH 33A**					***Sorted By:Flow Order***		
EX-04.7-01P	0.264	0.230	0.033	0.033	927,360	Yes	203,584
EX-04.7-02E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.7-03N	0.250	0.164	0.033	0.033	243,617	No	203,584
===>Grouped by Line: **EX-04.8 LPEX14 to FWH33B HDR**					***Sorted By:Flow Order***		
EX-04.8-01N	0.400	0.273	0.033	0.033	303,488	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.8 LPEX14 to FWH33B HDR**					***Sorted By:Flow Order***		
EX-04.8-08X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.8-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.8-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.8-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.8-05E	0.250	0.165	0.033	0.033	247,507	No	203,584
EX-04.8-07P	0.250	0.213	0.033	0.033	1,024,029	No	203,584
EX-04.8-06T (BR/SE)	0.250	0.164	0.045	0.045	222,329	No	203,584
EX-04.8-06T (D/S)	0.000	0.233	0.063	0.063	396,644	No	203,584
EX-04.10-01P	0.313	0.284	0.063	0.063	1,423,535	No	203,584
===>Grouped by Line: **EX-04.9 LPEX13 to FWH33B HDR**					***Sorted By:Flow Order***		
EX-04.9-01N	0.400	0.273	0.033	0.033	303,488	No	203,584
EX-04.9-10X	0.000	0.199	0.033	0.033	689,697	No	203,584
EX-04.9-02E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.9-03E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.9-04P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.9-05E	0.250	0.178	0.033	0.033	322,657	No	203,584
EX-04.9-06P	0.250	0.186	0.033	0.033	378,192	No	203,584
EX-04.9-07E	0.250	0.171	0.033	0.033	278,392	No	203,584
EX-04.9-08P	0.250	0.213	0.033	0.033	1,024,029	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:47:39PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.1 PSEP 2A 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.1-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-02P	61	0.007	0.007	385.2	23.337	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-06T (D/S)	10	0.007	0.007	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.1-06T (BR/SE)	10	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-05O	6	0.007	0.007	385.2	45.863	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-04P	54	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-03E	4	0.006	0.006	385.2	23.905	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.5-01P	60	0.001	0.001	385.2	17.778	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.11 PSEP1B 14" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.11-06O	6	0.009	0.009	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-04P	54	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-03E	4	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-02P	64	0.003	0.003	385.2	73.301	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-07P	56	0.002	0.002	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.12 PSEP 1B&2B to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.9-10T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.9-10T	12	0.009	0.009	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.9-10T (BR/SE)	12	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.12-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.13-06R	18	0.018	0.020	385.2	47.982	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-06R (D/S)	18	0.014	0.015	385.2	15.155	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.11-05T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.11-05T	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.11-05T (BR/SE)	12	0.010	0.010	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.13-03E	4	0.008	0.008	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-04E	3	0.007	0.007	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-02B	1	0.007	0.007	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-05P	53	0.006	0.006	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.13-03P	54	0.006	0.006	385.2	75.933	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***								***Sorted By: Average Wear Rate***		
EX-02.14-10V	22	8.683	9.475	385.2	54.705	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-11V	25	7.910	8.551	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-13V	25	7.910	8.551	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-06E	2	6.560	6.560	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-08E	2	6.560	6.560	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-16E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-24E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-18E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-25E	4	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-27E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-20E	4	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-21P	54	6.327	6.839	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-26P	54	6.300	6.802	385.2	38.039	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-02E	2	5.955	6.560	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-14E	3	5.512	5.958	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-04T	15	4.944	5.344	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-32T	15	4.944	5.344	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-05P	65	4.877	5.271	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-04T (D/S)	15	4.351	4.703	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-32T (D/S)	15	4.351	4.703	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-03P	52	4.120	4.453	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-19P	52	4.120	4.453	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-09P	52	4.120	4.453	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-07P	52	4.102	4.429	385.2	38.039	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-17P	52	2.955	2.645	385.2	76.600	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-12P	58	2.901	3.136	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-31P	58	2.901	3.136	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-01P	62	1.978	2.139	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-29T	14	0.044	0.048	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-29T (D/S)	14	0.037	0.041	385.2	23.240	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.7-02T (D/S)	12	0.037	0.041	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.7-02T	12	0.030	0.033	385.2	15.155	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.7-02T (BR/SE)	12	0.029	0.032	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.14-22T	15	0.017	0.019	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-23P	65	0.017	0.019	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***								***Sorted By: Average Wear Rate***		
EX-02.14-29T (BR/SE)	14	0.016	0.017	385.2	29.715	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.14-22T (D/S)	15	0.015	0.017	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-28P	52	0.014	0.016	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-33P	9	0.008	0.009	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.15 FWH 35 HEADER***								***Sorted By: Average Wear Rate***		
EX-02.15-02T	14	0.038	0.042	385.2	24.551	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.15-02T (D/S)	14	0.037	0.041	385.2	7.714	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.15-02T (BR/SE)	14	0.016	0.017	385.2	29.715	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.15-01P	64	0.008	0.009	385.2	24.405	93.8	28.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.2 PSEP 1A 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.2-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-02P	61	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-03E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-05E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-08O	6	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-06P	52	0.004	0.004	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-04P	52	0.003	0.003	385.2	38.302	93.8	10.750	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.4 PSEP2A 14" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.4-06O	6	0.009	0.009	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-04P	54	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-03E	4	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-02P	64	0.003	0.003	385.2	73.301	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-07P	56	0.002	0.002	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.6 PSEP 1A&2A to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.2-07T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.2-07T	12	0.009	0.009	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.2-07T (BR/SE)	12	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.6-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.7 PSEP 1A&2A to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.4-05T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.4-05T	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.4-05T (BR/SE)	12	0.010	0.010	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.7-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.8 PSEP 2B 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.8-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-08T (D/S)	10	0.007	0.007	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.8-08T (BR/SE)	10	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.8 PSEP 2B 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.8-07O	6	0.007	0.007	385.2	45.863	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-02E	3	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-06E	3	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-04E	1	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-09P	53	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-05P	51	0.004	0.004	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-03P	53	0.003	0.004	385.2	38.302	93.8	10.750	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.9 PSEP 1B 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.9-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-02P	61	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-08P	54	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-10P	54	0.006	0.006	385.2	23.379	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-03E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-05E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-07E	4	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-09E	4	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-11O	6	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-06P	52	0.004	0.004	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-04P	52	0.003	0.003	385.2	38.302	93.8	10.750	6.817	0.000	'36.60'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:47:39PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.1 PSEP 2A 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.1-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-02P	61	0.007	0.007	385.2	23.337	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-03E	4	0.006	0.006	385.2	23.905	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-04P	54	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-05O	6	0.007	0.007	385.2	45.863	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-06T (BR/SE)	10	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.1-06T (D/S)	10	0.007	0.007	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.5-01P	60	0.001	0.001	385.2	17.778	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.11 PSEP1B 14" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.11-02P	64	0.003	0.003	385.2	73.301	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-03E	4	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-04P	54	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-06O	6	0.009	0.009	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-07P	56	0.002	0.002	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.12 PSEP 1B&2B to 35 HDR***									***Sorted By: Flow Order***	
EX-02.9-10T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.12-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.9-10T (BR/SE)	12	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-10T	12	0.009	0.009	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***									***Sorted By: Flow Order***	
EX-02.11-05T (BR/SE)	12	0.010	0.010	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.11-05T	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.11-05T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-02B	1	0.007	0.007	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-03E	4	0.008	0.008	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-03P	54	0.006	0.006	385.2	75.933	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-04E	3	0.007	0.007	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-05P	53	0.006	0.006	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***									***Sorted By: Flow Order***	
EX-02.13-06R	18	0.018	0.020	385.2	47.982	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.13-06R (D/S)	18	0.014	0.015	385.2	15.155	93.8	28.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***									***Sorted By: Flow Order***	
EX-02.7-02T	12	0.030	0.033	385.2	15.155	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.7-02T (D/S)	12	0.037	0.041	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-01P	62	1.978	2.139	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-02E	2	5.955	6.560	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-03P	52	4.120	4.453	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-04T	15	4.944	5.344	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-04T (D/S)	15	4.351	4.703	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-05P	65	4.877	5.271	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-06E	2	6.560	6.560	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-07P	52	4.102	4.429	385.2	38.039	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-08E	2	6.560	6.560	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-09P	52	4.120	4.453	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-10V	22	8.683	9.475	385.2	54.705	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-11V	25	7.910	8.551	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-12P	58	2.901	3.136	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-13V	25	7.910	8.551	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-31P	58	2.901	3.136	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-14E	3	5.512	5.958	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-32T	15	4.944	5.344	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-32T (D/S)	15	4.351	4.703	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-16E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-17P	52	2.955	2.645	385.2	76.600	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-18E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-19P	52	4.120	4.453	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-20E	4	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-21P	54	6.327	6.839	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-33P	9	0.008	0.009	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-22T	15	0.017	0.019	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-22T (D/S)	15	0.015	0.017	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-23P	65	0.017	0.019	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-24E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-25E	4	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-26P	54	6.300	6.802	385.2	38.039	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-27E	2	6.529	7.057	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-28P	52	0.014	0.016	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***									***Sorted By: Flow Order***	
EX-02.14-29T	14	0.044	0.048	385.2	37.760	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-29T (D/S)	14	0.037	0.041	385.2	23.240	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.14-29T (BR/SE)	14	0.016	0.017	385.2	29.715	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.7-02T (BR/SE)	12	0.029	0.032	385.2	48.757	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.15 FWH 35 HEADER***									***Sorted By: Flow Order***	
EX-02.15-01P	64	0.008	0.009	385.2	24.405	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.15-02T	14	0.038	0.042	385.2	24.551	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.15-02T (D/S)	14	0.037	0.041	385.2	7.714	93.8	28.000	6.817	0.000	'36.60'	ARD
EX-02.15-02T (BR/SE)	14	0.016	0.017	385.2	29.715	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.2 PSEP 1A 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.2-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-02P	61	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-03E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-04P	52	0.003	0.003	385.2	38.302	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-05E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-06P	52	0.004	0.004	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-08O	6	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.4 PSEP2A 14" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.4-02P	64	0.003	0.003	385.2	73.301	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-03E	4	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-04P	54	0.008	0.008	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-06O	6	0.009	0.009	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-07P	56	0.002	0.002	385.2	95.761	93.8	14.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.6 PSEP 1A&2A to 35 HDR***									***Sorted By: Flow Order***	
EX-02.2-07T	12	0.009	0.009	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.2-07T (BR/SE)	12	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.2-07T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.6-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.7 PSEP 1A&2A to 35 HDR***									***Sorted By: Flow Order***	
EX-02.4-05T (BR/SE)	12	0.010	0.010	385.2	52.877	93.8	14.000	6.817	0.000	'36.60'	ARD
EX-02.4-05T	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.4-05T (D/S)	12	0.014	0.014	385.2	50.345	93.8	18.000	6.817	0.000	'36.60'	ARD
EX-02.7-01P	62	0.002	0.002	385.2	75.930	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.8 PSEP 2B 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.8-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-02E	3	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-03P	53	0.003	0.004	385.2	38.302	93.8	10.750	6.817	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.8 PSEP 2B 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.8-04E	1	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-05P	51	0.004	0.004	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-07O	6	0.007	0.007	385.2	45.863	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-06E	3	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-09P	53	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-08T (BR/SE)	10	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.8-08T (D/S)	10	0.007	0.007	385.2	3.409	93.8	18.000	6.817	0.000	'36.60'	ARD
===>Grouped by Line:	***EX-02.9 PSEP 1B 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.9-01N	31	0.009	0.010	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-02P	61	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-03E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-04P	52	0.003	0.003	385.2	38.302	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-05E	2	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-06P	52	0.004	0.004	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-11O	6	0.005	0.005	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-07E	4	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-08P	54	0.007	0.007	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-09E	4	0.006	0.006	385.2	23.182	93.8	10.750	6.817	0.000	'36.60'	ARD
EX-02.9-10P	54	0.006	0.006	385.2	23.379	93.8	10.750	6.817	0.000	'36.60'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:47:39PM

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.1 PSEP 2A 10" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.1-03E	0.425	0.425	0.091	0.091	100,000,000	No	50,115
EX-02.1-06T (D/S)	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.5-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.1-05O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.1-06T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.1-02P	0.378	0.378	0.091	0.091	100,000,000	No	50,115
EX-02.1-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.1-01N	0.365	0.365	0.072	0.072	251,650,432	No	154,778
===>Grouped by Line: **EX-02.11 PSEP1B 14" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.11-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-03E	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-04P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-06O	0.375	0.375	0.118	0.118	243,267,072	No	50,115
===>Grouped by Line: **EX-02.12 PSEP 1B&2B to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.12-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.9-10T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-10T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.9-10T	0.500	0.500	0.152	0.152	337,731,296	No	50,115
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.13-06R	0.000	0.312	0.149	0.149	70,589,920	No	154,778
EX-02.13-06R (D/S)	0.000	0.375	0.232	0.232	84,197,080	No	154,778
EX-02.13-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-02B	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-03E	0.375	0.375	0.152	0.152	100,000,000	No	50,115
EX-02.13-03P	0.000	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-04E	0.375	0.375	0.152	0.152	100,000,000	No	50,115
EX-02.13-05P	0.375	0.375	0.152	0.152	100,000,000	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.11-05T	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.11-05T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.11-05T (BR/SE)	0.375	0.375	0.118	0.118	233,579,568	No	50,115
===>Grouped by Line: **EX-02.14 FWH 35 HEADER**					***Sorted By:Remaining Life***		
EX-02.14-05P	0.375	0.262	0.311	0.311	-86,780	No	203,584
EX-02.14-10V	0.375	0.173	0.248	0.248	-68,088	No	203,584
EX-02.14-03P	0.375	0.279	0.311	0.311	-61,403	No	203,584
EX-02.14-09P	0.375	0.279	0.311	0.311	-61,403	No	203,584
EX-02.14-11V	0.375	0.191	0.248	0.248	-57,999	No	203,584
EX-02.14-13V	0.375	0.191	0.248	0.248	-57,999	No	203,584
EX-02.14-27E	0.000	0.283	0.232	0.232	63,952	Yes	203,584
EX-02.14-25E	0.375	0.285	0.232	0.232	66,435	Yes	203,584
EX-02.14-04T	0.375	0.358	0.311	0.311	76,510	No	203,584
EX-02.14-19P	0.375	0.358	0.311	0.311	92,180	No	203,584
EX-02.14-21P	0.375	0.385	0.311	0.311	94,650	Yes	203,584
EX-02.14-32T	0.375	0.370	0.311	0.311	96,716	No	203,584
EX-02.14-16E	0.375	0.312	0.232	0.232	99,763	Yes	203,584
EX-02.14-32T (D/S)	0.000	0.366	0.311	0.311	102,323	No	203,584
EX-02.14-07P	0.375	0.364	0.311	0.311	105,326	Yes	203,584
EX-02.14-26P	0.375	0.393	0.311	0.311	105,574	No	203,584
EX-02.14-24E	0.375	0.325	0.232	0.232	116,085	Yes	203,584
EX-02.14-18E	0.375	0.355	0.232	0.232	152,489	Yes	203,584
EX-02.14-04T (D/S)	0.375	0.396	0.311	0.311	158,931	No	203,584
EX-02.14-02E	0.375	0.358	0.232	0.232	168,462	No	154,778
EX-02.14-06E	0.000	0.362	0.232	0.232	174,248	No	16,992
EX-02.14-08E	0.000	0.362	0.232	0.232	174,248	No	16,992
EX-02.14-12P	0.375	0.377	0.311	0.311	185,063	Yes	203,584
EX-02.14-20E	0.375	0.384	0.232	0.232	189,319	Yes	203,584
EX-02.14-31P	0.375	0.397	0.311	0.311	240,475	Yes	203,584
EX-02.14-17P	0.375	0.417	0.311	0.311	351,112	Yes	203,584
EX-02.14-01P	0.375	0.402	0.311	0.311	372,786	No	203,584
EX-02.14-14E	0.375	0.539	0.232	0.232	451,315	Yes	203,584
EX-02.14-29T	0.375	0.374	0.232	0.232	25,755,706	No	124,935
EX-02.7-02T (D/S)	0.375	0.374	0.232	0.232	30,253,280	No	124,935
EX-02.14-29T (D/S)	0.000	0.374	0.232	0.232	30,414,716	No	124,935
EX-02.7-02T	0.375	0.375	0.232	0.232	37,744,760	No	124,935
EX-02.7-02T (BR/SE)	0.375	0.375	0.149	0.149	61,307,212	No	124,935
EX-02.14-22T	0.375	0.375	0.232	0.232	66,266,992	No	124,935
EX-02.14-23P	0.375	0.375	0.232	0.232	67,181,736	No	124,935
EX-02.14-22T (D/S)	0.000	0.375	0.232	0.232	75,310,376	No	124,935

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-02.14 FWH 35 HEADER**				***Sorted By:Remaining Life***		
EX-02.14-28P	0.375	0.375	0.232	0.232	79,542,864	No	124,935
EX-02.14-29T (BR/SE)	0.312	0.312	0.149	0.149	82,327,704	No	124,935
EX-02.14-33P	0.375	0.375	0.232	0.232	137,607,424	No	124,935
===>Grouped by Line:	**EX-02.15 FWH 35 HEADER**				***Sorted By:Remaining Life***		
EX-02.15-02T (BR/SE)	0.312	0.312	0.149	0.149	82,327,704	No	124,935
EX-02.15-02T	0.656	0.655	0.232	0.232	88,860,952	No	124,935
EX-02.15-02T (D/S)	0.656	0.655	0.232	0.232	91,609,488	No	124,935
EX-02.15-01P	0.625	0.625	0.232	0.232	100,000,000	No	124,935
===>Grouped by Line:	**EX-02.2 PSEP 1A 10" to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.2-02P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-03E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-05E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-08O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-01N	0.365	0.526	0.072	0.072	390,001,408	No	154,778
===>Grouped by Line:	**EX-02.4 PSEP2A 14" to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.4-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-03E	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-04P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-06O	0.375	0.375	0.118	0.118	243,267,072	No	50,115
===>Grouped by Line:	**EX-02.6 PSEP 1A&2A to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.2-07T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.6-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.2-07T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.2-07T	0.500	0.500	0.152	0.152	337,731,296	No	50,115
===>Grouped by Line:	**EX-02.7 PSEP 1A&2A to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.7-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.4-05T	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.4-05T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.4-05T (BR/SE)	0.375	0.375	0.118	0.118	233,579,568	No	50,115
===>Grouped by Line:	**EX-02.8 PSEP 2B 10" to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.8-02E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-03P	0.365	0.365	0.091	0.091	100,000,000	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.8 PSEP 2B 10" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.8-04E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-05P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-07O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-06E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-09P	0.000	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-08T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-08T (D/S)	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.8-01N	0.365	0.365	0.072	0.072	251,650,432	No	154,778
===>Grouped by Line: **EX-02.9 PSEP 1B 10" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.9-02P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-03E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-05E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-11O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-07E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-08P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-09E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-10P	0.000	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-01N	0.365	0.365	0.072	0.072	251,650,432	No	154,778

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:47:39PM

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.1 PSEP 2A 10" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.1-01N	0.365	0.365	0.072	0.072	251,650,432	No	154,778
EX-02.1-02P	0.378	0.378	0.091	0.091	100,000,000	No	50,115
EX-02.1-03E	0.425	0.425	0.091	0.091	100,000,000	No	50,115
EX-02.1-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.1-05O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.1-06T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.1-06T (D/S)	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.5-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
===>Grouped by Line: **EX-02.11 PSEP1B 14" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.11-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-03E	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-04P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-06O	0.375	0.375	0.118	0.118	243,267,072	No	50,115
EX-02.11-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
===>Grouped by Line: **EX-02.12 PSEP 1B&2B to 35 HDR**					***Sorted By:Flow Order***		
EX-02.9-10T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.12-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.9-10T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-10T	0.500	0.500	0.152	0.152	337,731,296	No	50,115
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Flow Order***		
EX-02.11-05T (BR/SE)	0.375	0.375	0.118	0.118	233,579,568	No	50,115
EX-02.11-05T	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.11-05T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.13-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-02B	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-03E	0.375	0.375	0.152	0.152	100,000,000	No	50,115
EX-02.13-03P	0.000	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-04E	0.375	0.375	0.152	0.152	100,000,000	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Flow Order***		
EX-02.13-05P	0.375	0.375	0.152	0.152	100,000,000	No	50,115
EX-02.13-06R	0.000	0.312	0.149	0.149	70,589,920	No	154,778
EX-02.13-06R (D/S)	0.000	0.375	0.232	0.232	84,197,080	No	154,778
===>Grouped by Line: **EX-02.14 FWH 35 HEADER**					***Sorted By:Flow Order***		
EX-02.7-02T	0.375	0.375	0.232	0.232	37,744,760	No	124,935
EX-02.7-02T (D/S)	0.375	0.374	0.232	0.232	30,253,280	No	124,935
EX-02.14-01P	0.375	0.402	0.311	0.311	372,786	No	203,584
EX-02.14-02E	0.375	0.358	0.232	0.232	168,462	No	154,778
EX-02.14-03P	0.375	0.279	0.311	0.311	-61,403	No	203,584
EX-02.14-04T	0.375	0.358	0.311	0.311	76,510	No	203,584
EX-02.14-04T (D/S)	0.375	0.396	0.311	0.311	158,931	No	203,584
EX-02.14-05P	0.375	0.262	0.311	0.311	-86,780	No	203,584
EX-02.14-06E	0.000	0.362	0.232	0.232	174,248	No	16,992
EX-02.14-07P	0.375	0.364	0.311	0.311	105,326	Yes	203,584
EX-02.14-08E	0.000	0.362	0.232	0.232	174,248	No	16,992
EX-02.14-09P	0.375	0.279	0.311	0.311	-61,403	No	203,584
EX-02.14-10V	0.375	0.173	0.248	0.248	-68,088	No	203,584
EX-02.14-11V	0.375	0.191	0.248	0.248	-57,999	No	203,584
EX-02.14-12P	0.375	0.377	0.311	0.311	185,063	Yes	203,584
EX-02.14-13V	0.375	0.191	0.248	0.248	-57,999	No	203,584
EX-02.14-31P	0.375	0.397	0.311	0.311	240,475	Yes	203,584
EX-02.14-14E	0.375	0.539	0.232	0.232	451,315	Yes	203,584
EX-02.14-32T	0.375	0.370	0.311	0.311	96,716	No	203,584
EX-02.14-32T (D/S)	0.000	0.366	0.311	0.311	102,323	No	203,584
EX-02.14-16E	0.375	0.312	0.232	0.232	99,763	Yes	203,584
EX-02.14-17P	0.375	0.417	0.311	0.311	351,112	Yes	203,584
EX-02.14-18E	0.375	0.355	0.232	0.232	152,489	Yes	203,584
EX-02.14-19P	0.375	0.358	0.311	0.311	92,180	No	203,584
EX-02.14-20E	0.375	0.384	0.232	0.232	189,319	Yes	203,584
EX-02.14-21P	0.375	0.385	0.311	0.311	94,650	Yes	203,584
EX-02.14-33P	0.375	0.375	0.232	0.232	137,607,424	No	124,935
EX-02.14-22T	0.375	0.375	0.232	0.232	66,266,992	No	124,935
EX-02.14-22T (D/S)	0.000	0.375	0.232	0.232	75,310,376	No	124,935
EX-02.14-23P	0.375	0.375	0.232	0.232	67,181,736	No	124,935
EX-02.14-24E	0.375	0.325	0.232	0.232	116,085	Yes	203,584
EX-02.14-25E	0.375	0.285	0.232	0.232	66,435	Yes	203,584
EX-02.14-26P	0.375	0.393	0.311	0.311	105,574	No	203,584
EX-02.14-27E	0.000	0.283	0.232	0.232	63,952	Yes	203,584
EX-02.14-28P	0.375	0.375	0.232	0.232	79,542,864	No	124,935
EX-02.14-29T	0.375	0.374	0.232	0.232	25,755,706	No	124,935

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-02.14 FWH 35 HEADER**				***Sorted By:Flow Order***		
EX-02.14-29T (D/S)	0.000	0.374	0.232	0.232	30,414,716	No	124,935
EX-02.14-29T (BR/SE)	0.312	0.312	0.149	0.149	82,327,704	No	124,935
EX-02.7-02T (BR/SE)	0.375	0.375	0.149	0.149	61,307,212	No	124,935
===>Grouped by Line:	**EX-02.15 FWH 35 HEADER**				***Sorted By:Flow Order***		
EX-02.15-01P	0.625	0.625	0.232	0.232	100,000,000	No	124,935
EX-02.15-02T	0.656	0.655	0.232	0.232	88,860,952	No	124,935
EX-02.15-02T (D/S)	0.656	0.655	0.232	0.232	91,609,488	No	124,935
EX-02.15-02T (BR/SE)	0.312	0.312	0.149	0.149	82,327,704	No	124,935
===>Grouped by Line:	**EX-02.2 PSEP 1A 10" to 35 HDR**				***Sorted By:Flow Order***		
EX-02.2-01N	0.365	0.526	0.072	0.072	390,001,408	No	154,778
EX-02.2-02P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-03E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-05E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-08O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
===>Grouped by Line:	**EX-02.4 PSEP2A 14" to 35 HDR**				***Sorted By:Flow Order***		
EX-02.4-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-03E	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-04P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-06O	0.375	0.375	0.118	0.118	243,267,072	No	50,115
EX-02.4-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
===>Grouped by Line:	**EX-02.6 PSEP 1A&2A to 35 HDR**				***Sorted By:Flow Order***		
EX-02.2-07T	0.500	0.500	0.152	0.152	337,731,296	No	50,115
EX-02.2-07T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-07T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.6-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
===>Grouped by Line:	**EX-02.7 PSEP 1A&2A to 35 HDR**				***Sorted By:Flow Order***		
EX-02.4-05T (BR/SE)	0.375	0.375	0.118	0.118	233,579,568	No	50,115
EX-02.4-05T	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.4-05T (D/S)	0.500	0.500	0.152	0.152	223,844,880	No	50,115
EX-02.7-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
===>Grouped by Line:	**EX-02.8 PSEP 2B 10" to 35 HDR**				***Sorted By:Flow Order***		
EX-02.8-01N	0.365	0.365	0.072	0.072	251,650,432	No	154,778
EX-02.8-02E	0.365	0.365	0.091	0.091	100,000,000	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.8 PSEP 2B 10" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.8-03P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-04E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-05P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-07O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-06E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-09P	0.000	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-08T (BR/SE)	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-08T (D/S)	0.500	0.500	0.152	0.152	100,000,000	No	50,115
===>Grouped by Line: **EX-02.9 PSEP 1B 10" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.9-01N	0.365	0.365	0.072	0.072	251,650,432	No	154,778
EX-02.9-02P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-03E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-05E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-11O	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-07E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-08P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-09E	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-10P	0.000	0.365	0.091	0.091	100,000,000	No	50,115

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:47:52PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1A FWH 36A to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1A-05V	22	4.514	2.799	430.4	29.883	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-01N	31	3.195	1.981	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-02E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-04E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-07E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-09E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-11E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-03P	54	2.045	1.268	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-13R	18	1.789	1.109	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-08P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-10P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-12P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-06P	58	1.406	0.872	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-13R (D/S)	18	0.910	0.573	430.4	5.938	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.1B FWH 36B to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1B-05V	22	4.514	2.799	430.4	29.883	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-01N	31	3.195	1.981	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-02E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-04E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-07E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-09E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-03P	54	2.045	1.268	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-10P	52	1.604	0.995	430.4	17.364	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-08P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-06P	58	1.406	0.872	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1C-05V	22	4.514	2.799	430.4	29.883	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-01N	31	3.195	1.981	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-02E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1C-04E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-07E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-09E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-03P	54	2.045	1.268	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-10P	52	1.613	1.000	430.4	17.508	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-08P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-06P	58	1.406	0.872	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:47:52PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1A FWH 36A to SG HDR***									***Sorted By: Flow Order***	
FW-02.1A-01N	31	3.195	1.981	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-02E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-03P	54	2.045	1.268	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-04E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-05V	22	4.514	2.799	430.4	29.883	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-06P	58	1.406	0.872	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-07E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-08P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-09E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-10P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-11E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-12P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-13R	18	1.789	1.109	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1A-13R (D/S)	18	0.910	0.573	430.4	5.938	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.1B FWH 36B to SG HDR***									***Sorted By: Flow Order***	
FW-02.1B-01N	31	3.195	1.981	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-02E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-03P	54	2.045	1.268	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-04E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-05V	22	4.514	2.799	430.4	29.883	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-06P	58	1.406	0.872	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-07E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-08P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-09E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-10P	52	1.604	0.995	430.4	17.364	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***									***Sorted By: Flow Order***	
FW-02.1C-01N	31	3.195	1.981	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-02E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-03P	54	2.045	1.268	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***									***Sorted By: Flow Order***	
FW-02.1C-04E	4	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-05V	22	4.514	2.799	430.4	29.883	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-06P	58	1.406	0.872	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-07E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-08P	52	1.598	0.991	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-09E	2	2.364	1.466	430.4	17.248	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-10P	52	1.613	1.000	430.4	17.508	0.0	18.000	6.621	0.000	'61.01'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:47:52PM

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1A FWH 36A to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1A-05V	0.938	0.833	0.889	0.889	-145,126	No	203,584
FW-02.1A-01N	0.938	0.864	0.717	0.717	648,965	No	203,584
FW-02.1A-09E	0.938	0.855	0.717	0.717	825,652	Yes	203,584
FW-02.1A-07E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1A-11E	0.938	0.890	0.717	0.717	1,034,779	Yes	203,584
FW-02.1A-03P	0.938	0.911	0.717	0.717	1,341,548	Yes	203,584
FW-02.1A-13R	0.000	0.900	0.717	0.717	1,443,681	Yes	203,584
FW-02.1A-04E	0.938	0.962	0.717	0.717	1,466,439	Yes	203,584
FW-02.1A-10P	0.938	0.883	0.717	0.717	1,468,884	Yes	203,584
FW-02.1A-08P	0.938	0.901	0.717	0.717	1,626,245	No	203,584
FW-02.1A-02E	0.938	1.001	0.717	0.717	1,699,465	Yes	203,584
FW-02.1A-12P	0.938	0.911	0.717	0.717	1,716,490	Yes	203,584
FW-02.1A-06P	0.938	0.905	0.717	0.717	1,892,775	No	203,584
FW-02.1A-13R (D/S)	0.000	1.353	1.195	1.195	2,422,399	Yes	203,584
===>Grouped by Line: **FW-02.1B FWH 36B to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1B-05V	0.938	0.833	0.889	0.889	-145,126	No	203,584
FW-02.1B-07E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1B-09E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1B-10P	0.965	0.865	0.717	0.717	1,304,122	Yes	203,584
FW-02.1B-03P	0.938	0.916	0.717	0.717	1,373,155	Yes	203,584
FW-02.1B-04E	0.938	0.980	0.717	0.717	1,573,294	Yes	203,584
FW-02.1B-08P	0.938	0.901	0.717	0.717	1,626,245	No	203,584
FW-02.1B-02E	0.938	0.991	0.717	0.717	1,639,019	Yes	203,584
FW-02.1B-06P	0.938	0.881	0.717	0.717	1,644,562	Yes	203,584
FW-02.1B-01N	0.938	2.480	0.717	0.717	7,793,156	No	203,584
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1C-05V	0.938	0.833	0.889	0.889	-145,126	No	203,584
FW-02.1C-04E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1C-07E	0.938	0.883	0.717	0.717	992,334	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1C-09E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1C-02E	0.938	0.895	0.717	0.717	1,061,687	Yes	203,584
FW-02.1C-03P	0.938	0.908	0.717	0.717	1,318,266	Yes	203,584
FW-02.1C-08P	0.938	0.901	0.717	0.717	1,626,245	No	203,584
FW-02.1C-06P	0.938	0.905	0.717	0.717	1,892,775	No	203,584
FW-02.1C-01N	0.938	1.170	0.717	0.717	2,001,878	Yes	203,584
FW-02.1C-10P	0.998	0.961	0.717	0.717	2,133,584	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:47:52PM

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1A FWH 36A to SG HDR**					***Sorted By:Flow Order***		
FW-02.1A-01N	0.938	0.864	0.717	0.717	648,965	No	203,584
FW-02.1A-02E	0.938	1.001	0.717	0.717	1,699,465	Yes	203,584
FW-02.1A-03P	0.938	0.911	0.717	0.717	1,341,548	Yes	203,584
FW-02.1A-04E	0.938	0.962	0.717	0.717	1,466,439	Yes	203,584
FW-02.1A-05V	0.938	0.833	0.889	0.889	-145,126	No	203,584
FW-02.1A-06P	0.938	0.905	0.717	0.717	1,892,775	No	203,584
FW-02.1A-07E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1A-08P	0.938	0.901	0.717	0.717	1,626,245	No	203,584
FW-02.1A-09E	0.938	0.855	0.717	0.717	825,652	Yes	203,584
FW-02.1A-10P	0.938	0.883	0.717	0.717	1,468,884	Yes	203,584
FW-02.1A-11E	0.938	0.890	0.717	0.717	1,034,779	Yes	203,584
FW-02.1A-12P	0.938	0.911	0.717	0.717	1,716,490	Yes	203,584
FW-02.1A-13R	0.000	0.900	0.717	0.717	1,443,681	Yes	203,584
FW-02.1A-13R (D/S)	0.000	1.353	1.195	1.195	2,422,399	Yes	203,584
===>Grouped by Line: **FW-02.1B FWH 36B to SG HDR**					***Sorted By:Flow Order***		
FW-02.1B-01N	0.938	2.480	0.717	0.717	7,793,156	No	203,584
FW-02.1B-02E	0.938	0.991	0.717	0.717	1,639,019	Yes	203,584
FW-02.1B-03P	0.938	0.916	0.717	0.717	1,373,155	Yes	203,584
FW-02.1B-04E	0.938	0.980	0.717	0.717	1,573,294	Yes	203,584
FW-02.1B-05V	0.938	0.833	0.889	0.889	-145,126	No	203,584
FW-02.1B-06P	0.938	0.881	0.717	0.717	1,644,562	Yes	203,584
FW-02.1B-07E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1B-08P	0.938	0.901	0.717	0.717	1,626,245	No	203,584
FW-02.1B-09E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1B-10P	0.965	0.865	0.717	0.717	1,304,122	Yes	203,584
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Flow Order***		
FW-02.1C-01N	0.938	1.170	0.717	0.717	2,001,878	Yes	203,584
FW-02.1C-02E	0.938	0.895	0.717	0.717	1,061,687	Yes	203,584
FW-02.1C-03P	0.938	0.908	0.717	0.717	1,318,266	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Flow Order***		
FW-02.1C-04E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1C-05V	0.938	0.833	0.889	0.889	-145,126	No	203,584
FW-02.1C-06P	0.938	0.905	0.717	0.717	1,892,775	No	203,584
FW-02.1C-07E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1C-08P	0.938	0.901	0.717	0.717	1,626,245	No	203,584
FW-02.1C-09E	0.938	0.883	0.717	0.717	992,334	No	203,584
FW-02.1C-10P	0.998	0.961	0.717	0.717	2,133,584	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:48:24PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.1A BFP 31 to RCIRC T***								***Sorted By: Average Wear Rate***		
FW-01.2A-03T (BR/SE)	15	41.683	24.761	378.8	539.374	0.0	6.625	6.855	0.000	'61.01'	ARD
FW-01.1A-03R	18	7.166	4.257	378.8	33.910	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1A-02P	61	6.885	4.090	378.8	33.715	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.2A-01E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-02P	54	5.904	3.507	378.8	20.153	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.1A-03R (D/S)	18	5.576	3.312	378.8	20.389	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-03T (D/S)	15	5.532	3.286	378.8	20.135	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-03T	15	5.532	3.286	378.8	20.135	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.1A-01N	31	0.023	0.014	378.8	33.290	0.0	16.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.1B BFP 32 to RCIRC T***								***Sorted By: Average Wear Rate***		
FW-01.2B-05T (BR/SE)	15	41.683	24.761	378.8	539.374	0.0	6.625	6.855	0.000	'61.01'	ARD
FW-01.1B-03R	18	7.166	4.257	378.8	33.910	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1B-02P	61	7.014	4.166	378.8	34.720	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.2B-01E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-03E	1	6.271	3.725	378.8	21.122	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-02P	54	5.894	3.501	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.1B-03R (D/S)	18	5.576	3.312	378.8	20.389	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-05T (D/S)	15	5.529	3.285	378.8	20.121	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-05T	15	5.529	3.285	378.8	20.121	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-04P	51	4.053	2.407	378.8	20.103	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.1B-01N	31	0.023	0.014	378.8	33.290	0.0	16.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2A-06V	22	12.867	7.644	378.8	34.207	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-05V	25	10.328	6.135	378.8	24.119	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-10E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-12E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-07E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-14E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-16E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2A-18E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-20E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-22E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-08T (D/S)	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-08T	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-23P	52	4.619	2.744	378.8	20.198	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-11P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-13P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-15P_1	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-17P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-19P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-21P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-04P	65	3.688	2.191	378.8	20.135	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-09P	65	3.684	2.188	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-15P_2	9	2.707	1.636	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2B-08V	22	12.867	7.644	378.8	34.207	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-07V	25	10.328	6.135	378.8	24.119	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-13E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-09E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-15E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B.17E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-19E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-21E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-23E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-25E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-10P	54	5.894	3.501	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-11T (D/S)	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-11T	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-27R	18	5.157	3.064	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-14P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-16P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-18P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-20P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-22P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-24P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-26P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-06P	65	3.697	2.196	378.8	20.216	0.0	20.000	6.855	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2B-12P	65	3.684	2.188	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-27R (D/S)	18	3.231	1.919	378.8	8.564	0.0	30.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.3 BFP DISCHARGE HDR***								***Sorted By: Average Wear Rate***		
FW-01.4-01T	14	8.800	5.228	378.8	17.358	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.4-01T (D/S)	14	7.017	4.169	378.8	11.577	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-01T (D/S)	12	6.575	3.906	378.8	17.419	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-01T (BR/SE)	12	6.272	3.726	378.8	20.148	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.3-04E	4	6.080	3.612	378.8	18.111	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-03E	4	6.010	3.570	378.8	17.780	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.4-01T (BR/SE)	14	5.948	3.534	378.8	16.905	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.3-06E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-08E	4	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-10E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-12E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-14E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-15E	4	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-05P	54	5.077	3.016	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-09P	54	5.077	3.016	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-16P	54	5.077	3.016	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-17T (D/S)	15	4.760	2.828	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-17T	15	4.760	2.828	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-01T	12	4.463	2.651	378.8	8.709	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-07P	52	3.967	2.356	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-11P	52	3.967	2.356	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-13P	52	3.967	2.356	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-02P	62	3.206	1.904	378.8	17.409	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-18P	65	3.199	1.900	378.8	17.350	0.0	30.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.4 BFP DISCHARGE HDR***								***Sorted By: Average Wear Rate***		
FW-01.5-01T	14	7.039	4.182	378.8	11.635	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.5-01T (BR/SE)	14	5.945	3.531	378.8	16.888	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.5-01T (D/S)	14	4.390	2.653	378.8	5.809	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.4-02P	63	2.549	1.514	378.8	11.561	0.0	30.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.6A BFP HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
FW-01.6A-07V	22	11.855	7.043	378.8	28.703	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-12N	30	6.712	3.987	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-03E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-05E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.6A BFP HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
FW-01.6A-08E	4	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-10E	3	5.873	3.489	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-01R (D/S)	7	5.370	3.190	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-09P	54	5.370	3.190	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-02P	57	4.242	2.520	378.8	16.863	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-04P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-06P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-11P	53	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-01R	7	2.746	1.660	378.8	5.704	0.0	30.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.6B BFP HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
FW-01.6B-05V	22	11.855	7.043	378.8	28.703	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-10N	30	6.712	3.987	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-03E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-06E	4	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-08E	3	5.873	3.489	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-07P	54	5.370	3.190	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-04P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-02P	64	3.352	1.991	378.8	16.534	0.0	18.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.6C BFP HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
FW-01.6C-05V	22	11.855	7.043	378.8	28.703	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-10N	30	6.712	3.987	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-03E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-06E	4	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-08E	3	5.873	3.489	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-04P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-02P	64	3.356	1.994	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:48:24PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.1A BFP 31 to RCIRC T***									***Sorted By: Flow Order***	
FW-01.1A-01N	31	0.023	0.014	378.8	33.290	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1A-02P	61	6.885	4.090	378.8	33.715	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1A-03R	18	7.166	4.257	378.8	33.910	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1A-03R (D/S)	18	5.576	3.312	378.8	20.389	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-01E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-02P	54	5.904	3.507	378.8	20.153	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-03T	15	5.532	3.286	378.8	20.135	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-03T (D/S)	15	5.532	3.286	378.8	20.135	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-03T (BR/SE)	15	41.683	24.761	378.8	539.374	0.0	6.625	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.1B BFP 32 to RCIRC T***									***Sorted By: Flow Order***	
FW-01.1B-01N	31	0.023	0.014	378.8	33.290	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1B-02P	61	7.014	4.166	378.8	34.720	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1B-03R	18	7.166	4.257	378.8	33.910	0.0	16.000	6.855	0.000	'61.01'	ARD
FW-01.1B-03R (D/S)	18	5.576	3.312	378.8	20.389	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-01E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-02P	54	5.894	3.501	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-03E	1	6.271	3.725	378.8	21.122	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-04P	51	4.053	2.407	378.8	20.103	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-05T	15	5.529	3.285	378.8	20.121	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-05T (D/S)	15	5.529	3.285	378.8	20.121	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-05T (BR/SE)	15	41.683	24.761	378.8	539.374	0.0	6.625	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2A-04P	65	3.688	2.191	378.8	20.135	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-05V	25	10.328	6.135	378.8	24.119	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-06V	22	12.867	7.644	378.8	34.207	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-07E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-08T	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-08T (D/S)	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-09P	65	3.684	2.188	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2A-10E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-11P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-12E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-13P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-14E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-15P_1	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-15P_2	9	2.707	1.636	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-16E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-17P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-18E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-19P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-20E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-21P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-22E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2A-23P	52	4.619	2.744	378.8	20.198	0.0	20.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2B-06P	65	3.697	2.196	378.8	20.216	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-07V	25	10.328	6.135	378.8	24.119	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-08V	22	12.867	7.644	378.8	34.207	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-09E	4	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-10P	54	5.894	3.501	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-11T	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-11T (D/S)	15	5.526	3.282	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-12P	65	3.684	2.188	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-13E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-14P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-15E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-16P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B.17E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-18P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-19E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-20P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-21E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-22P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-23E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-24P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-25E	2	6.815	4.048	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-26P	52	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2B-27R	18	5.157	3.064	378.8	20.099	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.2B-27R (D/S)	18	3.231	1.919	378.8	8.564	0.0	30.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.3 BFP DISCHARGE HDR***									***Sorted By: Flow Order***	
FW-01.3-01T (BR/SE)	12	6.272	3.726	378.8	20.148	0.0	20.000	6.855	0.000	'61.01'	ARD
FW-01.3-01T	12	4.463	2.651	378.8	8.709	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-01T (D/S)	12	6.575	3.906	378.8	17.419	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-02P	62	3.206	1.904	378.8	17.409	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-03E	4	6.010	3.570	378.8	17.780	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-04E	4	6.080	3.612	378.8	18.111	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-05P	54	5.077	3.016	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-06E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-07P	52	3.967	2.356	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-08E	4	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-09P	54	5.077	3.016	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-10E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-11P	52	3.967	2.356	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-12E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-13P	52	3.967	2.356	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-14E	2	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-15E	4	5.871	3.487	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-16P	54	5.077	3.016	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-17T	15	4.760	2.828	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-17T (D/S)	15	4.760	2.828	378.8	17.128	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.3-18P	65	3.199	1.900	378.8	17.350	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.4-01T	14	8.800	5.228	378.8	17.358	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.4-01T (D/S)	14	7.017	4.169	378.8	11.577	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.4-01T (BR/SE)	14	5.948	3.534	378.8	16.905	0.0	18.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.4 BFP DISCHARGE HDR***									***Sorted By: Flow Order***	
FW-01.4-02P	63	2.549	1.514	378.8	11.561	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.5-01T	14	7.039	4.182	378.8	11.635	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.5-01T (D/S)	14	4.390	2.653	378.8	5.809	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.5-01T (BR/SE)	14	5.945	3.531	378.8	16.888	0.0	18.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.6A BFP HDR to FWH 36A***									***Sorted By: Flow Order***	
FW-01.6A-01R	7	2.746	1.660	378.8	5.704	0.0	30.000	6.855	0.000	'61.01'	ARD
FW-01.6A-01R (D/S)	7	5.370	3.190	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-02P	57	4.242	2.520	378.8	16.863	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-03E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.6A BFP HDR to FWH 36A***									***Sorted By: Flow Order***	
FW-01.6A-04P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-05E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-06P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-07V	22	11.855	7.043	378.8	28.703	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-08E	4	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-09P	54	5.370	3.190	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-10E	3	5.873	3.489	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-11P	53	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6A-12N	30	6.712	3.987	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.6B BFP HDR to FWH 36B***									***Sorted By: Flow Order***	
FW-01.6B-02P	64	3.352	1.991	378.8	16.534	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-03E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-04P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-05V	22	11.855	7.043	378.8	28.703	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-06E	4	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-07P	54	5.370	3.190	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-08E	3	5.873	3.489	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6B-10N	30	6.712	3.987	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
===>Grouped by Line:	***FW-01.6C BFP HDR to FWH 36C***									***Sorted By: Flow Order***	
FW-01.6C-02P	64	3.356	1.994	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-03E	2	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-04P	52	4.195	2.492	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-05V	22	11.855	7.043	378.8	28.703	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-06E	4	6.209	3.688	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-08E	3	5.873	3.489	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD
FW-01.6C-10N	30	6.712	3.987	378.8	16.567	0.0	18.000	6.855	0.000	'61.01'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:48:24PM

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.1A BFP 31 to RCIRC T**					***Sorted By:Remaining Life***		
FW-01.1A-03R (D/S)	1.095	0.959	0.924	0.924	91,667	Yes	203,584
FW-01.2A-03T (BR/SE)	0.000	0.845	0.264	0.264	205,452	No	4,072
FW-01.2A-03T	1.039	0.910	0.797	0.797	303,386	No	203,584
FW-01.2A-03T (D/S)	1.039	0.910	0.797	0.797	303,386	No	203,584
FW-01.2A-01E	1.031	0.975	0.797	0.797	386,282	Yes	203,584
FW-01.2A-02P	1.043	0.968	0.797	0.797	429,105	Yes	203,584
FW-01.1A-02P	1.075	0.967	0.740	0.740	486,465	Yes	203,584
FW-01.1A-03R	1.095	1.041	0.740	0.740	619,767	Yes	203,584
FW-01.1A-01N	1.031	1.001	0.620	0.620	240,762,576	No	203,584
===>Grouped by Line: **FW-01.1B BFP 32 to RCIRC T**					***Sorted By:Remaining Life***		
FW-01.2B-05T (BR/SE)	0.000	0.845	0.264	0.264	205,452	No	4,072
FW-01.2B-01E	1.031	0.905	0.797	0.797	233,839	Yes	203,584
FW-01.2B-02P	1.031	0.894	0.797	0.797	243,669	No	203,584
FW-01.1B-03R (D/S)	1.095	1.027	0.924	0.924	269,980	Yes	203,584
FW-01.2B-05T	1.036	0.972	0.797	0.797	467,730	No	203,584
FW-01.1B-02P	1.176	0.981	0.740	0.740	507,123	No	203,584
FW-01.2B-05T (D/S)	1.036	0.987	0.797	0.797	507,734	No	203,584
FW-01.1B-03R	1.095	1.012	0.740	0.740	560,011	Yes	203,584
FW-01.2B-03E	1.251	1.038	0.797	0.797	567,053	Yes	203,584
FW-01.2B-04P	1.032	0.984	0.797	0.797	682,979	Yes	203,584
FW-01.1B-01N	1.031	0.990	0.620	0.620	233,715,664	No	203,584
===>Grouped by Line: **FW-01.2A BFP31 RCIRC T to HDR**					***Sorted By:Remaining Life***		
FW-01.2A-06V	1.031	0.732	0.988	0.988	-187,781	No	203,584
FW-01.2A-05V	1.031	0.791	0.988	0.988	-184,450	No	203,584
FW-01.2A-07E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-10E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-12E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-14E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-16E	1.031	0.873	0.797	0.797	164,428	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.2A BFP31 RCIRC T to HDR**					***Sorted By:Remaining Life***		
FW-01.2A-18E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-20E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-22E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-08T	1.031	0.903	0.797	0.797	282,761	No	203,584
FW-01.2A-08T (D/S)	0.000	0.903	0.797	0.797	282,761	No	203,584
FW-01.2A-11P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-13P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-15P_1	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-17P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-19P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-21P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-23P	1.053	0.946	0.797	0.797	475,780	Yes	203,584
FW-01.2A-09P	1.031	0.945	0.797	0.797	595,498	No	203,584
FW-01.2A-04P	1.039	0.998	0.797	0.797	804,204	Yes	203,584
FW-01.2A-15P_2	1.031	0.968	0.797	0.797	917,975	No	203,584
===>Grouped by Line: **FW-01.2B BFP32 RCIRC T to HDR**					***Sorted By:Remaining Life***		
FW-01.2B-08V	1.031	0.732	0.988	0.988	-187,781	No	203,584
FW-01.2B-07V	1.031	0.791	0.988	0.988	-184,450	No	203,584
FW-01.2B-09E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-13E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-15E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B.17E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-19E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-21E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-23E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-25E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-10P	1.031	0.894	0.797	0.797	243,669	No	203,584
FW-01.2B-11T	1.031	0.903	0.797	0.797	282,761	No	203,584
FW-01.2B-11T (D/S)	0.000	0.903	0.797	0.797	282,761	No	203,584
FW-01.2B-27R (D/S)	0.000	1.281	1.195	1.195	391,459	Yes	203,584
FW-01.2B-14P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-16P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-18P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-20P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-22P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-24P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-26P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-27R	0.000	0.982	0.797	0.797	528,998	Yes	203,584
FW-01.2B-12P	1.031	0.945	0.797	0.797	595,498	No	203,584
FW-01.2B-06P	1.057	0.971	0.797	0.797	695,783	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.3 BFP DISCHARGE HDR**					***Sorted By:Remaining Life***		
FW-01.4-01T	1.351	1.341	1.195	1.195	244,500	No	203,584
FW-01.3-01T	1.375	1.271	1.195	1.195	252,239	No	203,584
FW-01.3-12E	1.260	1.299	1.195	1.195	261,751	Yes	203,584
FW-01.4-01T (BR/SE)	1.019	0.838	0.717	0.717	300,395	Yes	203,584
FW-01.3-10E	1.260	1.315	1.195	1.195	301,799	Yes	203,584
FW-01.3-15E	1.260	1.316	1.195	1.195	304,735	Yes	203,584
FW-01.4-01T (D/S)	1.351	1.343	1.195	1.195	310,931	No	203,584
FW-01.3-16P	1.260	1.306	1.195	1.195	321,237	Yes	203,584
FW-01.3-01T (D/S)	1.375	1.345	1.195	1.195	335,967	Yes	203,584
FW-01.3-01T (BR/SE)	1.042	0.951	0.797	0.797	362,096	Yes	203,584
FW-01.3-06E	1.260	1.352	1.195	1.195	395,070	Yes	203,584
FW-01.3-03E	1.514	1.358	1.195	1.195	400,232	Yes	203,584
FW-01.3-17T (D/S)	1.260	1.329	1.195	1.195	415,002	Yes	203,584
FW-01.3-14E	1.260	1.362	1.195	1.195	418,791	Yes	203,584
FW-01.3-17T	1.260	1.335	1.195	1.195	433,590	Yes	203,584
FW-01.3-08E	1.260	1.375	1.195	1.195	452,843	Yes	203,584
FW-01.3-04E	1.638	1.388	1.195	1.195	468,169	Yes	203,584
FW-01.3-09P	1.260	1.358	1.195	1.195	473,976	Yes	203,584
FW-01.3-05P	1.260	1.359	1.195	1.195	476,881	Yes	203,584
FW-01.3-07P	1.260	1.338	1.195	1.195	531,849	Yes	203,584
FW-01.3-11P	1.260	1.342	1.195	1.195	544,803	No	203,584
FW-01.3-13P	1.260	1.362	1.195	1.195	621,002	No	203,584
FW-01.3-18P	1.348	1.340	1.195	1.195	669,465	Yes	203,584
FW-01.3-02P	1.371	1.361	1.195	1.195	763,229	Yes	203,584
===>Grouped by Line: **FW-01.4 BFP DISCHARGE HDR**					***Sorted By:Remaining Life***		
FW-01.5-01T	1.385	1.336	1.195	1.195	295,240	Yes	203,584
FW-01.5-01T (BR/SE)	1.015	0.842	0.717	0.717	310,518	Yes	203,584
FW-01.5-01T (D/S)	1.385	1.346	1.195	1.195	498,167	Yes	203,584
FW-01.4-02P	1.341	1.282	1.195	1.195	502,062	No	203,584
===>Grouped by Line: **FW-01.6A BFP HDR to FWH 36A**					***Sorted By:Remaining Life***		
FW-01.6A-07V	0.938	0.662	0.889	0.889	-184,646	No	203,584
FW-01.6A-03E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6A-05E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6A-08E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6A-10E	0.938	0.802	0.717	0.717	212,231	No	203,584
FW-01.6A-09P	0.938	0.813	0.717	0.717	264,257	No	203,584
FW-01.6A-04P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6A-06P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6A-11P	0.938	0.841	0.717	0.717	434,209	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.6A BFP HDR to FWH 36A**					***Sorted By:Remaining Life***		
FW-01.6A-02P	1.009	0.875	0.717	0.717	549,582	Yes	203,584
FW-01.6A-01R	0.000	1.302	1.195	1.195	564,806	No	203,584
FW-01.6A-01R (D/S)	0.000	1.433	0.717	0.717	1,966,249	No	203,584
FW-01.6A-12N	0.938	2.603	0.717	0.717	4,142,922	Yes	203,584
===>Grouped by Line: **FW-01.6B BFP HDR to FWH 36B**					***Sorted By:Remaining Life***		
FW-01.6B-05V	0.938	0.662	0.889	0.889	-184,646	No	203,584
FW-01.6B-03E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6B-07P	0.938	0.829	0.717	0.717	308,500	Yes	203,584
FW-01.6B-04P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6B-08E	0.938	0.960	0.717	0.717	610,412	Yes	203,584
FW-01.6B-02P	0.930	0.877	0.717	0.717	703,499	Yes	203,584
FW-01.6B-06E	0.938	1.053	0.717	0.717	797,154	Yes	203,584
FW-01.6B-10N	0.938	2.711	0.717	0.717	4,381,553	Yes	203,584
===>Grouped by Line: **FW-01.6C BFP HDR to FWH 36C**					***Sorted By:Remaining Life***		
FW-01.6C-05V	0.938	0.662	0.889	0.889	-184,646	No	203,584
FW-01.6C-03E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6C-06E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6C-08E	0.938	0.802	0.717	0.717	212,231	No	203,584
FW-01.6C-04P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6C-02P	0.938	0.880	0.717	0.717	716,895	Yes	203,584
FW-01.6C-10N	0.938	2.776	0.717	0.717	4,522,986	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:48:24PM

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.1A BFP 31 to RCIRC T**					***Sorted By:Flow Order***		
FW-01.1A-01N	1.031	1.001	0.620	0.620	240,762,576	No	203,584
FW-01.1A-02P	1.075	0.967	0.740	0.740	486,465	Yes	203,584
FW-01.1A-03R	1.095	1.041	0.740	0.740	619,767	Yes	203,584
FW-01.1A-03R (D/S)	1.095	0.959	0.924	0.924	91,667	Yes	203,584
FW-01.2A-01E	1.031	0.975	0.797	0.797	386,282	Yes	203,584
FW-01.2A-02P	1.043	0.968	0.797	0.797	429,105	Yes	203,584
FW-01.2A-03T	1.039	0.910	0.797	0.797	303,386	No	203,584
FW-01.2A-03T (D/S)	1.039	0.910	0.797	0.797	303,386	No	203,584
FW-01.2A-03T (BR/SE)	0.000	0.845	0.264	0.264	205,452	No	4,072
===>Grouped by Line: **FW-01.1B BFP 32 to RCIRC T**					***Sorted By:Flow Order***		
FW-01.1B-01N	1.031	0.990	0.620	0.620	233,715,664	No	203,584
FW-01.1B-02P	1.176	0.981	0.740	0.740	507,123	No	203,584
FW-01.1B-03R	1.095	1.012	0.740	0.740	560,011	Yes	203,584
FW-01.1B-03R (D/S)	1.095	1.027	0.924	0.924	269,980	Yes	203,584
FW-01.2B-01E	1.031	0.905	0.797	0.797	233,839	Yes	203,584
FW-01.2B-02P	1.031	0.894	0.797	0.797	243,669	No	203,584
FW-01.2B-03E	1.251	1.038	0.797	0.797	567,053	Yes	203,584
FW-01.2B-04P	1.032	0.984	0.797	0.797	682,979	Yes	203,584
FW-01.2B-05T	1.036	0.972	0.797	0.797	467,730	No	203,584
FW-01.2B-05T (D/S)	1.036	0.987	0.797	0.797	507,734	No	203,584
FW-01.2B-05T (BR/SE)	0.000	0.845	0.264	0.264	205,452	No	4,072
===>Grouped by Line: **FW-01.2A BFP31 RCIRC T to HDR**					***Sorted By:Flow Order***		
FW-01.2A-04P	1.039	0.998	0.797	0.797	804,204	Yes	203,584
FW-01.2A-05V	1.031	0.791	0.988	0.988	-184,450	No	203,584
FW-01.2A-06V	1.031	0.732	0.988	0.988	-187,781	No	203,584
FW-01.2A-07E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-08T	1.031	0.903	0.797	0.797	282,761	No	203,584
FW-01.2A-08T (D/S)	0.000	0.903	0.797	0.797	282,761	No	203,584
FW-01.2A-09P	1.031	0.945	0.797	0.797	595,498	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW-01.2A BFP31 RCIRC T to HDR					Sorted By:Flow Order		
FW-01.2A-10E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-11P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-12E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-13P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-14E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-15P_1	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-15P_2	1.031	0.968	0.797	0.797	917,975	No	203,584
FW-01.2A-16E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-17P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-18E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-19P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-20E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-21P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2A-22E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2A-23P	1.053	0.946	0.797	0.797	475,780	Yes	203,584
===>Grouped by Line: FW-01.2B BFP32 RCIRC T to HDR					Sorted By:Flow Order		
FW-01.2B-06P	1.057	0.971	0.797	0.797	695,783	No	203,584
FW-01.2B-07V	1.031	0.791	0.988	0.988	-184,450	No	203,584
FW-01.2B-08V	1.031	0.732	0.988	0.988	-187,781	No	203,584
FW-01.2B-09E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-10P	1.031	0.894	0.797	0.797	243,669	No	203,584
FW-01.2B-11T	1.031	0.903	0.797	0.797	282,761	No	203,584
FW-01.2B-11T (D/S)	0.000	0.903	0.797	0.797	282,761	No	203,584
FW-01.2B-12P	1.031	0.945	0.797	0.797	595,498	No	203,584
FW-01.2B-13E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-14P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-15E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-16P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B.17E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-18P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-19E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-20P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-21E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-22P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-23E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-24P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-25E	1.031	0.873	0.797	0.797	164,428	No	203,584
FW-01.2B-26P	1.031	0.924	0.797	0.797	407,856	No	203,584
FW-01.2B-27R	0.000	0.982	0.797	0.797	528,998	Yes	203,584
FW-01.2B-27R (D/S)	0.000	1.281	1.195	1.195	391,459	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW-01.3 BFP DISCHARGE HDR					Sorted By:Flow Order		
FW-01.3-01T (BR/SE)	1.042	0.951	0.797	0.797	362,096	Yes	203,584
FW-01.3-01T	1.375	1.271	1.195	1.195	252,239	No	203,584
FW-01.3-01T (D/S)	1.375	1.345	1.195	1.195	335,967	Yes	203,584
FW-01.3-02P	1.371	1.361	1.195	1.195	763,229	Yes	203,584
FW-01.3-03E	1.514	1.358	1.195	1.195	400,232	Yes	203,584
FW-01.3-04E	1.638	1.388	1.195	1.195	468,169	Yes	203,584
FW-01.3-05P	1.260	1.359	1.195	1.195	476,881	Yes	203,584
FW-01.3-06E	1.260	1.352	1.195	1.195	395,070	Yes	203,584
FW-01.3-07P	1.260	1.338	1.195	1.195	531,849	Yes	203,584
FW-01.3-08E	1.260	1.375	1.195	1.195	452,843	Yes	203,584
FW-01.3-09P	1.260	1.358	1.195	1.195	473,976	Yes	203,584
FW-01.3-10E	1.260	1.315	1.195	1.195	301,799	Yes	203,584
FW-01.3-11P	1.260	1.342	1.195	1.195	544,803	No	203,584
FW-01.3-12E	1.260	1.299	1.195	1.195	261,751	Yes	203,584
FW-01.3-13P	1.260	1.362	1.195	1.195	621,002	No	203,584
FW-01.3-14E	1.260	1.362	1.195	1.195	418,791	Yes	203,584
FW-01.3-15E	1.260	1.316	1.195	1.195	304,735	Yes	203,584
FW-01.3-16P	1.260	1.306	1.195	1.195	321,237	Yes	203,584
FW-01.3-17T	1.260	1.335	1.195	1.195	433,590	Yes	203,584
FW-01.3-17T (D/S)	1.260	1.329	1.195	1.195	415,002	Yes	203,584
FW-01.3-18P	1.348	1.340	1.195	1.195	669,465	Yes	203,584
FW-01.4-01T	1.351	1.341	1.195	1.195	244,500	No	203,584
FW-01.4-01T (D/S)	1.351	1.343	1.195	1.195	310,931	No	203,584
FW-01.4-01T (BR/SE)	1.019	0.838	0.717	0.717	300,395	Yes	203,584
===>Grouped by Line: FW-01.4 BFP DISCHARGE HDR					Sorted By:Flow Order		
FW-01.4-02P	1.341	1.282	1.195	1.195	502,062	No	203,584
FW-01.5-01T	1.385	1.336	1.195	1.195	295,240	Yes	203,584
FW-01.5-01T (D/S)	1.385	1.346	1.195	1.195	498,167	Yes	203,584
FW-01.5-01T (BR/SE)	1.015	0.842	0.717	0.717	310,518	Yes	203,584
===>Grouped by Line: FW-01.6A BFP HDR to FWH 36A					Sorted By:Flow Order		
FW-01.6A-01R	0.000	1.302	1.195	1.195	564,806	No	203,584
FW-01.6A-01R (D/S)	0.000	1.433	0.717	0.717	1,966,249	No	203,584
FW-01.6A-02P	1.009	0.875	0.717	0.717	549,582	Yes	203,584
FW-01.6A-03E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6A-04P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6A-05E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6A-06P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6A-07V	0.938	0.662	0.889	0.889	-184,646	No	203,584
FW-01.6A-08E	0.938	0.794	0.717	0.717	182,234	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.6A BFP HDR to FWH 36A**					***Sorted By:Flow Order***		
FW-01.6A-09P	0.938	0.813	0.717	0.717	264,257	No	203,584
FW-01.6A-10E	0.938	0.802	0.717	0.717	212,231	No	203,584
FW-01.6A-11P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6A-12N	0.938	2.603	0.717	0.717	4,142,922	Yes	203,584
===>Grouped by Line: **FW-01.6B BFP HDR to FWH 36B**					***Sorted By:Flow Order***		
FW-01.6B-02P	0.930	0.877	0.717	0.717	703,499	Yes	203,584
FW-01.6B-03E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6B-04P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6B-05V	0.938	0.662	0.889	0.889	-184,646	No	203,584
FW-01.6B-06E	0.938	1.053	0.717	0.717	797,154	Yes	203,584
FW-01.6B-07P	0.938	0.829	0.717	0.717	308,500	Yes	203,584
FW-01.6B-08E	0.938	0.960	0.717	0.717	610,412	Yes	203,584
FW-01.6B-10N	0.938	2.711	0.717	0.717	4,381,553	Yes	203,584
===>Grouped by Line: **FW-01.6C BFP HDR to FWH 36C**					***Sorted By:Flow Order***		
FW-01.6C-02P	0.938	0.880	0.717	0.717	716,895	Yes	203,584
FW-01.6C-03E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6C-04P	0.938	0.841	0.717	0.717	434,209	No	203,584
FW-01.6C-05V	0.938	0.662	0.889	0.889	-184,646	No	203,584
FW-01.6C-06E	0.938	0.794	0.717	0.717	182,234	No	203,584
FW-01.6C-08E	0.938	0.802	0.717	0.717	212,231	No	203,584
FW-01.6C-10N	0.938	2.776	0.717	0.717	4,522,986	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:48:47PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 0.020

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***								***Sorted By: Average Wear Rate***		
FW-05.1A-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-07P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-09P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-22B	2	0.412	0.198	378.8	1,500.508	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-08B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-10B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-12B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-14B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-16B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-18B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-20B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-04E	3	0.357	0.172	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-06E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-24R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-23P	52	0.265	0.128	378.8	1,388.613	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-21P	52	0.260	0.125	378.8	1,345.944	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-05P	53	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-09P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-11P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-13P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-15P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-17P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-19P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.1A-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-01E	4	0.227	0.109	378.8	581.324	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-07P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***								***Sorted By: Average Wear Rate***		
FW-04.1A-03E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-02P	67	0.210	0.101	378.8	1,361.711	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.1A-09P	54	0.191	0.092	378.8	553.754	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-02P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-24R (D/S)	18	0.176	0.084	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.2A-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD
FW-04.1A-04P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-02P	58	0.130	0.063	378.8	549.199	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***								***Sorted By: Average Wear Rate***		
FW-05.1B-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-08P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-10P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-09B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-11B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-13B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-15B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-17B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-19B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-21B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-05E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-07E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-23R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-22P	52	0.264	0.127	378.8	1,374.167	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-04P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-10P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-12P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-14P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***								***Sorted By: Average Wear Rate***		
FW-04.2B-16P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-18P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-20P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.1B-03E	4	0.244	0.117	378.8	650.542	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-01E	4	0.230	0.111	378.8	593.847	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-06P	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-08P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.1B-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-02P	67	0.204	0.098	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.1B-02P	54	0.192	0.092	378.8	561.160	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-04P_1	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-09P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-23R (D/S)	18	0.185	0.089	378.8	585.288	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-05.1B-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.2B-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD
FW-04.1B-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-02P	58	0.129	0.062	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:48:47PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 0.020

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***									***Sorted By: Flow Order***	
FW-04.1A-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-01E	4	0.227	0.109	378.8	581.324	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-02P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-03E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-04P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1A-09P	54	0.191	0.092	378.8	553.754	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2A-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-02P	67	0.210	0.101	378.8	1,361.711	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-04E	3	0.357	0.172	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-05P	53	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-06E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-07P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-07P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-08B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-09P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-09P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-10B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-11P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-12B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-13P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-14B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***									***Sorted By: Flow Order***	
FW-04.2A-15P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-16B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-17P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-18B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-19P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-20B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-21P	52	0.260	0.125	378.8	1,345.944	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-22B	2	0.412	0.198	378.8	1,500.508	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-23P	52	0.265	0.128	378.8	1,388.613	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-24R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2A-24R (D/S)	18	0.176	0.084	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-02P	58	0.130	0.063	378.8	549.199	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1A-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD
FW-05.2A-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***									***Sorted By: Flow Order***	
FW-04.1B-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-01E	4	0.230	0.111	378.8	593.847	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-02P	54	0.192	0.092	378.8	561.160	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-03E	4	0.244	0.117	378.8	650.542	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-04P_1	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.1B-09P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-04.2B-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-02P	67	0.204	0.098	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-04P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-05E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-06P	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-07E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***									***Sorted By: Flow Order***	
FW-04.2B-08P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-08P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-09B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-10P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-10P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-11B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-12P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-13B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-14P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-15B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-16P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-17B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-18P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-19B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-20P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-21B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-22P	52	0.264	0.127	378.8	1,374.167	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-23R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	'98.41'	ARD
FW-04.2B-23R (D/S)	18	0.185	0.089	378.8	585.288	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-02P	58	0.129	0.062	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	'98.41'	ARD
FW-05.1B-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD
FW-05.2B-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	'98.41'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:48:47PM

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :0.020

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Remaining Life***		
FW-04.2A-07P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2A-09P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-05.1A-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1A-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-04.2A-22B	0.782	0.610	0.208	0.208	17,753,386	No	4,072
FW-04.2A-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-08B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-10B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-12B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-14B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-16B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-18B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-20B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-04E	0.674	0.674	0.176	0.176	25,402,160	No	4,072
FW-04.2A-06E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2A-24R	0.000	0.674	0.176	0.176	31,754,816	No	4,072
FW-04.2A-05P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-09P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-11P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-13P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-15P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-17P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-19P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-21P	0.700	0.700	0.208	0.208	34,430,984	No	4,072
FW-04.2A-23P	0.724	0.724	0.208	0.208	35,408,852	No	4,072
FW-04.2A-07P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.1A-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1A-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.2A-02P	0.709	0.709	0.208	0.208	43,508,388	No	4,072
FW-04.2A-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.1A-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Remaining Life***		
FW-04.1A-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-03E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-02P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1A-01E	0.954	0.954	0.260	0.260	55,684,788	No	4,072
FW-04.1A-09P	0.896	0.896	0.306	0.306	56,378,512	No	4,072
FW-05.2A-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072
FW-05.1A-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-04.2A-24R (D/S)	0.000	0.864	0.260	0.260	62,661,624	No	4,072
FW-04.1A-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1A-04P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-05.1A-02P	0.886	0.811	0.306	0.306	70,561,824	No	4,072
FW-04.2A-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-05.1A-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-04.1A-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072
===>Grouped by Line: **FW-04.1B BFP 32 RECIRC**					***Sorted By:Remaining Life***		
FW-04.2B-08P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2B-10P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-05.1B-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1B-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-04.2B-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-09B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-11B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-13B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-15B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-17B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-19B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-21B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-05E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-07E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-04P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-10P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-12P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-14P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-16P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-18P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-20P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-22P	0.716	0.716	0.208	0.208	35,089,844	No	4,072
FW-04.2B-06P	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2B-08P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1B BFP 32 RECIRC**					***Sorted By:Remaining Life***		
FW-04.2B-23R	0.000	0.778	0.176	0.176	38,397,696	No	4,072
FW-04.1B-01E	0.979	0.753	0.260	0.260	39,042,808	No	4,072
FW-04.1B-03E	1.083	0.800	0.260	0.260	40,379,756	No	4,072
FW-04.2B-02P	0.674	0.674	0.208	0.208	41,628,108	No	4,072
FW-04.1B-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1B-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.2B-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.1B-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-04P_1	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1B-09P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-05.2B-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072
FW-04.2B-23R (D/S)	0.962	0.839	0.260	0.260	57,065,636	No	4,072
FW-04.1B-02P	0.912	0.912	0.306	0.306	57,426,280	No	4,072
FW-05.1B-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-04.1B-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.2B-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-05.1B-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-05.1B-02P	0.864	0.864	0.306	0.306	78,853,112	No	4,072
FW-04.1B-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:48:47PM

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 0.020

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Flow Order***		
FW-04.1A-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072
FW-04.1A-01E	0.954	0.954	0.260	0.260	55,684,788	No	4,072
FW-04.1A-02P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1A-03E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-04P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1A-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1A-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1A-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1A-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-09P	0.896	0.896	0.306	0.306	56,378,512	No	4,072
FW-04.2A-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-04.2A-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.2A-02P	0.709	0.709	0.208	0.208	43,508,388	No	4,072
FW-04.2A-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-04E	0.674	0.674	0.176	0.176	25,402,160	No	4,072
FW-04.2A-05P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-06E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2A-07P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2A-07P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2A-08B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-09P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-09P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2A-10B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-11P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-12B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-13P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-14B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-15P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-16B	0.674	0.674	0.208	0.208	22,497,790	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW-04.1A BFP 31 RECIRC					Sorted By:Flow Order		
FW-04.2A-17P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-18B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-19P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-20B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-21P	0.700	0.700	0.208	0.208	34,430,984	No	4,072
FW-04.2A-22B	0.782	0.610	0.208	0.208	17,753,386	No	4,072
FW-04.2A-23P	0.724	0.724	0.208	0.208	35,408,852	No	4,072
FW-04.2A-24R	0.000	0.674	0.176	0.176	31,754,816	No	4,072
FW-04.2A-24R (D/S)	0.000	0.864	0.260	0.260	62,661,624	No	4,072
FW-05.1A-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1A-02P	0.886	0.811	0.306	0.306	70,561,824	No	4,072
FW-05.1A-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1A-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-05.1A-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-05.2A-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072
===>Grouped by Line: FW-04.1B BFP 32 RECIRC					Sorted By:Flow Order		
FW-04.1B-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072
FW-04.1B-01E	0.979	0.753	0.260	0.260	39,042,808	No	4,072
FW-04.1B-02P	0.912	0.912	0.306	0.306	57,426,280	No	4,072
FW-04.1B-03E	1.083	0.800	0.260	0.260	40,379,756	No	4,072
FW-04.1B-04P_1	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1B-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1B-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1B-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1B-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-09P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.2B-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-04.2B-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.2B-02P	0.674	0.674	0.208	0.208	41,628,108	No	4,072
FW-04.2B-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-04P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-05E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-06P	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2B-07E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-08P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2B-08P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2B-09B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-10P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1B BFP 32 RECIRC**					***Sorted By:Flow Order***		
FW-04.2B-10P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2B-11B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-12P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-13B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-14P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-15B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-16P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-17B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-18P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-19B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-20P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-21B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-22P	0.716	0.716	0.208	0.208	35,089,844	No	4,072
FW-04.2B-23R	0.000	0.778	0.176	0.176	38,397,696	No	4,072
FW-04.2B-23R (D/S)	0.962	0.839	0.260	0.260	57,065,636	No	4,072
FW-05.1B-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1B-02P	0.864	0.864	0.306	0.306	78,853,112	No	4,072
FW-05.1B-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1B-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-05.1B-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-05.2B-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:49:42PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.3 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.1B-11T (BR/SE)	12	2.185	1.355	430.4	17.403	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-11T (D/S)	12	2.001	1.241	430.4	12.137	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.1B-11T	12	1.267	0.797	430.4	6.059	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.3-01P	62	0.974	0.604	430.4	12.105	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.4-19T	14	3.356	2.081	430.4	18.116	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-19T (D/S)	14	2.858	1.772	430.4	13.587	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.1C-11T (D/S)	12	2.504	1.552	430.4	18.135	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-04E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-05E	4	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-07E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-09E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-11E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-13E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-15E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-17E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.1C-11T (BR/SE)	12	2.185	1.355	430.4	17.408	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-11T	12	1.996	1.238	430.4	12.096	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-06P	54	1.933	1.199	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-19T (BR/SE)	14	1.916	1.188	430.4	13.066	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.4-02T (D/S)	15	1.813	1.124	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-02T	15	1.813	1.124	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-18P	52	1.525	0.946	430.4	18.108	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-08P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-10P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-12P_1	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-14P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-16P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-03P	65	1.208	0.749	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.4-12P_2	9	0.859	0.540	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.5 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.5-04T	14	2.858	1.772	430.4	13.587	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-04T (D/S)	14	2.278	1.413	430.4	9.058	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-04T (BR/SE)	14	1.925	1.193	430.4	13.157	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.5-01T (D/S)	15	1.559	0.967	430.4	13.595	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-01T	15	1.559	0.967	430.4	13.595	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-03T (D/S)	15	1.543	0.957	430.4	13.374	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-03T	15	1.543	0.957	430.4	13.374	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-06P	65	1.039	0.644	430.4	13.581	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-02P	65	1.029	0.638	430.4	13.374	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.6 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.6-03T	14	2.277	1.412	430.4	9.049	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.6-03T (BR/SE)	14	1.926	1.194	430.4	13.170	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.6-03T (D/S)	14	1.321	0.832	430.4	4.524	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.6-01P	63	0.828	0.513	430.4	9.049	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***								***Sorted By: Average Wear Rate***		
FW-02.8A-05V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8A-19V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-04V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-18V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-12F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-26R	18	2.449	1.518	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8A-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-10E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-06E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-16E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-22E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-23E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-08B	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-05B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-14E	1	1.796	1.114	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-20P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-11P_1	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***								***Sorted By: Average Wear Rate***		
FW-02.8A-07P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-25R (D/S)	7	1.735	1.735	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8A-24P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-03T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-08T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-03T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-26R (D/S)	18	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-08T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-21T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-21T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-17P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-06P_1	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-15P	51	1.198	0.743	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-25R	7	1.181	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-01P	64	1.094	0.678	430.4	13.046	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-09P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-11P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-06P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-13P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-09N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***								***Sorted By: Average Wear Rate***		
FW-02.8B-06V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8B-20V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-05V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-19V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-25R (D/S)	7	3.128	1.939	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8B-13F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-11E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-07E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-17E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-23E	4	2.010	1.246	430.4	12.904	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-08E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-25R	7	1.905	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-05B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***								***Sorted By: Average Wear Rate***		
FW-03.1B-11E	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-15E	1	1.796	1.114	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-21P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-12P_1	54	1.758	1.090	430.4	13.144	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-10E	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-08P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-24P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-04T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-09T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-04T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-09T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-22T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-22T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-26R	18	1.518	1.518	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8B-03P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-18P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-06P	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-09P	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-16P	51	1.198	0.743	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-10P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-01P	64	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-26R (D/S)	18	1.013	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-12P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-14P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-12N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***								***Sorted By: Average Wear Rate***		
FW-02.8C-06V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8C-19V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-05V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-18V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-13F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-24R (D/S)	7	2.798	1.735	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8C-25R	18	2.449	1.518	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8C-11E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***								***Sorted By: Average Wear Rate***		
FW-02.8C-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-07E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-16E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-22E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-05B	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-10E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-24R	7	1.905	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-15E	1	1.796	1.114	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-20P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-12E	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-14E	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-12P_1	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-08P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-23P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-11P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-09T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-04T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-25R (D/S)	18	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-04T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-09T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-21T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-21T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-03P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-17P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-06P_1	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-16P_1	51	1.163	0.721	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-09P	51	1.163	0.721	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-13P	51	1.163	0.721	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-01P	64	1.090	0.676	430.4	12.975	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-10P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-12P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-16P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-06P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***								***Sorted By: Average Wear Rate***		
FW-02.8C-14P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-15N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***								***Sorted By: Average Wear Rate***		
FW-02.8D-06V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8D-18V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-05V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-17V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-24R (D/S)	7	3.128	1.939	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8D-13F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-25R	18	2.737	1.697	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8D-11E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-07E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-15E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-21E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-22E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.7-04T (BR/SE)	14	1.928	1.195	430.4	13.194	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-24R	7	1.905	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-05B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-08B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-19P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-12P_1	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-08P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-23P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-09T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-04T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-25R (D/S)	18	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-04T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-09T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-20T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-20T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-03P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-16P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.7-04T	14	1.327	0.835	430.4	4.547	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-03.1D-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***								***Sorted By: Average Wear Rate***		
FW-03.1D-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-06P_1	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-09P	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-01P	64	1.093	0.678	430.4	13.033	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-10P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.6-02T (D/S)	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-02T (D/S)	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.6-02T	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-02T	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.8D-12P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-06P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-14P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.7-01P	63	0.481	0.303	430.4	4.532	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-03P	65	0.481	0.303	430.4	4.532	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-03.1D-10N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:49:42PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.3 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.1B-11T	12	1.267	0.797	430.4	6.059	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.1B-11T (BR/SE)	12	2.185	1.355	430.4	17.403	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1B-11T (D/S)	12	2.001	1.241	430.4	12.137	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.3-01P	62	0.974	0.604	430.4	12.105	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.1C-11T (BR/SE)	12	2.185	1.355	430.4	17.408	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.1C-11T	12	1.996	1.238	430.4	12.096	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.1C-11T (D/S)	12	2.504	1.552	430.4	18.135	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-02T	15	1.813	1.124	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-02T (D/S)	15	1.813	1.124	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-03P	65	1.208	0.749	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-04E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-05E	4	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-06P	54	1.933	1.199	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-07E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-08P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-09E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-10P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-11E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-12P_1	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-12P_2	9	0.859	0.540	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-13E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-14P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-15E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-16P	52	1.510	0.937	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-17E	2	2.236	1.386	430.4	17.833	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-18P	52	1.525	0.946	430.4	18.108	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-19T	14	3.356	2.081	430.4	18.116	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.4-19T (BR/SE)	14	1.916	1.188	430.4	13.066	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.4-19T (D/S)	14	2.858	1.772	430.4	13.587	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.5 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.5-01T (D/S)	15	1.559	0.967	430.4	13.595	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-02P	65	1.029	0.638	430.4	13.374	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-03T	15	1.543	0.957	430.4	13.374	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-03T (D/S)	15	1.543	0.957	430.4	13.374	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-06P	65	1.039	0.644	430.4	13.581	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-04T	14	2.858	1.772	430.4	13.587	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-04T (D/S)	14	2.278	1.413	430.4	9.058	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.5-04T (BR/SE)	14	1.925	1.193	430.4	13.157	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.5-01T	15	1.559	0.967	430.4	13.595	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.6 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.6-01P	63	0.828	0.513	430.4	9.049	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.6-03T	14	2.277	1.412	430.4	9.049	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.6-03T (BR/SE)	14	1.926	1.194	430.4	13.170	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.6-03T (D/S)	14	1.321	0.832	430.4	4.524	0.0	30.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***									***Sorted By: Flow Order***	
FW-02.8A-01P	64	1.094	0.678	430.4	13.046	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-03T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-03T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-04V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-25R	7	1.181	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-25R (D/S)	7	1.735	1.735	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8A-05V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8A-26R	18	2.449	1.518	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8A-26R (D/S)	18	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-06E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-07P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-08T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-08T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-09P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-10E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-11P_1	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-11P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-12F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-13P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***									***Sorted By: Flow Order***	
FW-02.8A-14E	1	1.796	1.114	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-15P	51	1.198	0.743	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-16E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-17P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-18V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-19V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-20P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-21T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-21T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-22E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-23E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8A-24P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-05B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-06P_1	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-06P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-08B	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1A-09N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***									***Sorted By: Flow Order***	
FW-02.8B-01P	64	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-03P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-04T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-04T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-05V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-25R	7	1.905	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-25R (D/S)	7	3.128	1.939	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8B-06V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8B-26R	18	1.518	1.518	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8B-26R (D/S)	18	1.013	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-07E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-08P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-09T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-09T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***									***Sorted By: Flow Order***	
FW-02.8B-10P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-11E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-12P_1	54	1.758	1.090	430.4	13.144	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-12P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-13F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-14P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-15E	1	1.796	1.114	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-16P	51	1.198	0.743	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-17E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-18P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-19V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-20V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-21P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-22T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-22T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-23E	4	2.010	1.246	430.4	12.904	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8B-24P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-05B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-06P	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-08E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-09P	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-10E	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-11E	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1B-12N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***									***Sorted By: Flow Order***	
FW-02.8C-01P	64	1.090	0.676	430.4	12.975	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-03P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-04T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-04T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-05V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-24R	7	1.905	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-24R (D/S)	7	2.798	1.735	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***									***Sorted By: Flow Order***	
FW-02.8C-06V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8C-25R	18	2.449	1.518	430.4	27.512	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8C-25R (D/S)	18	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-07E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-08P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-09T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-09T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-10P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-11E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-12P_1	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-12P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-13F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-14P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-15E	1	1.796	1.114	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-16E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-17P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-18V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-19V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-20P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-21T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-21T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-22E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8C-23P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-16P_1	51	1.163	0.721	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-16P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-05B	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-06P_1	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-06P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-09P	51	1.163	0.721	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-10E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-11P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-12E	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-13P	51	1.163	0.721	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***									***Sorted By: Flow Order***	
FW-03.1C-14E	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1C-15N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***									***Sorted By: Flow Order***	
FW-02.6-02T (D/S)	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-01P	63	0.481	0.303	430.4	4.532	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-02T	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-02T (D/S)	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-03P	65	0.481	0.303	430.4	4.532	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-04T	14	1.327	0.835	430.4	4.547	0.0	30.000	6.621	0.000	'61.01'	HBD
FW-02.7-04T (BR/SE)	14	1.928	1.195	430.4	13.194	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-01P	64	1.093	0.678	430.4	13.033	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-02E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-03P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-04T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-04T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-05V	22	3.846	2.385	430.4	22.434	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-24R	7	1.905	1.181	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-24R (D/S)	7	3.128	1.939	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8D-06V	24	4.887	3.030	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8D-25R	18	2.737	1.697	430.4	32.833	0.0	12.750	6.621	0.000	'61.01'	HBD
FW-02.8D-25R (D/S)	18	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-07E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-08P	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-09T	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-09T (D/S)	15	1.633	1.013	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-10P	65	1.089	0.675	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-11E	4	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-12P_1	54	1.742	1.080	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-12P_2	9	0.703	0.442	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-13F	6	3.111	1.929	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-14P	56	0.622	0.386	430.4	16.012	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-15E	2	2.014	1.249	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-16P	52	1.361	0.844	430.4	12.949	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-17V	25	3.569	2.213	430.4	19.921	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-18V	22	4.053	2.513	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-19P	58	1.783	1.106	430.4	24.384	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-20T	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-20T (D/S)	15	1.586	0.984	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***									***Sorted By: Flow Order***	
FW-02.8D-21E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-22E	4	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.8D-23P	54	1.692	1.049	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-01P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-02E	2	1.957	1.213	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-03P	52	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-04B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-05B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-06P_1	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-06P_2	9	0.673	0.424	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-07B	1	1.745	1.082	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-08B	3	1.851	1.148	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-09P	53	1.322	0.820	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-03.1D-10N	30	0.031	0.019	430.4	12.366	0.0	18.000	6.621	0.000	'61.01'	HBD
FW-02.6-02T	15	0.711	0.447	430.4	4.458	0.0	30.000	6.621	0.000	'61.01'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:49:42PM

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.3 SG INLET HEADER**					***Sorted By:Remaining Life***		
FW-02.1B-11T (D/S)	1.398	1.355	1.195	1.195	1,133,651	No	203,584
FW-02.1B-11T (BR/SE)	0.974	0.911	0.717	0.717	1,256,773	Yes	203,584
FW-02.1B-11T	1.398	1.368	1.195	1.195	1,901,599	Yes	203,584
FW-02.3-01P	1.380	1.364	1.195	1.195	2,449,848	No	203,584
===>Grouped by Line: **FW-02.4 SG INLET HEADER**					***Sorted By:Remaining Life***		
FW-02.4-07E	1.260	1.208	1.195	1.195	82,727	No	203,584
FW-02.4-13E	1.260	1.208	1.195	1.195	82,727	No	203,584
FW-02.4-08P	1.260	1.225	1.195	1.195	280,027	No	203,584
FW-02.4-12P_1	1.260	1.225	1.195	1.195	280,027	No	203,584
FW-02.4-14P	1.260	1.225	1.195	1.195	280,027	No	203,584
FW-02.4-03P	1.260	1.232	1.195	1.195	432,113	No	203,584
FW-02.4-19T	1.368	1.342	1.195	1.195	619,054	No	203,584
FW-02.4-17E	1.260	1.297	1.195	1.195	645,576	Yes	203,584
FW-02.4-19T (D/S)	1.368	1.332	1.195	1.195	678,194	No	203,584
FW-02.1C-11T (D/S)	1.375	1.317	1.195	1.195	687,648	No	203,584
FW-02.4-12P_2	1.260	1.240	1.195	1.195	730,862	No	203,584
FW-02.4-15E	1.260	1.320	1.195	1.195	789,362	Yes	203,584
FW-02.4-09E	1.260	1.344	1.195	1.195	943,830	Yes	203,584
FW-02.1C-11T	1.375	1.329	1.195	1.195	945,750	No	203,584
FW-02.4-11E	1.260	1.352	1.195	1.195	990,554	Yes	203,584
FW-02.4-19T (BR/SE)	0.974	0.856	0.717	0.717	1,025,201	Yes	203,584
FW-02.4-02T	1.260	1.340	1.195	1.195	1,127,386	Yes	203,584
FW-02.4-05E	1.260	1.375	1.195	1.195	1,137,317	Yes	203,584
FW-02.4-02T (D/S)	0.000	1.352	1.195	1.195	1,220,912	Yes	203,584
FW-02.4-06P	1.260	1.370	1.195	1.195	1,280,731	Yes	203,584
FW-02.1C-11T (BR/SE)	0.975	0.924	0.717	0.717	1,339,764	Yes	203,584
FW-02.4-10P	1.260	1.343	1.195	1.195	1,386,320	Yes	203,584
FW-02.4-16P	1.260	1.345	1.195	1.195	1,404,748	No	203,584
FW-02.4-18P	1.365	1.357	1.195	1.195	1,497,467	Yes	203,584
FW-02.4-04E	1.260	1.453	1.195	1.195	1,630,224	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.5 SG INLET HEADER**					***Sorted By:Remaining Life***		
FW-02.5-03T (D/S)	0.000	1.224	1.195	1.195	267,083	No	203,584
FW-02.5-02P	1.260	1.236	1.195	1.195	564,782	No	203,584
FW-02.5-04T	1.368	1.348	1.195	1.195	756,820	No	203,584
FW-02.5-04T (D/S)	1.368	1.357	1.195	1.195	1,002,850	No	203,584
FW-02.5-03T	1.260	1.342	1.195	1.195	1,349,145	No	203,584
FW-02.5-01T	1.372	1.349	1.195	1.195	1,397,941	No	203,584
FW-02.5-01T (D/S)	1.372	1.356	1.195	1.195	1,461,361	No	203,584
FW-02.5-04T (BR/SE)	1.002	0.927	0.717	0.717	1,543,711	Yes	203,584
FW-02.5-06P	1.365	1.341	1.195	1.195	1,984,049	No	203,584
===>Grouped by Line: **FW-02.6 SG INLET HEADER**					***Sorted By:Remaining Life***		
FW-02.6-03T	1.361	1.359	1.195	1.195	1,019,553	No	203,584
FW-02.6-03T (BR/SE)	1.006	0.858	0.717	0.717	1,032,221	Yes	203,584
FW-02.6-03T (D/S)	1.361	1.341	1.195	1.195	1,542,510	Yes	203,584
FW-02.6-01P	1.361	1.342	1.195	1.195	2,505,119	No	203,584
===>Grouped by Line: **FW-02.8A SG HDR to SG 31**					***Sorted By:Remaining Life***		
FW-02.8A-04V	0.938	0.849	0.889	0.889	-133,388	No	203,584
FW-02.8A-26R	0.000	0.638	0.589	0.589	280,888	Yes	203,584
FW-02.8A-26R (D/S)	0.000	0.867	0.832	0.832	302,634	Yes	203,584
FW-02.8A-19V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8A-18V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8A-12F	0.938	0.866	0.717	0.717	675,415	No	203,584
FW-02.8A-25R	0.000	0.936	0.832	0.832	768,563	No	16,992
FW-02.8A-22E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8A-23E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1A-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8A-03T	0.938	0.856	0.717	0.717	1,199,114	Yes	203,584
FW-02.8A-10E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8A-16E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-03.1A-05B	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-02.8A-25R (D/S)	0.000	0.841	0.589	0.589	1,268,429	No	16,992
FW-02.8A-20P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8A-06E	0.938	0.903	0.717	0.717	1,303,806	Yes	203,584
FW-03.1A-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1A-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-02.8A-24P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-02.8A-14E	0.938	0.896	0.717	0.717	1,409,778	No	203,584
FW-02.8A-07P	0.938	0.895	0.717	0.717	1,444,545	Yes	203,584
FW-02.8A-11P_1	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8A-03T (D/S)	0.000	0.889	0.717	0.717	1,484,567	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8A SG HDR to SG 31**					***Sorted By:Remaining Life***		
FW-02.8A-21T	0.750	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8A-21T (D/S)	0.000	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8A-08T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8A-08T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8A-02E	0.938	0.947	0.717	0.717	1,612,403	Yes	203,584
FW-02.8A-05V	1.312	1.198	0.630	0.630	1,643,750	No	203,584
FW-03.1A-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1A-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1A-06P_1	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-02.8A-17P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8A-15P	0.938	0.910	0.717	0.717	2,278,824	No	203,584
FW-02.8A-09P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8A-01P	0.968	0.943	0.717	0.717	2,913,550	Yes	203,584
FW-03.1A-08B	0.750	0.978	0.544	0.544	3,127,315	Yes	203,584
FW-03.1A-06P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-02.8A-11P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8A-13P	0.938	0.904	0.717	0.717	4,252,358	Yes	203,584
FW-03.1A-09N	0.750	0.746	0.478	0.478	122,158,600	No	203,584
===>Grouped by Line: **FW-02.8B SG HDR to SG 32**					***Sorted By:Remaining Life***		
FW-02.8B-05V	0.938	0.849	0.889	0.889	-133,388	No	203,584
FW-02.8B-13F	0.938	0.801	0.717	0.717	379,912	Yes	203,584
FW-02.8B-20V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8B-25R	0.000	0.892	0.832	0.832	442,332	No	203,584
FW-02.8B-19V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8B-07E	0.938	0.826	0.717	0.717	761,705	Yes	203,584
FW-03.1B-08E	0.750	0.665	0.544	0.544	870,732	Yes	203,584
FW-02.8B-26R (D/S)	0.000	0.936	0.832	0.832	899,489	No	16,992
FW-02.8B-23E	0.924	0.691	0.544	0.544	1,026,824	Yes	203,584
FW-03.1B-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8B-02E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8B-11E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8B-17E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-03.1B-05B	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-03.1B-11E	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-02.8B-08P	0.938	0.872	0.717	0.717	1,254,733	Yes	203,584
FW-02.8B-25R (D/S)	1.312	0.871	0.589	0.589	1,273,150	No	203,584
FW-02.8B-21P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8B-22T (D/S)	0.000	0.691	0.544	0.544	1,306,943	Yes	203,584
FW-03.1B-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1B-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8B SG HDR to SG 32**					***Sorted By:Remaining Life***		
FW-03.1B-10E	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-02.8B-09T	0.938	0.877	0.717	0.717	1,380,766	Yes	203,584
FW-02.8B-24P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-02.8B-15E	0.938	0.896	0.717	0.717	1,409,778	No	203,584
FW-02.8B-26R	0.000	0.841	0.589	0.589	1,452,060	No	16,992
FW-02.8B-09T (D/S)	0.000	0.890	0.717	0.717	1,493,217	Yes	203,584
FW-02.8B-04T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8B-04T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8B-06V	1.312	1.198	0.630	0.630	1,643,750	No	203,584
FW-02.8B-22T	0.000	0.738	0.544	0.544	1,725,459	Yes	203,584
FW-03.1B-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1B-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1B-06P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-02.8B-12P_1	0.998	0.957	0.717	0.717	1,929,343	No	203,584
FW-02.8B-03P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8B-18P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8B-16P	0.938	0.910	0.717	0.717	2,278,824	No	203,584
FW-02.8B-01P	0.938	0.913	0.717	0.717	2,539,538	Yes	203,584
FW-02.8B-10P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8B-14P	0.990	0.865	0.717	0.717	3,350,354	Yes	203,584
FW-03.1B-09P	0.750	0.871	0.544	0.544	3,492,447	Yes	203,584
FW-02.8B-12P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-03.1B-12N	0.750	0.749	0.478	0.478	123,762,216	No	203,584
===>Grouped by Line: **FW-02.8C SG HDR to SG 34**					***Sorted By:Remaining Life***		
FW-02.8C-25R (D/S)	0.000	0.863	0.832	0.832	268,034	Yes	203,584
FW-02.8C-19V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8C-18V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8C-13F	0.938	0.866	0.717	0.717	675,415	No	203,584
FW-02.8C-25R	0.000	0.716	0.589	0.589	730,895	Yes	203,584
FW-03.1C-14E	0.750	0.669	0.544	0.544	1,008,594	Yes	203,584
FW-03.1C-13P	0.750	0.636	0.544	0.544	1,114,059	Yes	203,584
FW-02.8C-22E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1C-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1C-05B	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8C-02E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8C-11E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8C-16E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-03.1C-11P	0.750	0.699	0.544	0.544	1,292,556	Yes	203,584
FW-02.8C-20P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8C-05V	0.938	1.250	0.889	0.889	1,325,667	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW-02.8C SG HDR to SG 34					Sorted By:Remaining Life		
FW-03.1C-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1C-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-02.8C-24R (D/S)	0.000	0.862	0.589	0.589	1,375,000	Yes	203,584
FW-02.8C-23P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-02.8C-08P	0.938	0.889	0.717	0.717	1,391,020	Yes	203,584
FW-02.8C-15E	0.938	0.896	0.717	0.717	1,409,778	No	203,584
FW-02.8C-12P_1	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8C-21T	0.750	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8C-21T (D/S)	0.000	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8C-04T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-04T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-09T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-09T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-07E	0.938	0.951	0.717	0.717	1,641,506	Yes	203,584
FW-03.1C-10E	0.750	0.778	0.544	0.544	1,686,828	Yes	203,584
FW-03.1C-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1C-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1C-06P_1	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1C-12E	0.750	0.776	0.544	0.544	1,873,237	Yes	203,584
FW-02.8C-03P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8C-17P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-03.1C-16P_1	0.750	0.723	0.544	0.544	2,167,036	No	203,584
FW-03.1C-09P	0.750	0.723	0.544	0.544	2,167,036	No	203,584
FW-02.8C-10P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8C-01P	0.946	0.921	0.717	0.717	2,639,628	Yes	203,584
FW-02.8C-06V	1.312	1.788	0.630	0.630	3,349,104	No	203,584
FW-03.1C-16P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-03.1C-06P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-02.8C-12P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8C-14P	0.938	0.902	0.717	0.717	4,206,946	Yes	203,584
FW-02.8C-24R	0.000	1.608	0.832	0.832	5,750,302	Yes	203,584
FW-03.1C-15N	0.750	0.704	0.478	0.478	103,049,856	No	203,584
===>Grouped by Line: FW-02.8D SG HDR to SG 33					Sorted By:Remaining Life		
FW-02.8D-05V	0.938	0.849	0.889	0.889	-133,388	No	203,584
FW-02.8D-25R (D/S)	0.000	0.863	0.832	0.832	268,034	Yes	203,584
FW-02.8D-18V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8D-17V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8D-24R	0.000	0.907	0.832	0.832	559,321	No	203,584
FW-02.8D-25R	1.312	0.709	0.589	0.589	616,040	Yes	203,584
FW-02.8D-13F	0.938	0.866	0.717	0.717	675,415	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Remaining Life***		
FW-02.6-02T	1.260	1.243	1.195	1.195	950,087	No	203,584
FW-02.6-02T (D/S)	0.000	1.243	1.195	1.195	950,087	No	203,584
FW-02.7-02T	1.260	1.243	1.195	1.195	950,087	No	203,584
FW-02.7-02T (D/S)	0.000	1.243	1.195	1.195	950,087	No	203,584
FW-02.8D-24R (D/S)	1.312	0.845	0.589	0.589	1,152,794	No	203,584
FW-02.8D-21E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8D-22E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1D-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8D-15E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-02E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-07E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-11E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-03.1D-05B	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-02.8D-19P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-03.1D-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1D-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1D-08B	0.750	0.720	0.544	0.544	1,337,804	Yes	203,584
FW-02.8D-23P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-02.8D-08P	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8D-12P_1	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8D-20T	0.750	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8D-20T (D/S)	0.000	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8D-04T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-04T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-09T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-09T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-06V	1.312	1.198	0.630	0.630	1,643,750	No	203,584
FW-02.7-04T	1.395	1.364	1.195	1.195	1,774,064	No	203,584
FW-02.7-04T (BR/SE)	1.013	0.968	0.717	0.717	1,840,878	Yes	203,584
FW-03.1D-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-06P_1	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-09P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-02.8D-16P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8D-03P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8D-10P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8D-01P	0.964	0.939	0.717	0.717	2,863,891	Yes	203,584
FW-03.1D-06P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-02.8D-12P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8D-14P	0.938	0.904	0.717	0.717	4,252,358	Yes	203,584
FW-02.7-01P	1.372	1.361	1.195	1.195	4,797,578	No	203,584

Component Name	--------- Thickness (in) -------- Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Remaining Life***		
FW-02.7-03P	1.372	1.361	1.195	1.195	4,797,578	No	203,584
FW-03.1D-10N	0.750	0.749	0.478	0.478	123,762,216	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:49:42PM

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.3 SG INLET HEADER**					***Sorted By:Flow Order***		
FW-02.1B-11T	1.398	1.368	1.195	1.195	1,901,599	Yes	203,584
FW-02.1B-11T (BR/SE)	0.974	0.911	0.717	0.717	1,256,773	Yes	203,584
FW-02.1B-11T (D/S)	1.398	1.355	1.195	1.195	1,133,651	No	203,584
FW-02.3-01P	1.380	1.364	1.195	1.195	2,449,848	No	203,584
===>Grouped by Line: **FW-02.4 SG INLET HEADER**					***Sorted By:Flow Order***		
FW-02.1C-11T (BR/SE)	0.975	0.924	0.717	0.717	1,339,764	Yes	203,584
FW-02.1C-11T	1.375	1.329	1.195	1.195	945,750	No	203,584
FW-02.1C-11T (D/S)	1.375	1.317	1.195	1.195	687,648	No	203,584
FW-02.4-02T	1.260	1.340	1.195	1.195	1,127,386	Yes	203,584
FW-02.4-02T (D/S)	0.000	1.352	1.195	1.195	1,220,912	Yes	203,584
FW-02.4-03P	1.260	1.232	1.195	1.195	432,113	No	203,584
FW-02.4-04E	1.260	1.453	1.195	1.195	1,630,224	Yes	203,584
FW-02.4-05E	1.260	1.375	1.195	1.195	1,137,317	Yes	203,584
FW-02.4-06P	1.260	1.370	1.195	1.195	1,280,731	Yes	203,584
FW-02.4-07E	1.260	1.208	1.195	1.195	82,727	No	203,584
FW-02.4-08P	1.260	1.225	1.195	1.195	280,027	No	203,584
FW-02.4-09E	1.260	1.344	1.195	1.195	943,830	Yes	203,584
FW-02.4-10P	1.260	1.343	1.195	1.195	1,386,320	Yes	203,584
FW-02.4-11E	1.260	1.352	1.195	1.195	990,554	Yes	203,584
FW-02.4-12P_1	1.260	1.225	1.195	1.195	280,027	No	203,584
FW-02.4-12P_2	1.260	1.240	1.195	1.195	730,862	No	203,584
FW-02.4-13E	1.260	1.208	1.195	1.195	82,727	No	203,584
FW-02.4-14P	1.260	1.225	1.195	1.195	280,027	No	203,584
FW-02.4-15E	1.260	1.320	1.195	1.195	789,362	Yes	203,584
FW-02.4-16P	1.260	1.345	1.195	1.195	1,404,748	No	203,584
FW-02.4-17E	1.260	1.297	1.195	1.195	645,576	Yes	203,584
FW-02.4-18P	1.365	1.357	1.195	1.195	1,497,467	Yes	203,584
FW-02.4-19T	1.368	1.342	1.195	1.195	619,054	No	203,584
FW-02.4-19T (BR/SE)	0.974	0.856	0.717	0.717	1,025,201	Yes	203,584
FW-02.4-19T (D/S)	1.368	1.332	1.195	1.195	678,194	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.5 SG INLET HEADER**					***Sorted By:Flow Order***		
FW-02.5-01T (D/S)	1.372	1.356	1.195	1.195	1,461,361	No	203,584
FW-02.5-02P	1.260	1.236	1.195	1.195	564,782	No	203,584
FW-02.5-03T	1.260	1.342	1.195	1.195	1,349,145	No	203,584
FW-02.5-03T (D/S)	0.000	1.224	1.195	1.195	267,083	No	203,584
FW-02.5-06P	1.365	1.341	1.195	1.195	1,984,049	No	203,584
FW-02.5-04T	1.368	1.348	1.195	1.195	756,820	No	203,584
FW-02.5-04T (D/S)	1.368	1.357	1.195	1.195	1,002,850	No	203,584
FW-02.5-04T (BR/SE)	1.002	0.927	0.717	0.717	1,543,711	Yes	203,584
FW-02.5-01T	1.372	1.349	1.195	1.195	1,397,941	No	203,584
===>Grouped by Line: **FW-02.6 SG INLET HEADER**					***Sorted By:Flow Order***		
FW-02.6-01P	1.361	1.342	1.195	1.195	2,505,119	No	203,584
FW-02.6-03T	1.361	1.359	1.195	1.195	1,019,553	No	203,584
FW-02.6-03T (BR/SE)	1.006	0.858	0.717	0.717	1,032,221	Yes	203,584
FW-02.6-03T (D/S)	1.361	1.341	1.195	1.195	1,542,510	Yes	203,584
===>Grouped by Line: **FW-02.8A SG HDR to SG 31**					***Sorted By:Flow Order***		
FW-02.8A-01P	0.968	0.943	0.717	0.717	2,913,550	Yes	203,584
FW-02.8A-02E	0.938	0.947	0.717	0.717	1,612,403	Yes	203,584
FW-02.8A-03T	0.938	0.856	0.717	0.717	1,199,114	Yes	203,584
FW-02.8A-03T (D/S)	0.000	0.889	0.717	0.717	1,484,567	Yes	203,584
FW-02.8A-04V	0.938	0.849	0.889	0.889	-133,388	No	203,584
FW-02.8A-25R	0.000	0.936	0.832	0.832	768,563	No	16,992
FW-02.8A-25R (D/S)	0.000	0.841	0.589	0.589	1,268,429	No	16,992
FW-02.8A-05V	1.312	1.198	0.630	0.630	1,643,750	No	203,584
FW-02.8A-26R	0.000	0.638	0.589	0.589	280,888	Yes	203,584
FW-02.8A-26R (D/S)	0.000	0.867	0.832	0.832	302,634	Yes	203,584
FW-02.8A-06E	0.938	0.903	0.717	0.717	1,303,806	Yes	203,584
FW-02.8A-07P	0.938	0.895	0.717	0.717	1,444,545	Yes	203,584
FW-02.8A-08T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8A-08T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8A-09P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8A-10E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8A-11P_1	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8A-11P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8A-12F	0.938	0.866	0.717	0.717	675,415	No	203,584
FW-02.8A-13P	0.938	0.904	0.717	0.717	4,252,358	Yes	203,584
FW-02.8A-14E	0.938	0.896	0.717	0.717	1,409,778	No	203,584
FW-02.8A-15P	0.938	0.910	0.717	0.717	2,278,824	No	203,584
FW-02.8A-16E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8A-17P	0.938	0.906	0.717	0.717	1,965,967	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW-02.8A SG HDR to SG 31					Sorted By:Flow Order		
FW-02.8A-18V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8A-19V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8A-20P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8A-21T	0.750	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8A-21T (D/S)	0.000	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8A-22E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8A-23E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8A-24P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-03.1A-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1A-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1A-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1A-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1A-05B	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-03.1A-06P_1	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1A-06P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-03.1A-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1A-08B	0.750	0.978	0.544	0.544	3,127,315	Yes	203,584
FW-03.1A-09N	0.750	0.746	0.478	0.478	122,158,600	No	203,584
===>Grouped by Line: FW-02.8B SG HDR to SG 32					Sorted By:Flow Order		
FW-02.8B-01P	0.938	0.913	0.717	0.717	2,539,538	Yes	203,584
FW-02.8B-02E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8B-03P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8B-04T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8B-04T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8B-05V	0.938	0.849	0.889	0.889	-133,388	No	203,584
FW-02.8B-25R	0.000	0.892	0.832	0.832	442,332	No	203,584
FW-02.8B-25R (D/S)	1.312	0.871	0.589	0.589	1,273,150	No	203,584
FW-02.8B-06V	1.312	1.198	0.630	0.630	1,643,750	No	203,584
FW-02.8B-26R	0.000	0.841	0.589	0.589	1,452,060	No	16,992
FW-02.8B-26R (D/S)	0.000	0.936	0.832	0.832	899,489	No	16,992
FW-02.8B-07E	0.938	0.826	0.717	0.717	761,705	Yes	203,584
FW-02.8B-08P	0.938	0.872	0.717	0.717	1,254,733	Yes	203,584
FW-02.8B-09T	0.938	0.877	0.717	0.717	1,380,766	Yes	203,584
FW-02.8B-09T (D/S)	0.000	0.890	0.717	0.717	1,493,217	Yes	203,584
FW-02.8B-10P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8B-11E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8B-12P_1	0.998	0.957	0.717	0.717	1,929,343	No	203,584
FW-02.8B-12P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8B-13F	0.938	0.801	0.717	0.717	379,912	Yes	203,584
FW-02.8B-14P	0.990	0.865	0.717	0.717	3,350,354	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW-02.8B SG HDR to SG 32					Sorted By:Flow Order		
FW-02.8B-15E	0.938	0.896	0.717	0.717	1,409,778	No	203,584
FW-02.8B-16P	0.938	0.910	0.717	0.717	2,278,824	No	203,584
FW-02.8B-17E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8B-18P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8B-19V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8B-20V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8B-21P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8B-22T	0.000	0.738	0.544	0.544	1,725,459	Yes	203,584
FW-02.8B-22T (D/S)	0.000	0.691	0.544	0.544	1,306,943	Yes	203,584
FW-02.8B-23E	0.924	0.691	0.544	0.544	1,026,824	Yes	203,584
FW-02.8B-24P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-03.1B-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1B-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1B-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1B-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1B-05B	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-03.1B-06P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1B-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1B-08E	0.750	0.665	0.544	0.544	870,732	Yes	203,584
FW-03.1B-09P	0.750	0.871	0.544	0.544	3,492,447	Yes	203,584
FW-03.1B-10E	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1B-11E	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-03.1B-12N	0.750	0.749	0.478	0.478	123,762,216	No	203,584
===>Grouped by Line: FW-02.8C SG HDR to SG 34					Sorted By:Flow Order		
FW-02.8C-01P	0.946	0.921	0.717	0.717	2,639,628	Yes	203,584
FW-02.8C-02E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8C-03P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8C-04T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-04T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-05V	0.938	1.250	0.889	0.889	1,325,667	No	203,584
FW-02.8C-24R	0.000	1.608	0.832	0.832	5,750,302	Yes	203,584
FW-02.8C-24R (D/S)	0.000	0.862	0.589	0.589	1,375,000	Yes	203,584
FW-02.8C-06V	1.312	1.788	0.630	0.630	3,349,104	No	203,584
FW-02.8C-25R	0.000	0.716	0.589	0.589	730,895	Yes	203,584
FW-02.8C-25R (D/S)	0.000	0.863	0.832	0.832	268,034	Yes	203,584
FW-02.8C-07E	0.938	0.951	0.717	0.717	1,641,506	Yes	203,584
FW-02.8C-08P	0.938	0.889	0.717	0.717	1,391,020	Yes	203,584
FW-02.8C-09T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-09T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8C-10P	0.938	0.913	0.717	0.717	2,539,538	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8C SG HDR to SG 34**					***Sorted By:Flow Order***		
FW-02.8C-11E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8C-12P_1	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8C-12P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8C-13F	0.938	0.866	0.717	0.717	675,415	No	203,584
FW-02.8C-14P	0.938	0.902	0.717	0.717	4,206,946	Yes	203,584
FW-02.8C-15E	0.938	0.896	0.717	0.717	1,409,778	No	203,584
FW-02.8C-16E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8C-17P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8C-18V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8C-19V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8C-20P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8C-21T	0.750	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8C-21T (D/S)	0.000	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8C-22E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8C-23P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-03.1C-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1C-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1C-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1C-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1C-16P_1	0.750	0.723	0.544	0.544	2,167,036	No	203,584
FW-03.1C-16P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-03.1C-05B	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1C-06P_1	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1C-06P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-03.1C-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1C-09P	0.750	0.723	0.544	0.544	2,167,036	No	203,584
FW-03.1C-10E	0.750	0.778	0.544	0.544	1,686,828	Yes	203,584
FW-03.1C-11P	0.750	0.699	0.544	0.544	1,292,556	Yes	203,584
FW-03.1C-12E	0.750	0.776	0.544	0.544	1,873,237	Yes	203,584
FW-03.1C-13P	0.750	0.636	0.544	0.544	1,114,059	Yes	203,584
FW-03.1C-14E	0.750	0.669	0.544	0.544	1,008,594	Yes	203,584
FW-03.1C-15N	0.750	0.704	0.478	0.478	103,049,856	No	203,584
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Flow Order***		
FW-02.6-02T (D/S)	0.000	1.243	1.195	1.195	950,087	No	203,584
FW-02.7-01P	1.372	1.361	1.195	1.195	4,797,578	No	203,584
FW-02.7-02T	1.260	1.243	1.195	1.195	950,087	No	203,584
FW-02.7-02T (D/S)	0.000	1.243	1.195	1.195	950,087	No	203,584
FW-02.7-03P	1.372	1.361	1.195	1.195	4,797,578	No	203,584
FW-02.7-04T	1.395	1.364	1.195	1.195	1,774,064	No	203,584
FW-02.7-04T (BR/SE)	1.013	0.968	0.717	0.717	1,840,878	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Flow Order***		
FW-02.8D-01P	0.964	0.939	0.717	0.717	2,863,891	Yes	203,584
FW-02.8D-02E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-03P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8D-04T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-04T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-05V	0.938	0.849	0.889	0.889	-133,388	No	203,584
FW-02.8D-24R	0.000	0.907	0.832	0.832	559,321	No	203,584
FW-02.8D-24R (D/S)	1.312	0.845	0.589	0.589	1,152,794	No	203,584
FW-02.8D-06V	1.312	1.198	0.630	0.630	1,643,750	No	203,584
FW-02.8D-25R	1.312	0.709	0.589	0.589	616,040	Yes	203,584
FW-02.8D-25R (D/S)	0.000	0.863	0.832	0.832	268,034	Yes	203,584
FW-02.8D-07E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-08P	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8D-09T	0.938	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-09T (D/S)	0.000	0.900	0.717	0.717	1,583,587	No	203,584
FW-02.8D-10P	0.938	0.913	0.717	0.717	2,539,538	No	203,584
FW-02.8D-11E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-12P_1	0.938	0.898	0.717	0.717	1,464,093	No	203,584
FW-02.8D-12P_2	0.938	0.922	0.717	0.717	4,054,751	No	203,584
FW-02.8D-13F	0.938	0.866	0.717	0.717	675,415	No	203,584
FW-02.8D-14P	0.938	0.904	0.717	0.717	4,252,358	Yes	203,584
FW-02.8D-15E	0.938	0.891	0.717	0.717	1,221,876	No	203,584
FW-02.8D-16P	0.938	0.906	0.717	0.717	1,965,967	No	203,584
FW-02.8D-17V	0.938	0.855	0.717	0.717	546,582	No	203,584
FW-02.8D-18V	0.938	0.844	0.717	0.717	442,098	No	203,584
FW-02.8D-19P	0.750	0.709	0.544	0.544	1,299,648	No	203,584
FW-02.8D-20T	0.750	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8D-20T (D/S)	0.000	0.713	0.544	0.544	1,501,609	No	203,584
FW-02.8D-21E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8D-22E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-02.8D-23P	0.750	0.711	0.544	0.544	1,387,239	No	203,584
FW-03.1D-01P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-02E	0.750	0.705	0.544	0.544	1,155,407	No	203,584
FW-03.1D-03P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-04B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1D-05B	0.750	0.707	0.544	0.544	1,240,191	No	203,584
FW-03.1D-06P_1	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-06P_2	0.750	0.734	0.544	0.544	3,925,581	No	203,584
FW-03.1D-07B	0.750	0.709	0.544	0.544	1,335,252	No	203,584
FW-03.1D-08B	0.750	0.720	0.544	0.544	1,337,804	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Flow Order***		
FW-03.1D-09P	0.750	0.719	0.544	0.544	1,867,594	No	203,584
FW-03.1D-10N	0.750	0.749	0.478	0.478	123,762,216	No	203,584
FW-02.6-02T	1.260	1.243	1.195	1.195	950,087	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:49:58PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1A HD PMP 31 to HDR***								***Sorted By: Average Wear Rate***		
HD-12.2A-06O	6	11.994	8.038	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.1A-01V	24	11.557	7.744	370.3	31.512	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-11.2A-01R (D/S)	7	6.984	4.680	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-11.1A-01N	31	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.1A-02V	25	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-01V	22	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.1A-02R	18	6.111	4.095	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.2A-03E	4	4.964	3.326	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.2A-01R	7	4.695	3.147	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-04T (D/S)	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.1A-02R (D/S)	18	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-04T	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-02P	58	2.951	1.978	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-05P	65	2.780	1.863	370.3	14.043	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-07P	56	2.399	1.608	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***								***Sorted By: Average Wear Rate***		
HD-12.2B-06O	6	11.994	8.038	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.1B-01V	24	10.912	7.312	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-11.2B-01R (D/S)	7	6.984	4.680	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-11.1B-01N	31	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.1B-02V	25	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-01V	22	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.1B-02R	18	6.111	4.095	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.2B-08T (BR/SE)	10	5.366	3.596	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-03E	4	5.001	3.351	370.3	13.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.2B-01R	7	4.695	3.147	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-08T (D/S)	10	4.650	3.395	370.3	8.492	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.2B-04T (D/S)	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.1B-02R (D/S)	18	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***								***Sorted By: Average Wear Rate***		
HD-12.2B-04T	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-02P	58	2.976	1.994	370.3	13.448	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.3-01P	60	2.788	2.036	370.3	8.488	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.2B-05P	65	2.692	1.804	370.3	13.343	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-07P	56	2.399	1.608	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
===>Grouped by Line:	***HD-12.2A HD PMP HDR to CD SYS***								***Sorted By: Average Wear Rate***		
HD-12.2A-08T (D/S)	12	7.479	4.101	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-01E	4	6.906	3.787	370.3	17.617	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-17E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-03E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-07E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-09E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-11E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-13E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-05E	1	6.020	3.301	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-02P	54	5.837	3.201	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-15T (D/S)	15	5.472	3.001	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-15T	15	5.472	3.001	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.2A-08T (BR/SE)	12	4.561	3.057	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.4-18P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-04P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-08P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-10P_1	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-12P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-14P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-06P	51	4.013	2.201	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.2A-08T	12	3.852	2.805	370.3	8.595	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-16P	65	3.648	2.000	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-10P_2	9	2.540	1.422	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:49:58PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1A HD PMP 31 to HDR***									***Sorted By: Flow Order***	
HD-11.1A-01N	31	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.1A-02V	25	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.2A-01R	7	4.695	3.147	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.2A-01R (D/S)	7	6.984	4.680	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.1A-01V	24	11.557	7.744	370.3	31.512	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.1A-02R	18	6.111	4.095	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.1A-02R (D/S)	18	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-01V	22	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-02P	58	2.951	1.978	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-03E	4	4.964	3.326	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-04T	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-04T (D/S)	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-05P	65	2.780	1.863	370.3	14.043	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-06O	6	11.994	8.038	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-07P	56	2.399	1.608	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***									***Sorted By: Flow Order***	
HD-11.1B-01N	31	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.1B-02V	25	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.2B-01R	7	4.695	3.147	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-11.2B-01R (D/S)	7	6.984	4.680	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.1B-01V	24	10.912	7.312	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.1B-02R	18	6.111	4.095	370.3	28.763	0.0	8.625	6.925	0.000	'47.16'	ARD
HD-12.1B-02R (D/S)	18	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-01V	22	6.708	4.495	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-02P	58	2.976	1.994	370.3	13.448	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-03E	4	5.001	3.351	370.3	13.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-04T	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-04T (D/S)	15	4.025	2.697	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-05P	65	2.692	1.804	370.3	13.343	0.0	12.750	6.925	0.000	'47.16'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***									***Sorted By: Flow Order***	
HD-12.2B-06O	6	11.994	8.038	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-07P	56	2.399	1.608	370.3	33.430	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-08T (BR/SE)	10	5.366	3.596	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2B-08T (D/S)	10	4.650	3.395	370.3	8.492	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.3-01P	60	2.788	2.036	370.3	8.488	0.0	16.000	6.925	0.000	'47.16'	ARD
===>Grouped by Line:	***HD-12.2A HD PMP HDR to CD SYS***									***Sorted By: Flow Order***	
HD-12.2A-08T (BR/SE)	12	4.561	3.057	370.3	13.270	0.0	12.750	6.925	0.000	'47.16'	ARD
HD-12.2A-08T	12	3.852	2.805	370.3	8.595	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.2A-08T (D/S)	12	7.479	4.101	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-01E	4	6.906	3.787	370.3	17.617	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-02P	54	5.837	3.201	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-03E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-04P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-05E	1	6.020	3.301	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-06P	51	4.013	2.201	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-07E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-08P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-09E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-10P_1	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-10P_2	9	2.540	1.422	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-11E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-12P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-13E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-14P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-15T	15	5.472	3.001	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-15T (D/S)	15	5.472	3.001	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-16P	65	3.648	2.000	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-17E	2	6.749	3.701	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD
HD-12.4-18P	52	4.560	2.501	370.3	16.985	0.0	16.000	6.925	0.000	'47.16'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:49:58PM

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1A HD PMP 31 to HDR**					***Sorted By:Remaining Life***		
HD-12.1A-01V	0.500	0.232	0.220	0.220	13,568	No	203,584
HD-11.1A-02V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-12.2A-01V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-12.1A-02R	0.000	0.260	0.206	0.206	115,926	Yes	203,584
HD-11.2A-01R (D/S)	0.000	0.295	0.206	0.206	167,053	No	203,584
HD-12.2A-06O	0.500	0.475	0.304	0.304	186,103	No	203,584
HD-12.2A-03E	0.500	0.385	0.304	0.304	211,511	No	203,584
HD-11.1A-01N	0.500	0.469	0.304	0.304	321,875	No	203,584
HD-12.2A-04T	0.500	0.406	0.304	0.304	331,752	No	203,584
HD-12.2A-04T (D/S)	0.000	0.406	0.304	0.304	331,752	No	203,584
HD-12.1A-02R (D/S)	0.000	0.466	0.304	0.304	524,372	Yes	203,584
HD-11.2A-01R	0.000	0.501	0.304	0.304	546,274	Yes	203,584
HD-12.2A-02P	0.500	0.431	0.304	0.304	562,864	No	203,584
HD-12.2A-07P	0.569	0.445	0.304	0.304	765,590	Yes	203,584
HD-12.2A-05P	0.664	0.599	0.304	0.304	1,387,233	No	203,584
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Remaining Life***		
HD-12.2B-06O	0.500	0.221	0.304	0.304	-98,465	No	203,584
HD-11.1B-02V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-12.2B-01V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-12.1B-01V	0.322	0.269	0.220	0.220	58,238	No	203,584
HD-11.1B-01N	0.500	0.344	0.304	0.304	77,529	No	203,584
HD-11.2B-01R (D/S)	0.000	0.259	0.206	0.206	99,843	No	203,584
HD-12.2B-08T (BR/SE)	0.000	0.375	0.304	0.304	172,863	Yes	203,584
HD-12.1B-02R	0.000	0.317	0.206	0.206	237,260	No	203,584
HD-12.2B-03E	0.535	0.440	0.304	0.304	355,933	Yes	203,584
HD-12.2B-08T (D/S)	0.000	0.548	0.382	0.382	428,477	No	203,584
HD-11.2B-01R	0.000	0.473	0.304	0.304	468,309	No	203,584
HD-12.1B-02R (D/S)	0.000	0.466	0.304	0.304	524,159	Yes	203,584
HD-12.2B-02P	0.539	0.464	0.304	0.304	702,063	Yes	203,584
HD-12.2B-04T (D/S)	0.000	0.534	0.304	0.304	745,238	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Remaining Life***		
HD-12.2B-07P	0.527	0.455	0.304	0.304	820,685	Yes	203,584
HD-12.2B-05P	0.516	0.474	0.304	0.304	821,405	Yes	203,584
HD-12.2B-04T	0.500	0.564	0.304	0.304	842,680	No	203,584
HD-12.3-01P	0.654	0.589	0.382	0.382	891,855	Yes	203,584
===>Grouped by Line: **HD-12.2A HD PMP HDR to CD SYS**					***Sorted By:Remaining Life***		
HD-12.2A-08T (D/S)	0.000	0.482	0.382	0.382	214,221	No	203,584
HD-12.4-03E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-07E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-09E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-11E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-13E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-17E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-05E	0.656	0.516	0.382	0.382	356,159	No	203,584
HD-12.4-02P	0.656	0.520	0.382	0.382	378,892	No	203,584
HD-12.4-15T	0.656	0.529	0.382	0.382	428,903	No	203,584
HD-12.4-15T (D/S)	0.000	0.529	0.382	0.382	428,903	No	203,584
HD-12.2A-08T (BR/SE)	0.000	0.457	0.304	0.304	438,481	Yes	203,584
HD-12.4-01E	0.789	0.613	0.382	0.382	533,780	Yes	203,584
HD-12.4-04P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-08P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-10P_1	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-12P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-14P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-18P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-06P	0.656	0.563	0.382	0.382	719,877	No	203,584
HD-12.2A-08T	0.700	0.617	0.382	0.382	735,174	Yes	203,584
HD-12.4-16P	0.656	0.571	0.382	0.382	828,992	No	203,584
HD-12.4-10P_2	0.656	0.597	0.382	0.382	1,325,036	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:49:58PM

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1A HD PMP 31 to HDR**					***Sorted By:Flow Order***		
HD-11.1A-01N	0.500	0.469	0.304	0.304	321,875	No	203,584
HD-11.1A-02V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-11.2A-01R	0.000	0.501	0.304	0.304	546,274	Yes	203,584
HD-11.2A-01R (D/S)	0.000	0.295	0.206	0.206	167,053	No	203,584
HD-12.1A-01V	0.500	0.232	0.220	0.220	13,568	No	203,584
HD-12.1A-02R	0.000	0.260	0.206	0.206	115,926	Yes	203,584
HD-12.1A-02R (D/S)	0.000	0.466	0.304	0.304	524,372	Yes	203,584
HD-12.2A-01V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-12.2A-02P	0.500	0.431	0.304	0.304	562,864	No	203,584
HD-12.2A-03E	0.500	0.385	0.304	0.304	211,511	No	203,584
HD-12.2A-04T	0.500	0.406	0.304	0.304	331,752	No	203,584
HD-12.2A-04T (D/S)	0.000	0.406	0.304	0.304	331,752	No	203,584
HD-12.2A-05P	0.664	0.599	0.304	0.304	1,387,233	No	203,584
HD-12.2A-06O	0.500	0.475	0.304	0.304	186,103	No	203,584
HD-12.2A-07P	0.569	0.445	0.304	0.304	765,590	Yes	203,584
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Flow Order***		
HD-11.1B-01N	0.500	0.344	0.304	0.304	77,529	No	203,584
HD-11.1B-02V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-11.2B-01R	0.000	0.473	0.304	0.304	468,309	No	203,584
HD-11.2B-01R (D/S)	0.000	0.259	0.206	0.206	99,843	No	203,584
HD-12.1B-01V	0.322	0.269	0.220	0.220	58,238	No	203,584
HD-12.1B-02R	0.000	0.317	0.206	0.206	237,260	No	203,584
HD-12.1B-02R (D/S)	0.000	0.466	0.304	0.304	524,159	Yes	203,584
HD-12.2B-01V	0.500	0.344	0.326	0.326	36,032	No	203,584
HD-12.2B-02P	0.539	0.464	0.304	0.304	702,063	Yes	203,584
HD-12.2B-03E	0.535	0.440	0.304	0.304	355,933	Yes	203,584
HD-12.2B-04T	0.500	0.564	0.304	0.304	842,680	No	203,584
HD-12.2B-04T (D/S)	0.000	0.534	0.304	0.304	745,238	No	203,584
HD-12.2B-05P	0.516	0.474	0.304	0.304	821,405	Yes	203,584
HD-12.2B-06O	0.500	0.221	0.304	0.304	-98,465	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Flow Order***		
HD-12.2B-07P	0.527	0.455	0.304	0.304	820,685	Yes	203,584
HD-12.2B-08T (BR/SE)	0.000	0.375	0.304	0.304	172,863	Yes	203,584
HD-12.2B-08T (D/S)	0.000	0.548	0.382	0.382	428,477	No	203,584
HD-12.3-01P	0.654	0.589	0.382	0.382	891,855	Yes	203,584
===>Grouped by Line: **HD-12.2A HD PMP HDR to CD SYS**					***Sorted By:Flow Order***		
HD-12.2A-08T (BR/SE)	0.000	0.457	0.304	0.304	438,481	Yes	203,584
HD-12.2A-08T	0.700	0.617	0.382	0.382	735,174	Yes	203,584
HD-12.2A-08T (D/S)	0.000	0.482	0.382	0.382	214,221	No	203,584
HD-12.4-01E	0.789	0.613	0.382	0.382	533,780	Yes	203,584
HD-12.4-02P	0.656	0.520	0.382	0.382	378,892	No	203,584
HD-12.4-03E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-04P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-05E	0.656	0.516	0.382	0.382	356,159	No	203,584
HD-12.4-06P	0.656	0.563	0.382	0.382	719,877	No	203,584
HD-12.4-07E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-08P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-09E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-10P_1	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-10P_2	0.656	0.597	0.382	0.382	1,325,036	No	203,584
HD-12.4-11E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-12P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-13E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-14P	0.656	0.550	0.382	0.382	588,939	No	203,584
HD-12.4-15T	0.656	0.529	0.382	0.382	428,903	No	203,584
HD-12.4-15T (D/S)	0.000	0.529	0.382	0.382	428,903	No	203,584
HD-12.4-16P	0.656	0.571	0.382	0.382	828,992	No	203,584
HD-12.4-17E	0.656	0.499	0.382	0.382	277,518	No	203,584
HD-12.4-18P	0.656	0.550	0.382	0.382	588,939	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:50:00PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-FWH 31A to Condenser 33***								***Sorted By: Average Wear Rate***		
TEMP01	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	'8.04'	HBD
===>Grouped by Line:	***HD-FWH 31B to Condenser 32***								***Sorted By: Average Wear Rate***		
TEMP02	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	'8.04'	HBD
===>Grouped by Line:	***HD-FWH 31C to Condenser 31***								***Sorted By: Average Wear Rate***		
TEMP03	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	'8.04'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:50:00PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-FWH 31A to Condenser 33***								***Sorted By: Flow Order***		
TEMP01	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	'8.04'	HBD
===>Grouped by Line:	***HD-FWH 31B to Condenser 32***								***Sorted By: Flow Order***		
TEMP02	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	'8.04'	HBD
===>Grouped by Line:	***HD-FWH 31C to Condenser 31***								***Sorted By: Flow Order***		
TEMP03	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	'8.04'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:50:00PM

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 31A to Condenser 33**					***Sorted By:Remaining Life***		
TEMP01	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31B to Condenser 32**					***Sorted By:Remaining Life***		
TEMP02	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31C to Condenser 31**					***Sorted By:Remaining Life***		
TEMP03	0.000	0.221	0.021	0.021	2,059,940	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:50:00PM

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 31A to Condenser 33**					***Sorted By:Flow Order***		
TEMP01	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31B to Condenser 32**					***Sorted By:Flow Order***		
TEMP02	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31C to Condenser 31**					***Sorted By:Flow Order***		
TEMP03	0.000	0.221	0.021	0.021	2,059,940	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:50:21PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1A FWH 32A to FWH 31A***								***Sorted By: Average Wear Rate***		
HD-09.1A-01V	24	4.844	1.178	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1A-01N	31	3.594	0.879	165.8	2.896	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-07T (D/S)	10	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-10V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-01V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2A-01R (D/S)	7	3.100	0.754	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1A-07T (BR/SE)	10	2.765	0.676	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.1A-02R	18	2.712	0.660	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1A-09E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-03E	4	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-05E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2A-01R	7	2.419	0.592	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-04P	54	2.212	0.541	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-08P	60	2.138	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.1A-02R (D/S)	18	2.074	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-02P	61	2.060	0.457	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-06P	52	1.728	0.423	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-04T	13	0.002	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-03E	3	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-04T (D/S)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-04T (BR/SE)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-02P	58	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-09.1B-01V	24	4.844	1.178	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1B-01N	31	3.594	0.879	165.8	2.896	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-07T (D/S)	10	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-10V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-01V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2B-01R (D/S)	7	3.100	0.754	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-8.1B-07T (BR/SE)	10	2.765	0.676	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.1B-02R	18	2.712	0.660	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1B-03E	4	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-09E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-05E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2B-01R	7	2.419	0.592	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-04P	54	2.212	0.541	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-08P	60	2.138	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.1B-02R (D/S)	18	2.074	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-02P	61	2.060	0.457	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-06P	52	1.728	0.423	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-04T	13	0.002	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-03E	3	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-04T (D/S)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-04T (BR/SE)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-02P	58	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.1C-01V	24	4.844	1.178	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1C-01N	31	3.594	0.879	165.8	2.896	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-07T (D/S)	10	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-10V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-01V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2C-01R (D/S)	7	3.100	0.754	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1C-07T (BR/SE)	10	2.765	0.676	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.1C-02R	18	2.712	0.660	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-8.1C-09E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-03E	4	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-05E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2C-01R	7	2.419	0.592	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-04P	54	2.212	0.541	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-08P	60	2.138	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.1C-02R (D/S)	18	2.074	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-02P	61	2.060	0.457	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-06P	52	1.728	0.423	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-04T	13	0.002	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-03E	3	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-04T (D/S)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-04T (BR/SE)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.2C-02P	58	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.3A FWH 32A to FWH 31A***								***Sorted By: Average Wear Rate***		
HD-09.3A-02N	30	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.3A-01P	64	0.001	0.000	165.8	1.469	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.3B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-09.3B-02N	30	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.3B-01P	64	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.3C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.3C-02N	30	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.3C-01P	64	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.4A FWH 32A to FWH 31A***								***Sorted By: Average Wear Rate***		
HD-09.4A-04N	30	0.001	0.000	165.8	1.452	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4A-02E	4	0.001	0.000	165.8	1.495	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4A-01P	63	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4A-03P	54	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.4B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-09.4B-04N	30	0.001	0.000	165.8	1.452	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4B-02E	4	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4B-01P	63	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4B-03P	54	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.4C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.4C-04N	30	0.001	0.000	165.8	1.452	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4C-02E	4	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4C-01P	63	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4C-03P	54	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:50:21PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1A FWH 32A to FWH 31A***								***Sorted By: Flow Order***		
HD-8.1A-01N	31	3.594	0.879	165.8	2.896	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-02P	61	2.060	0.457	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-03E	4	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-04P	54	2.212	0.541	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-05E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-06P	52	1.728	0.423	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-07T (BR/SE)	10	2.765	0.676	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-07T (D/S)	10	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-08P	60	2.138	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-09E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1A-10V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2A-01R	7	2.419	0.592	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2A-01R (D/S)	7	3.100	0.754	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1A-01V	24	4.844	1.178	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1A-02R	18	2.712	0.660	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1A-02R (D/S)	18	2.074	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-01V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-02P	58	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-03E	3	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-04T	13	0.002	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-04T (BR/SE)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2A-04T (D/S)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***								***Sorted By: Flow Order***		
HD-8.1B-01N	31	3.594	0.879	165.8	2.896	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-02P	61	2.060	0.457	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-03E	4	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-04P	54	2.212	0.541	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-05E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-06P	52	1.728	0.423	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***									***Sorted By: Flow Order***	
HD-8.1B-07T (BR/SE)	10	2.765	0.676	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-07T (D/S)	10	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-08P	60	2.138	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-09E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1B-10V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2B-01R	7	2.419	0.592	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2B-01R (D/S)	7	3.100	0.754	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1B-01V	24	4.844	1.178	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1B-02R	18	2.712	0.660	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1B-02R (D/S)	18	2.074	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-01V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-02P	58	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-03E	3	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-04T	13	0.002	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-04T (BR/SE)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2B-04T (D/S)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***									***Sorted By: Flow Order***	
HD-8.1C-01N	31	3.594	0.879	165.8	2.896	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-02P	61	2.060	0.457	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-03E	4	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-04P	54	2.212	0.541	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-05E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-06P	52	1.728	0.423	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-07T (BR/SE)	10	2.765	0.676	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-07T (D/S)	10	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-08P	60	2.138	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-09E	2	2.558	0.626	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.1C-10V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2C-01R	7	2.419	0.592	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-8.2C-01R (D/S)	7	3.100	0.754	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1C-01V	24	4.844	1.178	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1C-02R	18	2.712	0.660	165.8	3.969	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-09.1C-02R (D/S)	18	2.074	0.507	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-01V	22	3.456	0.846	165.8	2.779	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-02P	58	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-03E	3	0.001	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-04T	13	0.002	0.000	165.8	2.926	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.2C-04T (BR/SE)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***								***Sorted By: Flow Order***		
HD-09.2C-04T (D/S)	13	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.3A FWH 32A to FWH 31A***								***Sorted By: Flow Order***		
HD-09.3A-01P	64	0.001	0.000	165.8	1.469	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.3A-02N	30	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.3B FWH 32B to FWH 31B***								***Sorted By: Flow Order***		
HD-09.3B-01P	64	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.3B-02N	30	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.3C FWH 32C to FWH 31C***								***Sorted By: Flow Order***		
HD-09.3C-01P	64	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.3C-02N	30	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.4A FWH 32A to FWH 31A***								***Sorted By: Flow Order***		
HD-09.4A-01P	63	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4A-02E	4	0.001	0.000	165.8	1.495	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4A-03P	54	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4A-04N	30	0.001	0.000	165.8	1.452	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.4B FWH 32B to FWH 31B***								***Sorted By: Flow Order***		
HD-09.4B-01P	63	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4B-02E	4	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4B-03P	54	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4B-04N	30	0.001	0.000	165.8	1.452	0.0	12.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-09.4C FWH 32C to FWH 31C***								***Sorted By: Flow Order***		
HD-09.4C-01P	63	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4C-02E	4	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4C-03P	54	0.001	0.000	165.8	1.468	0.0	12.750	7.056	0.000	'8.04'	ARD
HD-09.4C-04N	30	0.001	0.000	165.8	1.452	0.0	12.750	7.056	0.000	'8.04'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:50:21PM

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1A FWH 32A to FWH 31A**					***Sorted By:Remaining Life***		
HD-09.1A-01V	0.250	0.137	0.019	0.019	879,479	No	203,584
HD-8.1A-10V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-09.2A-01V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-8.1A-07T (D/S)	0.000	0.170	0.021	0.021	1,538,007	No	203,584
HD-8.2A-01R (D/S)	0.000	0.178	0.018	0.018	1,859,887	No	203,584
HD-8.1A-07T (BR/SE)	0.000	0.186	0.021	0.021	2,130,540	No	203,584
HD-8.1A-03E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1A-05E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1A-09E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.2A-01R	0.000	0.194	0.021	0.021	2,553,779	No	203,584
HD-8.1A-01N	0.375	0.291	0.021	0.021	2,694,383	No	203,584
HD-8.1A-04P	0.250	0.199	0.021	0.021	2,871,207	No	203,584
HD-8.1A-08P	0.250	0.200	0.021	0.021	3,092,420	No	203,584
HD-8.1A-02P	0.250	0.202	0.021	0.021	3,470,733	No	203,584
HD-09.1A-02R	0.000	0.285	0.018	0.018	3,544,793	No	203,584
HD-8.1A-06P	0.250	0.210	0.021	0.021	3,908,141	No	203,584
HD-09.1A-02R (D/S)	0.000	0.261	0.021	0.021	4,136,671	Yes	203,584
HD-09.2A-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Remaining Life***		
HD-09.1B-01V	0.250	0.137	0.019	0.019	879,479	No	203,584
HD-8.1B-10V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-09.2B-01V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-8.1B-07T (D/S)	0.000	0.170	0.021	0.021	1,538,007	No	203,584
HD-8.2B-01R (D/S)	0.000	0.178	0.018	0.018	1,859,887	No	203,584
HD-8.1B-07T (BR/SE)	0.000	0.186	0.021	0.021	2,130,540	No	203,584
HD-8.1B-03E	0.250	0.191	0.021	0.021	2,370,757	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Remaining Life***		
HD-8.1B-05E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1B-09E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.2B-01R	0.000	0.194	0.021	0.021	2,553,779	No	203,584
HD-8.1B-01N	0.375	0.291	0.021	0.021	2,694,383	No	203,584
HD-8.1B-04P	0.250	0.199	0.021	0.021	2,871,207	No	203,584
HD-09.1B-02R	0.000	0.240	0.018	0.018	2,947,214	Yes	203,584
HD-8.1B-08P	0.250	0.200	0.021	0.021	3,092,420	No	203,584
HD-8.1B-02P	0.250	0.202	0.021	0.021	3,470,733	No	203,584
HD-8.1B-06P	0.250	0.210	0.021	0.021	3,908,141	No	203,584
HD-09.1B-02R (D/S)	0.000	0.330	0.021	0.021	5,328,066	Yes	203,584
HD-09.2B-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1C FWH 32C to FWH 31C**					***Sorted By:Remaining Life***		
HD-09.1C-01V	0.250	0.137	0.019	0.019	879,479	No	203,584
HD-8.1C-10V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-09.2C-01V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-8.1C-07T (D/S)	0.000	0.170	0.021	0.021	1,538,007	No	203,584
HD-8.2C-01R (D/S)	0.000	0.178	0.018	0.018	1,859,887	No	203,584
HD-8.1C-07T (BR/SE)	0.000	0.186	0.021	0.021	2,130,540	No	203,584
HD-8.1C-03E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1C-05E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1C-09E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.2C-01R	0.000	0.194	0.021	0.021	2,553,779	No	203,584
HD-8.1C-01N	0.375	0.291	0.021	0.021	2,694,383	No	203,584
HD-09.1C-02R	0.000	0.232	0.018	0.018	2,839,534	No	203,584
HD-8.1C-04P	0.250	0.199	0.021	0.021	2,871,207	No	203,584
HD-8.1C-08P	0.250	0.200	0.021	0.021	3,092,420	No	203,584
HD-8.1C-02P	0.250	0.202	0.021	0.021	3,470,733	No	203,584
HD-8.1C-06P	0.250	0.210	0.021	0.021	3,908,141	No	203,584
HD-09.1C-02R (D/S)	0.000	0.262	0.021	0.021	4,157,697	No	203,584
HD-09.2C-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-09.3A FWH 32A to FWH 31A**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**HD-09.3A FWH 32A to FWH 31A**				***Sorted By:Remaining Life***		
HD-09.3A-01P	0.409	0.409	0.020	0.020	100,000,000	No	203,584
HD-09.3A-02N	0.406	0.363	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3B FWH 32B to FWH 31B**				***Sorted By:Remaining Life***		
HD-09.3B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3B-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3C FWH 32C to FWH 31C**				***Sorted By:Remaining Life***		
HD-09.3C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3C-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4A FWH 32A to FWH 31A**				***Sorted By:Remaining Life***		
HD-09.4A-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-02E	0.462	0.462	0.020	0.020	100,000,000	No	203,584
HD-09.4A-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-04N	0.375	0.354	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4B FWH 32B to FWH 31B**				***Sorted By:Remaining Life***		
HD-09.4B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4C FWH 32C to FWH 31C**				***Sorted By:Remaining Life***		
HD-09.4C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:50:21PM

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1A FWH 32A to FWH 31A**					***Sorted By:Flow Order***		
HD-8.1A-01N	0.375	0.291	0.021	0.021	2,694,383	No	203,584
HD-8.1A-02P	0.250	0.202	0.021	0.021	3,470,733	No	203,584
HD-8.1A-03E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1A-04P	0.250	0.199	0.021	0.021	2,871,207	No	203,584
HD-8.1A-05E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1A-06P	0.250	0.210	0.021	0.021	3,908,141	No	203,584
HD-8.1A-07T (BR/SE)	0.000	0.186	0.021	0.021	2,130,540	No	203,584
HD-8.1A-07T (D/S)	0.000	0.170	0.021	0.021	1,538,007	No	203,584
HD-8.1A-08P	0.250	0.200	0.021	0.021	3,092,420	No	203,584
HD-8.1A-09E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1A-10V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-8.2A-01R	0.000	0.194	0.021	0.021	2,553,779	No	203,584
HD-8.2A-01R (D/S)	0.000	0.178	0.018	0.018	1,859,887	No	203,584
HD-09.1A-01V	0.250	0.137	0.019	0.019	879,479	No	203,584
HD-09.1A-02R	0.000	0.285	0.018	0.018	3,544,793	No	203,584
HD-09.1A-02R (D/S)	0.000	0.261	0.021	0.021	4,136,671	Yes	203,584
HD-09.2A-01V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-09.2A-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Flow Order***		
HD-8.1B-01N	0.375	0.291	0.021	0.021	2,694,383	No	203,584
HD-8.1B-02P	0.250	0.202	0.021	0.021	3,470,733	No	203,584
HD-8.1B-03E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1B-04P	0.250	0.199	0.021	0.021	2,871,207	No	203,584
HD-8.1B-05E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1B-06P	0.250	0.210	0.021	0.021	3,908,141	No	203,584
HD-8.1B-07T (BR/SE)	0.000	0.186	0.021	0.021	2,130,540	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Flow Order***		
HD-8.1B-07T (D/S)	0.000	0.170	0.021	0.021	1,538,007	No	203,584
HD-8.1B-08P	0.250	0.200	0.021	0.021	3,092,420	No	203,584
HD-8.1B-09E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1B-10V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-8.2B-01R	0.000	0.194	0.021	0.021	2,553,779	No	203,584
HD-8.2B-01R (D/S)	0.000	0.178	0.018	0.018	1,859,887	No	203,584
HD-09.1B-01V	0.250	0.137	0.019	0.019	879,479	No	203,584
HD-09.1B-02R	0.000	0.240	0.018	0.018	2,947,214	Yes	203,584
HD-09.1B-02R (D/S)	0.000	0.330	0.021	0.021	5,328,066	Yes	203,584
HD-09.2B-01V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-09.2B-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1C FWH 32C to FWH 31C**					***Sorted By:Flow Order***		
HD-8.1C-01N	0.375	0.291	0.021	0.021	2,694,383	No	203,584
HD-8.1C-02P	0.250	0.202	0.021	0.021	3,470,733	No	203,584
HD-8.1C-03E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1C-04P	0.250	0.199	0.021	0.021	2,871,207	No	203,584
HD-8.1C-05E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1C-06P	0.250	0.210	0.021	0.021	3,908,141	No	203,584
HD-8.1C-07T (BR/SE)	0.000	0.186	0.021	0.021	2,130,540	No	203,584
HD-8.1C-07T (D/S)	0.000	0.170	0.021	0.021	1,538,007	No	203,584
HD-8.1C-08P	0.250	0.200	0.021	0.021	3,092,420	No	203,584
HD-8.1C-09E	0.250	0.191	0.021	0.021	2,370,757	No	203,584
HD-8.1C-10V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-8.2C-01R	0.000	0.194	0.021	0.021	2,553,779	No	203,584
HD-8.2C-01R (D/S)	0.000	0.178	0.018	0.018	1,859,887	No	203,584
HD-09.1C-01V	0.250	0.137	0.019	0.019	879,479	No	203,584
HD-09.1C-02R	0.000	0.232	0.018	0.018	2,839,534	No	203,584
HD-09.1C-02R (D/S)	0.000	0.262	0.021	0.021	4,157,697	No	203,584
HD-09.2C-01V	0.250	0.170	0.023	0.023	1,522,325	No	203,584
HD-09.2C-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-09.3A FWH 32A to FWH 31A**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**HD-09.3A FWH 32A to FWH 31A**				***Sorted By:Flow Order***		
HD-09.3A-01P	0.409	0.409	0.020	0.020	100,000,000	No	203,584
HD-09.3A-02N	0.406	0.363	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3B FWH 32B to FWH 31B**				***Sorted By:Flow Order***		
HD-09.3B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3B-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3C FWH 32C to FWH 31C**				***Sorted By:Flow Order***		
HD-09.3C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3C-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4A FWH 32A to FWH 31A**				***Sorted By:Flow Order***		
HD-09.4A-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-02E	0.462	0.462	0.020	0.020	100,000,000	No	203,584
HD-09.4A-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-04N	0.375	0.354	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4B FWH 32B to FWH 31B**				***Sorted By:Flow Order***		
HD-09.4B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4C FWH 32C to FWH 31C**				***Sorted By:Flow Order***		
HD-09.4C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:51:03PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***								***Sorted By: Average Wear Rate***		
HD-07.1A-01V	24	10.427	3.050	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.2A-01E (D/S)	16	6.176	1.891	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.2A-03T (BR/SE)	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-01N	31	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-01V	22	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-03T	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.1A 02R	18	5.578	1.708	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.1A-30E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-03E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-32E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-05E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-34E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-07E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-09E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-41E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-11E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-13E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-14E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-16E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-18E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-20E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-22E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-24E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-26E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-15P	54	4.208	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-37E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-42P	54	3.871	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-39E	1	3.839	1.197	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-10P	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***								***Sorted By: Average Wear Rate***		
HD-6.1A-02P	61	3.550	0.979	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-44T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-28T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-44T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.1A 02R (D/S)	18	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-28T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-05R	18	3.366	1.016	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-08P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-19P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.3A-01N	30	3.126	0.982	204.2	2.875	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-6.1A-31P	52	3.051	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-38P	53	2.977	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-04P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-33P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-06P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-12P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2A-01E	16	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-43P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-17P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-21P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-23P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-25P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-27P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-40P	51	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-02P	58	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-04P	63	2.405	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-05R (D/S)	18	2.336	0.706	204.2	2.747	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-6.1A-29P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-06P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-12P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-17P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-21P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-25P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***								***Sorted By: Average Wear Rate***		
HD-07.1B-01V	24	9.961	3.050	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.2B-01E (D/S)	16	6.176	1.891	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.1B-01N	31	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-03T (BR/SE)	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***								***Sorted By: Average Wear Rate***		
HD-07.2B-01V	22	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-03T	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.1B-02R	18	5.578	1.708	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.1B-25E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-03E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-04E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-27E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-29E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-06E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-08E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-36E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-12E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-13E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-15E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-17E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-19E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-21E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-14P	54	4.208	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-32E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-10E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-34E	1	3.839	1.197	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-05P_1	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-09P	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-37P	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-16P_1	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-02P	61	3.550	0.979	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-23T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-38T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-38T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.1B-02R (D/S)	18	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-23T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-05R	18	3.366	1.016	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-07P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-20P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.3B-01N	30	3.126	0.982	204.2	2.875	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-6.1B-26P	52	3.051	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-33P	53	2.977	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-28P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***								***Sorted By: Average Wear Rate***		
HD-6.1B-11P_1	53	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2B-01E	16	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-18P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-22P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-35P	51	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-02P	58	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-04P	63	2.405	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-05R (D/S)	18	2.336	0.706	204.2	2.747	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-6.1B-24P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-05P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-11P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-16P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-22P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***								***Sorted By: Average Wear Rate***		
HD-07.1C-01V	24	9.961	3.050	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.2C-01E (D/S)	16	6.176	1.891	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.2C-03T (BR/SE)	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-01N	31	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-01V	22	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-03T	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.1C-02R	18	5.578	1.708	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-6.1C-21E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-03E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-23E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-05E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-07E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-25E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-09E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-11E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-32E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-13E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-15E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-17E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-28E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-33P	54	3.906	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-30E	1	3.839	1.197	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-08P_1	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-02P	61	3.550	0.979	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***								***Sorted By: Average Wear Rate***		
HD-6.1C-34T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-19T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-34T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.1C-02R (D/S)	18	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-19T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-05R	18	3.366	1.016	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-06P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-12P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.3C-01N	30	3.126	0.982	204.2	2.875	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-6.1C-22P	52	3.051	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-29P	53	2.977	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-04P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-24P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-10P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2C-01E	16	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-14P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-16P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-18P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-31P	51	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-02P	58	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-04P	63	2.405	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-05R (D/S)	18	2.336	0.706	204.2	2.747	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-6.1C-20P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-35P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-08P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:03PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***									***Sorted By: Flow Order***	
HD-6.1A-01N	31	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-02P	61	3.550	0.979	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-03E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-04P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-05E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-06P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-06P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-07E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-08P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-09E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-10P	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-11E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-12P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-12P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-13E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-43P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-14E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-15P	54	4.208	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-16E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-17P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-17P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-18E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-19P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-20E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-21P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-21P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-22E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-23P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-24E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***									***Sorted By: Flow Order***	
HD-6.1A-25P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-25P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-26E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-27P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-28T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-28T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-29P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-44T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-44T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-30E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-31P	52	3.051	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-32E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-33P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-34E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-37E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-38P	53	2.977	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-39E	1	3.839	1.197	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-40P	51	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-41E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1A-42P	54	3.871	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2A-01E	16	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2A-01E (D/S)	16	6.176	1.891	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1A-01V	24	10.427	3.050	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1A 02R	18	5.578	1.708	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1A 02R (D/S)	18	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-01V	22	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-02P	58	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-03T	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-03T (BR/SE)	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-04P	63	2.405	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-05R	18	3.366	1.016	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2A-05R (D/S)	18	2.336	0.706	204.2	2.747	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-07.3A-01N	30	3.126	0.982	204.2	2.875	0.0	10.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***									***Sorted By: Flow Order***	
HD-6.1B-01N	31	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-02P	61	3.550	0.979	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-03E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-04E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***									***Sorted By: Flow Order***	
HD-6.1B-05P_1	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-05P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-06E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-07P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-08E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-09P	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-10E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-11P_1	53	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-11P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-12E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-13E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-14P	54	4.208	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-15E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-16P_1	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-16P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-17E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-18P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-19E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-20P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-21E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-22P_1	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-22P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-23T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-23T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-24P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-38T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-38T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-25E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-26P	52	3.051	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-27E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-28P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-29E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-32E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-33P	53	2.977	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-34E	1	3.839	1.197	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-35P	51	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-36E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1B-37P	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***									***Sorted By: Flow Order***	
HD-6.2B-01E	16	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2B-01E (D/S)	16	6.176	1.891	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1B-01V	24	9.961	3.050	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1B-02R	18	5.578	1.708	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1B-02R (D/S)	18	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-01V	22	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-02P	58	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-03T	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-03T (BR/SE)	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-04P	63	2.405	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-05R	18	3.366	1.016	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2B-05R (D/S)	18	2.336	0.706	204.2	2.747	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-07.3B-01N	30	3.126	0.982	204.2	2.875	0.0	10.750	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***									***Sorted By: Flow Order***	
HD-6.1C-01N	31	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-02P	61	3.550	0.979	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-03E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-04P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-05E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-06P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-07E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-08P_1	54	3.723	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-08P_2	9	1.280	0.399	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-09E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-10P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-11E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-12P	52	3.287	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-13E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-14P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-15E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-16P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-17E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-18P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-19T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-19T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-20P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-34T	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-34T (D/S)	15	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***								***Sorted By: Flow Order***		
HD-6.1C-35P	65	2.327	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-21E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-22P	52	3.051	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-23E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-24P	52	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-25E	2	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-28E	3	4.072	1.270	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-29P	53	2.977	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-30E	1	3.839	1.197	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-31P	51	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-32E	4	4.304	1.342	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.1C-33P	54	3.906	1.161	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2C-01E	16	2.908	0.907	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-6.2C-01E (D/S)	16	6.176	1.891	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1C-01V	24	9.961	3.050	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1C-02R	18	5.578	1.708	204.2	7.846	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-07.1C-02R (D/S)	18	3.490	1.088	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-01V	22	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-02P	58	2.559	0.798	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-03T	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-03T (BR/SE)	13	5.816	1.814	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-04P	63	2.405	0.725	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-05R	18	3.366	1.016	204.2	4.372	0.0	8.625	7.056	0.000	'8.04'	ARD
HD-07.2C-05R (D/S)	18	2.336	0.706	204.2	2.747	0.0	10.750	7.056	0.000	'8.04'	ARD
HD-07.3C-01N	30	3.126	0.982	204.2	2.875	0.0	10.750	7.056	0.000	'8.04'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:03PM

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Remaining Life***		
HD-07.1A-01V	0.280	0.038	0.012	0.012	74,236	No	203,584
HD-07.2A-01V	0.250	0.115	0.015	0.015	480,323	No	203,584
HD-6.1A-01N	0.250	0.115	0.014	0.014	485,269	No	203,584
HD-6.1A-26E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-22E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-24E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-20E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-16E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-18E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-13E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-14E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-11E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-07E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-09E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-03E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-05E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-30E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-32E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-34E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-37E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1A-15P	0.250	0.152	0.014	0.014	1,040,392	No	203,584
HD-6.1A-39E	0.250	0.161	0.014	0.014	1,071,602	No	203,584
HD-6.1A-10P	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1A-28T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-28T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-44T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-44T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-07.2A-05R	0.000	0.172	0.014	0.014	1,357,679	No	203,584
HD-6.1A-02P	0.250	0.167	0.014	0.014	1,369,726	No	203,584
HD-6.2A-01E (D/S)	0.000	0.334	0.011	0.011	1,496,435	Yes	203,584
HD-6.1A-19P	0.250	0.174	0.014	0.014	1,538,344	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Remaining Life***		
HD-6.1A-08P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1A-31P	0.250	0.179	0.014	0.014	1,591,338	No	203,584
HD-6.1A-41E	0.250	0.259	0.014	0.014	1,597,872	Yes	203,584
HD-6.1A-38P	0.250	0.181	0.014	0.014	1,608,084	No	203,584
HD-6.1A-25P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-23P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-21P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-17P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-43P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-12P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-27P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-04P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-06P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-33P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-42P	0.250	0.234	0.014	0.014	1,661,352	Yes	203,584
HD-07.1A 02R	0.000	0.341	0.011	0.011	1,694,437	Yes	203,584
HD-07.2A-03T (BR/SE)	0.000	0.379	0.014	0.014	1,762,918	Yes	203,584
HD-6.1A-40P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-07.1A 02R (D/S)	0.000	0.259	0.014	0.014	1,969,593	Yes	203,584
HD-07.2A-02P	0.250	0.209	0.014	0.014	2,138,335	Yes	203,584
HD-07.2A-04P	0.250	0.194	0.014	0.014	2,170,662	No	203,584
HD-6.1A-29P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-07.2A-05R (D/S)	0.000	0.196	0.018	0.018	2,205,129	No	203,584
HD-07.2A-03T	0.250	0.474	0.014	0.014	2,221,774	Yes	203,584
HD-07.3A-01N	0.365	0.292	0.018	0.018	2,447,192	No	203,584
HD-6.2A-01E	0.000	0.424	0.014	0.014	3,960,616	Yes	203,584
HD-6.1A-25P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-21P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-17P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-12P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-06P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Remaining Life***		
HD-07.1B-01V	0.280	0.048	0.012	0.012	105,353	No	203,584
HD-07.2B-01V	0.250	0.115	0.015	0.015	480,323	No	203,584
HD-6.1B-01N	0.250	0.115	0.014	0.014	485,269	No	203,584
HD-6.2B-01E (D/S)	0.000	0.136	0.011	0.011	581,042	No	203,584
HD-6.1B-03E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-04E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-06E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-08E	0.250	0.150	0.014	0.014	885,168	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Remaining Life***		
HD-6.1B-12E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-13E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-15E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-17E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-19E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-21E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-25E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-27E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-29E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-36E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-10E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1B-32E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1B-14P	0.250	0.152	0.014	0.014	1,040,392	No	203,584
HD-6.1B-34E	0.250	0.161	0.014	0.014	1,071,602	No	203,584
HD-6.1B-05P_1	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-09P	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-16P_1	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-37P	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-23T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-23T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-38T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-38T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-07.1B-02R	0.000	0.264	0.011	0.011	1,298,503	Yes	203,584
HD-07.2B-05R	0.000	0.172	0.014	0.014	1,357,679	No	203,584
HD-6.1B-02P	0.250	0.167	0.014	0.014	1,369,726	No	203,584
HD-6.1B-07P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1B-20P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1B-26P	0.250	0.179	0.014	0.014	1,591,338	No	203,584
HD-6.1B-33P	0.250	0.181	0.014	0.014	1,608,084	No	203,584
HD-6.1B-11P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-18P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-22P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-28P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.2B-01E	0.000	0.182	0.014	0.014	1,623,444	No	203,584
HD-07.2B-03T (BR/SE)	0.000	0.358	0.014	0.014	1,661,487	Yes	203,584
HD-07.1B-02R (D/S)	0.000	0.240	0.014	0.014	1,814,679	Yes	203,584
HD-6.1B-35P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-07.2B-02P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-07.2B-03T	0.250	0.449	0.014	0.014	2,101,023	Yes	203,584
HD-07.2B-04P	0.250	0.194	0.014	0.014	2,170,662	No	203,584
HD-6.1B-24P	0.250	0.196	0.014	0.014	2,192,532	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Remaining Life***		
HD-07.2B-05R (D/S)	0.000	0.196	0.018	0.018	2,205,129	No	203,584
HD-07.3B-01N	0.365	0.292	0.018	0.018	2,447,192	No	203,584
HD-6.1B-05P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-11P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-16P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-22P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Remaining Life***		
HD-6.1C-01N	0.250	0.115	0.014	0.014	485,269	No	203,584
HD-6.1C-03E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-05E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-07E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-09E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-11E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-13E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-15E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-17E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-21E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-23E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-25E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-32E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-28E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1C-30E	0.250	0.161	0.014	0.014	1,071,602	No	203,584
HD-6.1C-33P	0.250	0.159	0.014	0.014	1,093,386	No	203,584
HD-6.1C-08P_1	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1C-19T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-19T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-34T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-34T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-07.2C-03T	0.250	0.281	0.014	0.014	1,289,572	Yes	203,584
HD-07.2C-05R	0.000	0.172	0.014	0.014	1,357,679	No	203,584
HD-6.1C-02P	0.250	0.167	0.014	0.014	1,369,726	No	203,584
HD-07.1C-02R	0.000	0.286	0.011	0.011	1,407,895	Yes	203,584
HD-07.1C-01V	0.280	0.513	0.012	0.012	1,439,543	No	203,584
HD-6.1C-06P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1C-12P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1C-22P	0.250	0.179	0.014	0.014	1,591,338	No	203,584
HD-6.1C-29P	0.250	0.181	0.014	0.014	1,608,084	No	203,584
HD-6.1C-04P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-10P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-14P	0.250	0.182	0.014	0.014	1,623,444	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Remaining Life***		
HD-6.1C-16P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-18P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-24P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-07.1C-02R (D/S)	0.000	0.238	0.014	0.014	1,803,187	Yes	203,584
HD-6.2C-01E (D/S)	0.000	0.410	0.011	0.011	1,846,123	Yes	203,584
HD-6.1C-31P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-07.2C-03T (BR/SE)	0.000	0.434	0.014	0.014	2,028,572	Yes	203,584
HD-07.2C-04P	0.250	0.194	0.014	0.014	2,170,662	No	203,584
HD-6.1C-20P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-6.1C-35P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-07.2C-05R (D/S)	0.000	0.196	0.018	0.018	2,205,129	No	203,584
HD-07.2C-02P	0.250	0.220	0.014	0.014	2,262,465	Yes	203,584
HD-07.3C-01N	0.365	0.292	0.018	0.018	2,447,192	No	203,584
HD-07.2C-01V	0.250	0.637	0.015	0.015	3,000,463	No	203,584
HD-6.2C-01E	0.000	0.393	0.014	0.014	3,660,578	Yes	203,584
HD-6.1C-08P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:03PM

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Flow Order***		
HD-6.1A-01N	0.250	0.115	0.014	0.014	485,269	No	203,584
HD-6.1A-02P	0.250	0.167	0.014	0.014	1,369,726	No	203,584
HD-6.1A-03E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-04P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-05E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-06P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-06P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-07E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-08P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1A-09E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-10P	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1A-11E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-12P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-12P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-13E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-43P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-14E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-15P	0.250	0.152	0.014	0.014	1,040,392	No	203,584
HD-6.1A-16E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-17P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-17P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-18E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-19P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1A-20E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-21P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-21P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1A-22E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-23P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-24E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-25P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-25P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Flow Order***		
HD-6.1A-26E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-27P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-28T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-28T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-29P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-6.1A-44T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-44T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1A-30E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-31P	0.250	0.179	0.014	0.014	1,591,338	No	203,584
HD-6.1A-32E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-33P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1A-34E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1A-37E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1A-38P	0.250	0.181	0.014	0.014	1,608,084	No	203,584
HD-6.1A-39E	0.250	0.161	0.014	0.014	1,071,602	No	203,584
HD-6.1A-40P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-6.1A-41E	0.250	0.259	0.014	0.014	1,597,872	Yes	203,584
HD-6.1A-42P	0.250	0.234	0.014	0.014	1,661,352	Yes	203,584
HD-6.2A-01E	0.000	0.424	0.014	0.014	3,960,616	Yes	203,584
HD-6.2A-01E (D/S)	0.000	0.334	0.011	0.011	1,496,435	Yes	203,584
HD-07.1A-01V	0.280	0.038	0.012	0.012	74,236	No	203,584
HD-07.1A 02R	0.000	0.341	0.011	0.011	1,694,437	Yes	203,584
HD-07.1A 02R (D/S)	0.000	0.259	0.014	0.014	1,969,593	Yes	203,584
HD-07.2A-01V	0.250	0.115	0.015	0.015	480,323	No	203,584
HD-07.2A-02P	0.250	0.209	0.014	0.014	2,138,335	Yes	203,584
HD-07.2A-03T	0.250	0.474	0.014	0.014	2,221,774	Yes	203,584
HD-07.2A-03T (BR/SE)	0.000	0.379	0.014	0.014	1,762,918	Yes	203,584
HD-07.2A-04P	0.250	0.194	0.014	0.014	2,170,662	No	203,584
HD-07.2A-05R	0.000	0.172	0.014	0.014	1,357,679	No	203,584
HD-07.2A-05R (D/S)	0.000	0.196	0.018	0.018	2,205,129	No	203,584
HD-07.3A-01N	0.365	0.292	0.018	0.018	2,447,192	No	203,584
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Flow Order***		
HD-6.1B-01N	0.250	0.115	0.014	0.014	485,269	No	203,584
HD-6.1B-02P	0.250	0.167	0.014	0.014	1,369,726	No	203,584
HD-6.1B-03E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-04E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-05P_1	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-05P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-06E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-07P	0.250	0.174	0.014	0.014	1,538,344	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Flow Order***		
HD-6.1B-08E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-09P	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-10E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1B-11P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-11P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-12E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-13E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-14P	0.250	0.152	0.014	0.014	1,040,392	No	203,584
HD-6.1B-15E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-16P_1	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1B-16P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-17E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-18P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-19E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-20P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1B-21E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-22P_1	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-22P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1B-23T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-23T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-24P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-6.1B-38T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-38T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1B-25E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-26P	0.250	0.179	0.014	0.014	1,591,338	No	203,584
HD-6.1B-27E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-28P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1B-29E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-32E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1B-33P	0.250	0.181	0.014	0.014	1,608,084	No	203,584
HD-6.1B-34E	0.250	0.161	0.014	0.014	1,071,602	No	203,584
HD-6.1B-35P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-6.1B-36E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1B-37P	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.2B-01E	0.000	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.2B-01E (D/S)	0.000	0.136	0.011	0.011	581,042	No	203,584
HD-07.1B-01V	0.280	0.048	0.012	0.012	105,353	No	203,584
HD-07.1B-02R	0.000	0.264	0.011	0.011	1,298,503	Yes	203,584
HD-07.1B-02R (D/S)	0.000	0.240	0.014	0.014	1,814,679	Yes	203,584
HD-07.2B-01V	0.250	0.115	0.015	0.015	480,323	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Flow Order***		
HD-07.2B-02P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-07.2B-03T	0.250	0.449	0.014	0.014	2,101,023	Yes	203,584
HD-07.2B-03T (BR/SE)	0.000	0.358	0.014	0.014	1,661,487	Yes	203,584
HD-07.2B-04P	0.250	0.194	0.014	0.014	2,170,662	No	203,584
HD-07.2B-05R	0.000	0.172	0.014	0.014	1,357,679	No	203,584
HD-07.2B-05R (D/S)	0.000	0.196	0.018	0.018	2,205,129	No	203,584
HD-07.3B-01N	0.365	0.292	0.018	0.018	2,447,192	No	203,584
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Flow Order***		
HD-6.1C-01N	0.250	0.115	0.014	0.014	485,269	No	203,584
HD-6.1C-02P	0.250	0.167	0.014	0.014	1,369,726	No	203,584
HD-6.1C-03E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-04P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-05E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-06P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1C-07E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-08P_1	0.250	0.163	0.014	0.014	1,125,492	No	203,584
HD-6.1C-08P_2	0.250	0.220	0.014	0.014	4,520,620	No	203,584
HD-6.1C-09E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-10P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-11E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-12P	0.250	0.174	0.014	0.014	1,538,344	No	203,584
HD-6.1C-13E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-14P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-15E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-16P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-17E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-18P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-19T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-19T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-20P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-6.1C-34T	0.250	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-34T (D/S)	0.000	0.169	0.014	0.014	1,244,053	No	203,584
HD-6.1C-35P	0.250	0.196	0.014	0.014	2,192,532	No	203,584
HD-6.1C-21E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-22P	0.250	0.179	0.014	0.014	1,591,338	No	203,584
HD-6.1C-23E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-24P	0.250	0.182	0.014	0.014	1,623,444	No	203,584
HD-6.1C-25E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-28E	0.250	0.155	0.014	0.014	973,058	No	203,584
HD-6.1C-29P	0.250	0.181	0.014	0.014	1,608,084	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Flow Order***		
HD-6.1C-30E	0.250	0.161	0.014	0.014	1,071,602	No	203,584
HD-6.1C-31P	0.250	0.191	0.014	0.014	1,933,856	No	203,584
HD-6.1C-32E	0.250	0.150	0.014	0.014	885,168	No	203,584
HD-6.1C-33P	0.250	0.159	0.014	0.014	1,093,386	No	203,584
HD-6.2C-01E	0.000	0.393	0.014	0.014	3,660,578	Yes	203,584
HD-6.2C-01E (D/S)	0.000	0.410	0.011	0.011	1,846,123	Yes	203,584
HD-07.1C-01V	0.280	0.513	0.012	0.012	1,439,543	No	203,584
HD-07.1C-02R	0.000	0.286	0.011	0.011	1,407,895	Yes	203,584
HD-07.1C-02R (D/S)	0.000	0.238	0.014	0.014	1,803,187	Yes	203,584
HD-07.2C-01V	0.250	0.637	0.015	0.015	3,000,463	No	203,584
HD-07.2C-02P	0.250	0.220	0.014	0.014	2,262,465	Yes	203,584
HD-07.2C-03T	0.250	0.281	0.014	0.014	1,289,572	Yes	203,584
HD-07.2C-03T (BR/SE)	0.000	0.434	0.014	0.014	2,028,572	Yes	203,584
HD-07.2C-04P	0.250	0.194	0.014	0.014	2,170,662	No	203,584
HD-07.2C-05R	0.000	0.172	0.014	0.014	1,357,679	No	203,584
HD-07.2C-05R (D/S)	0.000	0.196	0.018	0.018	2,205,129	No	203,584
HD-07.3C-01N	0.365	0.292	0.018	0.018	2,447,192	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:51:31PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***								***Sorted By: Average Wear Rate***		
HD-05.1A-01V	24	15.461	7.715	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-4.2A-02V	22	10.967	5.481	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3A-01R (D/S)	7	9.895	4.937	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1A-02R	18	8.658	4.320	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-4.3A-01R	7	7.677	3.837	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.2A-01E (D/S)	16	6.800	3.398	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.1A-01N	31	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-01T (BR/SE)	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-01T	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-06N	30	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-05E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-04E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-08E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-10E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-12E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-14E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-03T (D/S)	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-03T	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-06E	3	3.812	1.959	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-05P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-02P	61	3.474	1.512	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.1A-02R (D/S)	18	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-11P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-15P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-07P	53	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-09P_1	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-13P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2A-01E	16	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***								***Sorted By: Average Wear Rate***		
HD-4.1A-04P	65	2.573	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-02P	63	2.348	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-09P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-04.1B FWH 34B to FWH 33B***								***Sorted By: Average Wear Rate***		
HD-05.1B-01V	24	15.461	7.715	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-4.2B-02V	22	10.967	5.481	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3B-01R (D/S)	7	9.895	4.937	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1B-02R	18	8.658	4.320	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-4.3B-01R	7	7.677	3.837	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.2B-01E (D/S)	16	6.800	3.398	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-05.2B-01T (BR/SE)	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-01N	31	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-05T (D/S)	10	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-01T	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-05T (BR/SE)	10	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-06N	30	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-07E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-04E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-09E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-12E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-14E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-16E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-10E	3	3.812	1.959	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-05P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-02P	61	3.474	1.512	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-06P	60	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.1B-02R (D/S)	18	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-08P	52	3.217	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-13P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-17P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-04P	51	2.831	1.232	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-11P_1	53	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-15P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2B-01E	16	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-02P	63	2.348	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-11P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***								***Sorted By: Average Wear Rate***		
HD-05.1C-01V	24	15.461	7.715	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-4.2C-02V	22	10.967	5.481	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3C-01R (D/S)	7	9.895	4.937	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1C-02R	18	8.658	4.320	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-4.3C-01R	7	7.677	3.837	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.2C-01E (D/S)	16	6.800	3.398	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-05.2C-01T (BR/SE)	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-01N	31	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-01T	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-06N	30	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-03E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-08E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-04E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-10E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-05E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-12E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-14E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-16E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-18E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-20E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-22E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-06T (D/S)	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-06T	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-09P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-05P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-02P	61	3.474	1.512	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.1C-02R (D/S)	18	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-11P	52	3.217	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-19P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-23P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-04P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-13P_1	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-15P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-17P_1	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-21P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2C-01E	16	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-07P	65	2.573	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***								***Sorted By: Average Wear Rate***		
HD-05.2C-02P	63	2.348	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-13P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-17P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:31PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***									***Sorted By: Flow Order***	
HD-4.1A-01N	31	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-02P	61	3.474	1.512	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-03T	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-03T (D/S)	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-04P	65	2.573	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-05E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-06E	3	3.812	1.959	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-07P	53	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-08E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-09P_1	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-09P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-10E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-11P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-12E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-13P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-14E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1A-15P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2A-01E	16	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2A-01E (D/S)	16	6.800	3.398	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.2A-02V	22	10.967	5.481	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3A-01R	7	7.677	3.837	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3A-01R (D/S)	7	9.895	4.937	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1A-01V	24	15.461	7.715	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1A-02R	18	8.658	4.320	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1A-02R (D/S)	18	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-01T	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-01T (BR/SE)	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-02P	63	2.348	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***									***Sorted By: Flow Order***	
HD-05.2A-04E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-05P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2A-06N	30	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
===>Grouped by Line:	***HD-04.1B FWH 34B to FWH 33B***									***Sorted By: Flow Order***	
HD-4.1B-01N	31	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-02P	61	3.474	1.512	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-04P	51	2.831	1.232	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-05T (BR/SE)	10	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-05T (D/S)	10	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-06P	60	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-07E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-08P	52	3.217	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-09E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-10E	3	3.812	1.959	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-11P_1	53	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-11P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-12E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-13P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-14E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-15P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-16E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1B-17P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2B-01E	16	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2B-01E (D/S)	16	6.800	3.398	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.2B-02V	22	10.967	5.481	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3B-01R	7	7.677	3.837	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3B-01R (D/S)	7	9.895	4.937	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1B-01V	24	15.461	7.715	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1B-02R	18	8.658	4.320	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1B-02R (D/S)	18	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-01T	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-01T (BR/SE)	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-02P	63	2.348	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-04E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-05P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2B-06N	30	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	HD-04.1C FWH 34C to FWH 33C									Sorted By: Flow Order	
HD-4.1C-01N	31	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-02P	61	3.474	1.512	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-03E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-04P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-05E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-06T	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-06T (D/S)	15	3.860	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-07P	65	2.573	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-08E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-09P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-10E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-11P	52	3.217	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-12E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-13P_1	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-13P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-14E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-15P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-16E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-17P_1	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-17P_2	9	1.198	0.616	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-18E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-19P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-20E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-21P	52	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-22E	2	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.1C-23P	52	2.935	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2C-01E	16	2.723	1.400	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-4.2C-01E (D/S)	16	6.800	3.398	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.2C-02V	22	10.967	5.481	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3C-01R	7	7.677	3.837	253.2	9.779	0.0	4.500	7.056	0.000	'8.04'	ARD
HD-4.3C-01R (D/S)	7	9.895	4.937	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1C-01V	24	15.461	7.715	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1C-02R	18	8.658	4.320	253.2	16.839	0.0	3.500	7.056	0.000	'8.04'	ARD
HD-05.1C-02R (D/S)	18	3.268	1.680	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-01T	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-01T (BR/SE)	13	5.446	2.799	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-02P	63	2.348	1.120	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-03E	1	3.594	1.847	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***									***Sorted By: Flow Order***	
HD-05.2C-04E	4	4.030	2.071	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-05P	54	3.485	1.791	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD
HD-05.2C-06N	30	4.357	2.239	253.2	4.309	0.0	6.625	7.056	0.000	'8.04'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:31PM

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Remaining Life***		
HD-4.2A-02V	0.237	-0.018	0.016	0.016	-54,928	No	203,584
HD-05.1A-02R	0.000	0.015	0.012	0.012	6,376	Yes	203,584
HD-05.1A-01V	0.216	0.177	0.012	0.012	187,217	No	203,584
HD-4.3A-01R (D/S)	0.000	0.179	0.012	0.012	296,194	No	203,584
HD-4.1A-01N	0.280	0.153	0.022	0.022	411,244	No	203,584
HD-4.3A-01R	0.000	0.196	0.015	0.015	413,231	No	203,584
HD-4.2A-01E (D/S)	0.000	0.227	0.015	0.015	546,779	No	203,584
HD-05.2A-06N	0.280	0.179	0.022	0.022	613,075	No	203,584
HD-05.2A-01T	0.280	0.227	0.022	0.022	640,118	Yes	203,584
HD-4.1A-05E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-10E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-12E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-08E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-14E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2A-04E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2A-01T (BR/SE)	0.000	0.251	0.022	0.022	715,225	Yes	203,584
HD-4.1A-06E	0.280	0.191	0.022	0.022	757,240	No	203,584
HD-05.2A-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-05.2A-05P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-4.1A-03T (D/S)	0.000	0.190	0.022	0.022	877,640	No	203,584
HD-4.1A-03T	0.280	0.190	0.022	0.022	877,640	No	203,584
HD-4.1A-02P	0.280	0.199	0.022	0.022	1,027,144	No	203,584
HD-4.1A-11P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1A-15P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1A-13P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1A-07P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1A-09P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-05.1A-02R (D/S)	0.000	0.263	0.022	0.022	1,255,265	Yes	203,584
HD-4.1A-04P	0.280	0.220	0.022	0.022	1,550,409	No	203,584
HD-05.2A-02P	0.280	0.230	0.022	0.022	1,630,087	Yes	203,584
HD-4.2A-01E	0.000	0.301	0.022	0.022	1,745,803	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Remaining Life***		
HD-4.1A-09P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
===>Grouped by Line: **HD-04.1B FWH 34B to FWH 33B**					***Sorted By:Remaining Life***		
HD-4.2B-02V	0.237	-0.018	0.016	0.016	-54,928	No	203,584
HD-05.1B-01V	0.216	0.218	0.012	0.012	233,648	No	203,584
HD-4.3B-01R (D/S)	0.000	0.181	0.012	0.012	300,026	No	203,584
HD-05.1B-02R	0.000	0.198	0.012	0.012	377,584	No	203,584
HD-4.1B-01N	0.280	0.153	0.022	0.022	411,244	No	203,584
HD-4.1B-05T (D/S)	0.000	0.153	0.022	0.022	411,244	No	203,584
HD-4.3B-01R	0.000	0.206	0.015	0.015	435,793	Yes	203,584
HD-05.2B-06N	0.280	0.179	0.022	0.022	613,075	No	203,584
HD-4.1B-05T (BR/SE)	0.000	0.179	0.022	0.022	613,075	No	203,584
HD-4.2B-01E (D/S)	0.000	0.253	0.015	0.015	613,755	Yes	203,584
HD-05.1B-02R (D/S)	0.000	0.143	0.022	0.022	629,373	No	203,584
HD-05.2B-04E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-07E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-09E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-12E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-14E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-16E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-10E	0.280	0.191	0.022	0.022	757,240	No	203,584
HD-05.2B-01T	0.280	0.278	0.022	0.022	802,588	Yes	203,584
HD-05.2B-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-4.1B-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-05.2B-05P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-05.2B-01T (BR/SE)	0.000	0.310	0.022	0.022	902,731	Yes	203,584
HD-4.1B-06P	0.280	0.204	0.022	0.022	949,460	No	203,584
HD-4.1B-02P	0.280	0.199	0.022	0.022	1,027,144	No	203,584
HD-4.1B-08P	0.280	0.205	0.022	0.022	1,146,748	No	203,584
HD-4.1B-13P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1B-17P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1B-11P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1B-15P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.2B-01E	0.000	0.232	0.022	0.022	1,312,613	Yes	203,584
HD-4.1B-04P	0.280	0.214	0.022	0.022	1,366,927	No	203,584
HD-05.2B-02P	0.280	0.225	0.022	0.022	1,591,410	No	203,584
HD-4.1B-11P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Remaining Life***		
HD-4.2C-02V	0.237	-0.018	0.016	0.016	-54,928	No	203,584
HD-05.1C-01V	0.216	0.153	0.012	0.012	160,106	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Remaining Life***		
HD-4.3C-01R (D/S)	0.000	0.206	0.012	0.012	344,383	No	203,584
HD-05.1C-02R	0.000	0.205	0.012	0.012	393,097	No	203,584
HD-4.3C-01R	0.000	0.188	0.015	0.015	394,694	No	203,584
HD-4.1C-01N	0.280	0.153	0.022	0.022	411,244	No	203,584
HD-4.2C-01E (D/S)	0.000	0.220	0.015	0.015	529,535	Yes	203,584
HD-05.1C-02R (D/S)	0.000	0.124	0.022	0.022	529,714	No	203,584
HD-05.2C-06N	0.280	0.179	0.022	0.022	613,075	No	203,584
HD-4.1C-03E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-05E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-08E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-10E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-12E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-14E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-16E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-18E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-20E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-22E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2C-04E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2C-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-4.1C-09P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-05.2C-05P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-05.2C-01T	0.280	0.301	0.022	0.022	871,710	Yes	203,584
HD-4.1C-06T	0.280	0.190	0.022	0.022	877,640	No	203,584
HD-4.1C-06T (D/S)	0.000	0.190	0.022	0.022	877,640	No	203,584
HD-05.2C-01T (BR/SE)	0.000	0.330	0.022	0.022	962,464	Yes	203,584
HD-4.1C-02P	0.280	0.199	0.022	0.022	1,027,144	No	203,584
HD-4.1C-11P	0.280	0.205	0.022	0.022	1,146,748	No	203,584
HD-4.1C-19P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1C-23P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1C-04P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-13P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-15P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-17P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-21P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.2C-01E	0.000	0.226	0.022	0.022	1,276,082	Yes	203,584
HD-4.1C-07P	0.280	0.220	0.022	0.022	1,550,409	No	203,584
HD-05.2C-02P	0.280	0.225	0.022	0.022	1,591,410	No	203,584
HD-4.1C-13P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
HD-4.1C-17P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:31PM

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Flow Order***		
HD-4.1A-01N	0.280	0.153	0.022	0.022	411,244	No	203,584
HD-4.1A-02P	0.280	0.199	0.022	0.022	1,027,144	No	203,584
HD-4.1A-03T	0.280	0.190	0.022	0.022	877,640	No	203,584
HD-4.1A-03T (D/S)	0.000	0.190	0.022	0.022	877,640	No	203,584
HD-4.1A-04P	0.280	0.220	0.022	0.022	1,550,409	No	203,584
HD-4.1A-05E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-06E	0.280	0.191	0.022	0.022	757,240	No	203,584
HD-4.1A-07P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1A-08E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-09P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1A-09P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
HD-4.1A-10E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-11P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1A-12E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-13P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1A-14E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1A-15P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.2A-01E	0.000	0.301	0.022	0.022	1,745,803	No	203,584
HD-4.2A-01E (D/S)	0.000	0.227	0.015	0.015	546,779	No	203,584
HD-4.2A-02V	0.237	-0.018	0.016	0.016	-54,928	No	203,584
HD-4.3A-01R	0.000	0.196	0.015	0.015	413,231	No	203,584
HD-4.3A-01R (D/S)	0.000	0.179	0.012	0.012	296,194	No	203,584
HD-05.1A-01V	0.216	0.177	0.012	0.012	187,217	No	203,584
HD-05.1A-02R	0.000	0.015	0.012	0.012	6,376	Yes	203,584
HD-05.1A-02R (D/S)	0.000	0.263	0.022	0.022	1,255,265	Yes	203,584
HD-05.2A-01T	0.280	0.227	0.022	0.022	640,118	Yes	203,584
HD-05.2A-01T (BR/SE)	0.000	0.251	0.022	0.022	715,225	Yes	203,584
HD-05.2A-02P	0.280	0.230	0.022	0.022	1,630,087	Yes	203,584
HD-05.2A-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-05.2A-04E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2A-05P	0.280	0.199	0.022	0.022	865,364	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Flow Order***		
HD-05.2A-06N	0.280	0.179	0.022	0.022	613,075	No	203,584
===>Grouped by Line: **HD-04.1B FWH 34B to FWH 33B**					***Sorted By:Flow Order***		
HD-4.1B-01N	0.280	0.153	0.022	0.022	411,244	No	203,584
HD-4.1B-02P	0.280	0.199	0.022	0.022	1,027,144	No	203,584
HD-4.1B-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-4.1B-04P	0.280	0.214	0.022	0.022	1,366,927	No	203,584
HD-4.1B-05T (BR/SE)	0.000	0.179	0.022	0.022	613,075	No	203,584
HD-4.1B-05T (D/S)	0.000	0.153	0.022	0.022	411,244	No	203,584
HD-4.1B-06P	0.280	0.204	0.022	0.022	949,460	No	203,584
HD-4.1B-07E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-08P	0.280	0.205	0.022	0.022	1,146,748	No	203,584
HD-4.1B-09E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-10E	0.280	0.191	0.022	0.022	757,240	No	203,584
HD-4.1B-11P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1B-11P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
HD-4.1B-12E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-13P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1B-14E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-15P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1B-16E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1B-17P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.2B-01E	0.000	0.232	0.022	0.022	1,312,613	Yes	203,584
HD-4.2B-01E (D/S)	0.000	0.253	0.015	0.015	613,755	Yes	203,584
HD-4.2B-02V	0.237	-0.018	0.016	0.016	-54,928	No	203,584
HD-4.3B-01R	0.000	0.206	0.015	0.015	435,793	Yes	203,584
HD-4.3B-01R (D/S)	0.000	0.181	0.012	0.012	300,026	No	203,584
HD-05.1B-01V	0.216	0.218	0.012	0.012	233,648	No	203,584
HD-05.1B-02R	0.000	0.198	0.012	0.012	377,584	No	203,584
HD-05.1B-02R (D/S)	0.000	0.143	0.022	0.022	629,373	No	203,584
HD-05.2B-01T	0.280	0.278	0.022	0.022	802,588	Yes	203,584
HD-05.2B-01T (BR/SE)	0.000	0.310	0.022	0.022	902,731	Yes	203,584
HD-05.2B-02P	0.280	0.225	0.022	0.022	1,591,410	No	203,584
HD-05.2B-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-05.2B-04E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2B-05P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-05.2B-06N	0.280	0.179	0.022	0.022	613,075	No	203,584
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Flow Order***		
HD-4.1C-01N	0.280	0.153	0.022	0.022	411,244	No	203,584
HD-4.1C-02P	0.280	0.199	0.022	0.022	1,027,144	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Flow Order***		
HD-4.1C-03E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-04P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-05E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-06T	0.280	0.190	0.022	0.022	877,640	No	203,584
HD-4.1C-06T (D/S)	0.000	0.190	0.022	0.022	877,640	No	203,584
HD-4.1C-07P	0.280	0.220	0.022	0.022	1,550,409	No	203,584
HD-4.1C-08E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-09P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-4.1C-10E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-11P	0.280	0.205	0.022	0.022	1,146,748	No	203,584
HD-4.1C-12E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-13P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-13P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
HD-4.1C-14E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-15P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-16E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-17P_1	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-17P_2	0.280	0.252	0.022	0.022	3,273,574	No	203,584
HD-4.1C-18E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-19P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.1C-20E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-21P	0.280	0.217	0.022	0.022	1,218,568	No	203,584
HD-4.1C-22E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-4.1C-23P	0.280	0.212	0.022	0.022	1,187,748	No	203,584
HD-4.2C-01E	0.000	0.226	0.022	0.022	1,276,082	Yes	203,584
HD-4.2C-01E (D/S)	0.000	0.220	0.015	0.015	529,535	Yes	203,584
HD-4.2C-02V	0.237	-0.018	0.016	0.016	-54,928	No	203,584
HD-4.3C-01R	0.000	0.188	0.015	0.015	394,694	No	203,584
HD-4.3C-01R (D/S)	0.000	0.206	0.012	0.012	344,383	No	203,584
HD-05.1C-01V	0.216	0.153	0.012	0.012	160,106	No	203,584
HD-05.1C-02R	0.000	0.205	0.012	0.012	393,097	No	203,584
HD-05.1C-02R (D/S)	0.000	0.124	0.022	0.022	529,714	No	203,584
HD-05.2C-01T	0.280	0.301	0.022	0.022	871,710	Yes	203,584
HD-05.2C-01T (BR/SE)	0.000	0.330	0.022	0.022	962,464	Yes	203,584
HD-05.2C-02P	0.280	0.225	0.022	0.022	1,591,410	No	203,584
HD-05.2C-03E	0.280	0.196	0.022	0.022	827,139	No	203,584
HD-05.2C-04E	0.280	0.186	0.022	0.022	694,899	No	203,584
HD-05.2C-05P	0.280	0.199	0.022	0.022	865,364	No	203,584
HD-05.2C-06N	0.280	0.179	0.022	0.022	613,075	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:51:45PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1A FWH 35A to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1A-15V	22	2.499	1.597	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-01N	31	2.490	1.592	379.8	3.077	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-16N	30	1.999	1.278	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-03E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-05E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-07E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-09E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-11E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-12E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-14E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-06P	54	1.599	1.022	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-13P	54	1.599	1.022	379.8	3.116	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-02P	61	1.349	0.863	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-04P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-08P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-10P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1B-13V	22	2.499	1.597	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-01N	31	2.490	1.592	379.8	3.077	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-14N	30	1.999	1.278	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-03E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-05E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-07E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-09E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-10E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-12E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-11P	54	1.599	1.022	379.8	3.116	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-02P	61	1.349	0.863	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-04P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1B-06P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-08P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-03.1C FWH 35C to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1C-17V	22	2.499	1.597	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-01N	31	2.490	1.592	379.8	3.077	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-18N	30	1.999	1.278	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-03E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-05E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-07E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-09E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-11E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-13E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-14E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-16E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-15P	54	1.599	1.022	379.8	3.116	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-02P	61	1.349	0.863	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-04P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-06P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-08P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-10P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-12P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:45PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1A FWH 35A to HD TK***									***Sorted By: Flow Order***	
HD-03.1A-01N	31	2.490	1.592	379.8	3.077	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-02P	61	1.349	0.863	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-03E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-04P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-05E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-06P	54	1.599	1.022	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-07E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-08P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-09E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-10P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-11E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-12E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-13P	54	1.599	1.022	379.8	3.116	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-14E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-15V	22	2.499	1.597	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1A-16N	30	1.999	1.278	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***									***Sorted By: Flow Order***	
HD-03.1B-01N	31	2.490	1.592	379.8	3.077	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-02P	61	1.349	0.863	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-03E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-04P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-05E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-06P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-07E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-08P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-09E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-10E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-11P	54	1.599	1.022	379.8	3.116	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-12E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***									***Sorted By: Flow Order***	
HD-03.1B-13V	22	2.499	1.597	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1B-14N	30	1.999	1.278	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-03.1C FWH 35C to HD TK***									***Sorted By: Flow Order***	
HD-03.1C-01N	31	2.490	1.592	379.8	3.077	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-02P	61	1.349	0.863	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-03E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-04P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-05E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-06P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-07E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-08P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-09E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-10P	52	1.250	0.799	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-11E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-12P	52	1.250	0.799	379.8	3.138	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-13E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-14E	4	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-15P	54	1.599	1.022	379.8	3.116	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-16E	2	1.849	1.182	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-17V	22	2.499	1.597	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD
HD-03.1C-18N	30	1.999	1.278	379.8	3.089	0.0	10.750	6.843	0.000	'36.60'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:45PM

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1A FWH 35A to HD TK**					***Sorted By:Remaining Life***		
HD-03.1A-01N	0.240	0.182	0.089	0.089	512,668	No	203,584
HD-03.1A-15V	0.250	0.192	0.095	0.095	529,890	No	203,584
HD-03.1A-07E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-09E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-03E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-05E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-11E	0.250	0.226	0.089	0.089	1,014,675	Yes	203,584
HD-03.1A-06P	0.250	0.213	0.089	0.089	1,061,204	No	203,584
HD-03.1A-14E	0.250	0.239	0.089	0.089	1,111,021	Yes	203,584
HD-03.1A-13P	0.250	0.226	0.089	0.089	1,177,038	Yes	203,584
HD-03.1A-12E	0.250	0.258	0.089	0.089	1,251,833	Yes	203,584
HD-03.1A-02P	0.250	0.219	0.089	0.089	1,316,708	No	203,584
HD-03.1A-08P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1A-04P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1A-10P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1A-16N	0.250	0.315	0.089	0.089	1,552,352	No	203,584
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Remaining Life***		
HD-03.1B-01N	0.240	0.182	0.089	0.089	512,668	No	203,584
HD-03.1B-13V	0.250	0.192	0.095	0.095	529,890	No	203,584
HD-03.1B-14N	0.250	0.204	0.089	0.089	785,259	No	203,584
HD-03.1B-10E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-12E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-03E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-05E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-07E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-11P	0.250	0.213	0.089	0.089	1,061,204	No	203,584
HD-03.1B-09E	0.250	0.237	0.089	0.089	1,100,524	Yes	203,584
HD-03.1B-02P	0.250	0.219	0.089	0.089	1,316,708	No	203,584
HD-03.1B-04P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1B-08P	0.250	0.221	0.089	0.089	1,447,526	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Remaining Life***		
HD-03.1B-06P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
===>Grouped by Line: **HD-03.1C FWH 35C to HD TK**					***Sorted By:Remaining Life***		
HD-03.1C-01N	0.240	0.182	0.089	0.089	512,668	No	203,584
HD-03.1C-17V	0.250	0.192	0.095	0.095	529,890	No	203,584
HD-03.1C-18N	0.250	0.204	0.089	0.089	785,259	No	203,584
HD-03.1C-03E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-05E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-07E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-09E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-11E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-14E	0.250	0.227	0.089	0.089	1,024,857	Yes	203,584
HD-03.1C-13E	0.250	0.247	0.089	0.089	1,173,081	Yes	203,584
HD-03.1C-16E	0.250	0.250	0.089	0.089	1,195,314	Yes	203,584
HD-03.1C-15P	0.250	0.230	0.089	0.089	1,209,917	Yes	203,584
HD-03.1C-02P	0.250	0.219	0.089	0.089	1,316,708	No	203,584
HD-03.1C-04P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-06P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-08P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-10P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-12P	0.250	0.221	0.089	0.089	1,447,526	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:45PM

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1A FWH 35A to HD TK**					***Sorted By:Flow Order***		
HD-03.1A-01N	0.240	0.182	0.089	0.089	512,668	No	203,584
HD-03.1A-02P	0.250	0.219	0.089	0.089	1,316,708	No	203,584
HD-03.1A-03E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-04P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1A-05E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-06P	0.250	0.213	0.089	0.089	1,061,204	No	203,584
HD-03.1A-07E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-08P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1A-09E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1A-10P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1A-11E	0.250	0.226	0.089	0.089	1,014,675	Yes	203,584
HD-03.1A-12E	0.250	0.258	0.089	0.089	1,251,833	Yes	203,584
HD-03.1A-13P	0.250	0.226	0.089	0.089	1,177,038	Yes	203,584
HD-03.1A-14E	0.250	0.239	0.089	0.089	1,111,021	Yes	203,584
HD-03.1A-15V	0.250	0.192	0.095	0.095	529,890	No	203,584
HD-03.1A-16N	0.250	0.315	0.089	0.089	1,552,352	No	203,584
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Flow Order***		
HD-03.1B-01N	0.240	0.182	0.089	0.089	512,668	No	203,584
HD-03.1B-02P	0.250	0.219	0.089	0.089	1,316,708	No	203,584
HD-03.1B-03E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-04P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1B-05E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-06P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1B-07E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-08P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1B-09E	0.250	0.237	0.089	0.089	1,100,524	Yes	203,584
HD-03.1B-10E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-11P	0.250	0.213	0.089	0.089	1,061,204	No	203,584
HD-03.1B-12E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1B-13V	0.250	0.192	0.095	0.095	529,890	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Flow Order***		
HD-03.1B-14N	0.250	0.204	0.089	0.089	785,259	No	203,584
===>Grouped by Line: **HD-03.1C FWH 35C to HD TK**					***Sorted By:Flow Order***		
HD-03.1C-01N	0.240	0.182	0.089	0.089	512,668	No	203,584
HD-03.1C-02P	0.250	0.219	0.089	0.089	1,316,708	No	203,584
HD-03.1C-03E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-04P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-05E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-06P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-07E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-08P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-09E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-10P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-11E	0.250	0.207	0.089	0.089	874,754	No	203,584
HD-03.1C-12P	0.250	0.221	0.089	0.089	1,447,526	No	203,584
HD-03.1C-13E	0.250	0.247	0.089	0.089	1,173,081	Yes	203,584
HD-03.1C-14E	0.250	0.227	0.089	0.089	1,024,857	Yes	203,584
HD-03.1C-15P	0.250	0.230	0.089	0.089	1,209,917	Yes	203,584
HD-03.1C-16E	0.250	0.250	0.089	0.089	1,195,314	Yes	203,584
HD-03.1C-17V	0.250	0.192	0.095	0.095	529,890	No	203,584
HD-03.1C-18N	0.250	0.204	0.089	0.089	785,259	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:51:58PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1A FWH 36A to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.2A-01R (D/S)	7	5.041	2.886	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1A-02R	18	4.411	2.526	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-01.1A-01N	31	3.600	2.134	394.5	5.239	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2A-02N	30	2.963	1.756	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-03E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-05E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-07E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-09E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2A-01R	7	2.537	1.504	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.1A-02R (D/S)	18	2.222	1.317	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-02P	61	1.957	1.160	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-04P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-06P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-08P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-10P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.1A 01V	24	0.063	0.036	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.2A-01V	22	0.030	0.018	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.2B-01R (D/S)	7	5.041	2.886	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1B-02R	18	4.411	2.526	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-01.1B-01N	31	3.600	2.134	394.5	5.239	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2B-02N	30	2.963	1.756	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-03E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-05E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-07E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2B-01R	7	2.537	1.504	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.1B-02R (D/S)	18	2.222	1.317	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-02P	61	1.957	1.160	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-04P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.1B-06P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.1B-01V	24	0.063	0.036	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.2B-01V	22	0.030	0.018	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-01.1C FWH 36C to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.2C-01R (D/S)	7	5.041	2.886	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1C-02R	18	4.411	2.526	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-01.1C-01N	31	3.600	2.134	394.5	5.239	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2C-02N	30	2.963	1.756	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-11E	2	2.798	1.659	394.5	5.524	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-03E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-05E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-07E	4	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-09E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2C-01R	7	2.537	1.504	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-08P	54	2.320	1.375	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.1C-02R (D/S)	18	2.222	1.317	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-02P	61	1.957	1.160	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-04P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-06P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-10P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.1C-01V	24	0.063	0.036	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.2C-01V	22	0.030	0.018	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:58PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1A FWH 36A to HD TK***									***Sorted By: Flow Order***	
HD-01.1A-01N	31	3.600	2.134	394.5	5.239	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-02P	61	1.957	1.160	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-03E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-04P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-05E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-06P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-07E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-08P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-09E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1A-10P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2A-01R	7	2.537	1.504	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2A-01R (D/S)	7	5.041	2.886	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1A 01V	24	0.063	0.036	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1A-02R	18	4.411	2.526	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1A-02R (D/S)	18	2.222	1.317	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2A-01V	22	0.030	0.018	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2A-02N	30	2.963	1.756	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***									***Sorted By: Flow Order***	
HD-01.1B-01N	31	3.600	2.134	394.5	5.239	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-02P	61	1.957	1.160	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-03E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-04P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-05E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-06P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1B-07E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2B-01R	7	2.537	1.504	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2B-01R (D/S)	7	5.041	2.886	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1B-01V	24	0.063	0.036	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1B-02R	18	4.411	2.526	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***									***Sorted By: Flow Order***	
HD-02.1B-02R (D/S)	18	2.222	1.317	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2B-01V	22	0.030	0.018	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2B-02N	30	2.963	1.756	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
===>Grouped by Line:	***HD-01.1C FWH 36C to HD TK***									***Sorted By: Flow Order***	
HD-01.1C-01N	31	3.600	2.134	394.5	5.239	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-02P	61	1.957	1.160	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-03E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-04P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-05E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-06P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-07E	4	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-08P	54	2.320	1.375	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-09E	2	2.682	1.590	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-10P	52	1.812	1.074	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.1C-11E	2	2.798	1.659	394.5	5.524	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2C-01R	7	2.537	1.504	394.5	5.278	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-01.2C-01R (D/S)	7	5.041	2.886	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1C-01V	24	0.063	0.036	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1C-02R	18	4.411	2.526	394.5	14.743	0.0	6.625	6.774	0.000	'36.60'	ARD
HD-02.1C-02R (D/S)	18	2.222	1.317	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2C-01V	22	0.030	0.018	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD
HD-02.2C-02N	30	2.963	1.756	394.5	5.401	0.0	10.750	6.774	0.000	'36.60'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:58PM

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1A FWH 36A to HD TK**					***Sorted By:Remaining Life***		
HD-01.1A-01N	0.288	0.204	0.137	0.137	277,270	No	203,584
HD-01.1A-03E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1A-05E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1A-07E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.2A-01R (D/S)	0.000	0.303	0.098	0.098	621,773	Yes	203,584
HD-02.1A-02R	0.000	0.293	0.098	0.098	675,017	Yes	203,584
HD-01.1A-02P	0.307	0.262	0.159	0.159	771,391	No	203,584
HD-01.1A-08P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1A-10P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1A-04P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1A-06P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.2A-01R	0.000	0.321	0.159	0.159	939,100	Yes	203,584
HD-01.1A-09E	0.307	0.330	0.159	0.159	939,836	Yes	203,584
HD-02.2A-02N	0.365	0.351	0.137	0.137	1,066,772	Yes	203,584
HD-02.1A-02R (D/S)	0.000	0.355	0.159	0.159	1,301,334	Yes	203,584
HD-02.1A 01V	0.280	0.279	0.105	0.105	41,833,984	No	203,584
HD-02.2A-01V	0.365	0.364	0.171	0.171	96,020,600	No	203,584
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Remaining Life***		
HD-01.1B-01N	0.288	0.204	0.137	0.137	277,270	No	203,584
HD-01.1B-03E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1B-05E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.2B-01R (D/S)	0.000	0.258	0.098	0.098	485,332	Yes	203,584
HD-02.1B-02R	0.000	0.296	0.098	0.098	686,452	Yes	203,584
HD-01.1B-02P	0.307	0.262	0.159	0.159	771,391	No	203,584
HD-02.2B-02N	0.365	0.296	0.137	0.137	794,838	No	203,584
HD-01.1B-04P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1B-06P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1B-07E	0.307	0.329	0.159	0.159	934,531	Yes	203,584
HD-01.2B-01R	0.000	0.344	0.159	0.159	1,076,094	Yes	203,584
HD-02.1B-02R (D/S)	0.000	0.323	0.159	0.159	1,091,471	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Remaining Life***		
HD-02.1B-01V	0.280	0.441	0.105	0.105	80,912,928	No	203,584
HD-02.2B-01V	0.365	0.364	0.171	0.171	96,020,600	No	203,584
===>Grouped by Line: **HD-01.1C FWH 36C to HD TK**					***Sorted By:Remaining Life***		
HD-01.1C-01N	0.288	0.204	0.137	0.137	277,270	No	203,584
HD-01.1C-03E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-05E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-07E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-09E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.2C-01R (D/S)	0.000	0.268	0.098	0.098	515,511	Yes	203,584
HD-01.1C-08P	0.307	0.253	0.159	0.159	597,199	No	203,584
HD-01.1C-11E	0.421	0.273	0.159	0.159	598,304	Yes	203,584
HD-01.1C-02P	0.307	0.262	0.159	0.159	771,391	No	203,584
HD-02.1C-02R	0.000	0.327	0.098	0.098	795,082	No	203,584
HD-01.1C-04P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1C-06P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1C-10P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-02.1C-02R (D/S)	0.000	0.293	0.159	0.159	887,620	Yes	203,584
HD-01.2C-01R	0.000	0.313	0.159	0.159	895,323	Yes	203,584
HD-02.2C-02N	0.000	0.381	0.137	0.137	1,216,727	Yes	203,584
HD-02.1C-01V	0.280	0.279	0.105	0.105	41,833,984	No	203,584
HD-02.2C-01V	0.000	0.364	0.171	0.171	96,020,600	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:51:58PM

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1A FWH 36A to HD TK**					***Sorted By:Flow Order***		
HD-01.1A-01N	0.288	0.204	0.137	0.137	277,270	No	203,584
HD-01.1A-02P	0.307	0.262	0.159	0.159	771,391	No	203,584
HD-01.1A-03E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1A-04P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1A-05E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1A-06P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1A-07E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1A-08P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1A-09E	0.307	0.330	0.159	0.159	939,836	Yes	203,584
HD-01.1A-10P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.2A-01R	0.000	0.321	0.159	0.159	939,100	Yes	203,584
HD-01.2A-01R (D/S)	0.000	0.303	0.098	0.098	621,773	Yes	203,584
HD-02.1A 01V	0.280	0.279	0.105	0.105	41,833,984	No	203,584
HD-02.1A-02R	0.000	0.293	0.098	0.098	675,017	Yes	203,584
HD-02.1A-02R (D/S)	0.000	0.355	0.159	0.159	1,301,334	Yes	203,584
HD-02.2A-01V	0.365	0.364	0.171	0.171	96,020,600	No	203,584
HD-02.2A-02N	0.365	0.351	0.137	0.137	1,066,772	Yes	203,584
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Flow Order***		
HD-01.1B-01N	0.288	0.204	0.137	0.137	277,270	No	203,584
HD-01.1B-02P	0.307	0.262	0.159	0.159	771,391	No	203,584
HD-01.1B-03E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1B-04P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1B-05E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1B-06P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1B-07E	0.307	0.329	0.159	0.159	934,531	Yes	203,584
HD-01.2B-01R	0.000	0.344	0.159	0.159	1,076,094	Yes	203,584
HD-01.2B-01R (D/S)	0.000	0.258	0.098	0.098	485,332	Yes	203,584
HD-02.1B-01V	0.280	0.441	0.105	0.105	80,912,928	No	203,584
HD-02.1B-02R	0.000	0.296	0.098	0.098	686,452	Yes	203,584
HD-02.1B-02R (D/S)	0.000	0.323	0.159	0.159	1,091,471	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Flow Order***		
HD-02.2B-01V	0.365	0.364	0.171	0.171	96,020,600	No	203,584
HD-02.2B-02N	0.365	0.296	0.137	0.137	794,838	No	203,584
===>Grouped by Line: **HD-01.1C FWH 36C to HD TK**					***Sorted By:Flow Order***		
HD-01.1C-01N	0.288	0.204	0.137	0.137	277,270	No	203,584
HD-01.1C-02P	0.307	0.262	0.159	0.159	771,391	No	203,584
HD-01.1C-03E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-04P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1C-05E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-06P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1C-07E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-08P	0.307	0.253	0.159	0.159	597,199	No	203,584
HD-01.1C-09E	0.307	0.245	0.159	0.159	470,086	No	203,584
HD-01.1C-10P	0.307	0.265	0.159	0.159	860,578	No	203,584
HD-01.1C-11E	0.421	0.273	0.159	0.159	598,304	Yes	203,584
HD-01.2C-01R	0.000	0.313	0.159	0.159	895,323	Yes	203,584
HD-01.2C-01R (D/S)	0.000	0.268	0.098	0.098	515,511	Yes	203,584
HD-02.1C-01V	0.280	0.279	0.105	0.105	41,833,984	No	203,584
HD-02.1C-02R	0.000	0.327	0.098	0.098	795,082	No	203,584
HD-02.1C-02R (D/S)	0.000	0.293	0.159	0.159	887,620	Yes	203,584
HD-02.2C-01V	0.000	0.364	0.171	0.171	96,020,600	No	203,584
HD-02.2C-02N	0.000	0.381	0.137	0.137	1,216,727	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:52:03PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-10.1A HD TK to HD PMP 31***								***Sorted By: Average Wear Rate***		
HD-10.2A-07X	6	9.431	3.515	369.7	7.223	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-04V	22	7.752	2.890	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-06N	30	6.202	2.312	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-02E	3	5.427	2.023	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-01E (D/S)	16	4.807	1.792	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.1A-01N	31	4.648	1.733	369.7	3.375	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2A-03P	53	3.876	1.445	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-05P	58	3.411	1.271	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.1A-02P	61	2.436	0.908	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2A-01E	16	2.255	0.841	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
===>Grouped by Line:	***HD-10.1B HD TK to HD PMP 32***								***Sorted By: Average Wear Rate***		
HD-10.2B-06X	6	9.431	3.515	369.7	7.223	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-03V	22	7.752	2.890	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-05N	30	6.202	2.312	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-02P	54	4.962	1.849	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-01E (D/S)	16	4.807	1.792	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.1B-01N	31	4.648	1.733	369.7	3.375	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2B-04P	58	3.411	1.271	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.1B-02P	61	2.436	0.908	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2B-01E	16	2.255	0.841	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:03PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-10.1A HD TK to HD PMP 31***									***Sorted By: Flow Order***	
HD-10.1A-01N	31	4.648	1.733	369.7	3.375	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.1A-02P	61	2.436	0.908	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2A-01E	16	2.255	0.841	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2A-01E (D/S)	16	4.807	1.792	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-02E	3	5.427	2.023	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-03P	53	3.876	1.445	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-04V	22	7.752	2.890	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-05P	58	3.411	1.271	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-07X	6	9.431	3.515	369.7	7.223	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2A-06N	30	6.202	2.312	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
===>Grouped by Line:	***HD-10.1B HD TK to HD PMP 32***									***Sorted By: Flow Order***	
HD-10.1B-01N	31	4.648	1.733	369.7	3.375	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.1B-02P	61	2.436	0.908	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2B-01E	16	2.255	0.841	369.7	3.268	0.0	24.000	6.861	0.000	'47.16'	HBD
HD-10.2B-01E (D/S)	16	4.807	1.792	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-02P	54	4.962	1.849	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-03V	22	7.752	2.890	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-04P	58	3.411	1.271	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-06X	6	9.431	3.515	369.7	7.223	0.0	18.000	6.861	0.000	'47.16'	HBD
HD-10.2B-05N	30	6.202	2.312	369.7	5.850	0.0	18.000	6.861	0.000	'47.16'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:03PM

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-10.1A HD TK to HD PMP 31**					***Sorted By:Remaining Life***		
HD-10.2A-07X	0.312	0.093	0.149	0.149	-113,739	No	203,584
HD-10.2A-04V	0.312	0.132	0.160	0.160	-82,203	No	203,584
HD-10.2A-06N	0.312	0.168	0.149	0.149	71,461	No	203,584
HD-10.2A-05P	0.312	0.233	0.149	0.149	576,817	No	203,584
HD-10.2A-03P	0.312	0.299	0.149	0.149	908,251	Yes	203,584
HD-10.2A-02E	0.312	0.375	0.149	0.149	976,689	Yes	203,584
HD-10.2A-01E (D/S)	0.000	0.358	0.149	0.149	1,021,111	Yes	203,584
HD-10.1A-01N	0.562	0.454	0.199	0.199	1,290,777	No	203,584
HD-10.1A-02P	0.375	0.351	0.199	0.199	1,468,450	No	203,584
HD-10.2A-01E	0.000	0.358	0.199	0.199	1,662,852	Yes	203,584
===>Grouped by Line: **HD-10.1B HD TK to HD PMP 32**					***Sorted By:Remaining Life***		
HD-10.2B-06X	0.312	0.093	0.149	0.149	-113,739	No	203,584
HD-10.2B-03V	0.312	0.132	0.160	0.160	-82,203	No	203,584
HD-10.2B-05N	0.312	0.168	0.149	0.149	71,461	No	203,584
HD-10.2B-02P	0.312	0.197	0.149	0.149	225,876	No	203,584
HD-10.2B-01E (D/S)	0.000	0.200	0.149	0.149	250,781	No	203,584
HD-10.2B-04P	0.312	0.233	0.149	0.149	576,817	No	203,584
HD-10.1B-02P	0.375	0.318	0.199	0.199	1,155,283	No	203,584
HD-10.1B-01N	0.562	0.454	0.199	0.199	1,290,777	No	203,584
HD-10.2B-01E	0.000	0.323	0.199	0.199	1,291,402	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:03PM

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-10.1A HD TK to HD PMP 31**					***Sorted By:Flow Order***		
HD-10.1A-01N	0.562	0.454	0.199	0.199	1,290,777	No	203,584
HD-10.1A-02P	0.375	0.351	0.199	0.199	1,468,450	No	203,584
HD-10.2A-01E	0.000	0.358	0.199	0.199	1,662,852	Yes	203,584
HD-10.2A-01E (D/S)	0.000	0.358	0.149	0.149	1,021,111	Yes	203,584
HD-10.2A-02E	0.312	0.375	0.149	0.149	976,689	Yes	203,584
HD-10.2A-03P	0.312	0.299	0.149	0.149	908,251	Yes	203,584
HD-10.2A-04V	0.312	0.132	0.160	0.160	-82,203	No	203,584
HD-10.2A-05P	0.312	0.233	0.149	0.149	576,817	No	203,584
HD-10.2A-07X	0.312	0.093	0.149	0.149	-113,739	No	203,584
HD-10.2A-06N	0.312	0.168	0.149	0.149	71,461	No	203,584
===>Grouped by Line: **HD-10.1B HD TK to HD PMP 32**					***Sorted By:Flow Order***		
HD-10.1B-01N	0.562	0.454	0.199	0.199	1,290,777	No	203,584
HD-10.1B-02P	0.375	0.318	0.199	0.199	1,155,283	No	203,584
HD-10.2B-01E	0.000	0.323	0.199	0.199	1,291,402	No	203,584
HD-10.2B-01E (D/S)	0.000	0.200	0.149	0.149	250,781	No	203,584
HD-10.2B-02P	0.312	0.197	0.149	0.149	225,876	No	203,584
HD-10.2B-03V	0.312	0.132	0.160	0.160	-82,203	No	203,584
HD-10.2B-04P	0.312	0.233	0.149	0.149	576,817	No	203,584
HD-10.2B-06X	0.312	0.093	0.149	0.149	-113,739	No	203,584
HD-10.2B-05N	0.312	0.168	0.149	0.149	71,461	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:52:10PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS: HPTURB TO PRESEP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-HP Turbine to Presep 1A***								***Sorted By: Average Wear Rate***		
TEMP06	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 1B***								***Sorted By: Average Wear Rate***		
TEMP07	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2A***								***Sorted By: Average Wear Rate***		
TEMP08	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2B***								***Sorted By: Average Wear Rate***		
TEMP09	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:10PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS: HPTURB TO PRESEP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-HP Turbine to Presep 1A***								***Sorted By: Flow Order***		
TEMP06	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 1B***								***Sorted By: Flow Order***		
TEMP07	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2A***								***Sorted By: Flow Order***		
TEMP08	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2B***								***Sorted By: Flow Order***		
TEMP09	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:10PM

Run Name: MS: HPTURB TO PRESEPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-HP Turbine to Presep 1A**					***Sorted By:Remaining Life***		
TEMP06	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 1B**					***Sorted By:Remaining Life***		
TEMP07	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2A**					***Sorted By:Remaining Life***		
TEMP08	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2B**					***Sorted By:Remaining Life***		
TEMP09	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:10PM

Run Name: MS: HPTURB TO PRESEPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-HP Turbine to Presep 1A**					***Sorted By:Flow Order***		
TEMP06	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 1B**					***Sorted By:Flow Order***		
TEMP07	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2A**					***Sorted By:Flow Order***		
TEMP08	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2B**					***Sorted By:Flow Order***		
TEMP09	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:52:18PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-"A" Header to MSR 31A***								***Sorted By: Average Wear Rate***		
TEMP18	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 31A & 32A***								***Sorted By: Average Wear Rate***		
TEMP16	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 32A***								***Sorted By: Average Wear Rate***		
TEMP19	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 33A***								***Sorted By: Average Wear Rate***		
TEMP20	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"A" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP14	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 31B***								***Sorted By: Average Wear Rate***		
TEMP21	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 31B & 32B***								***Sorted By: Average Wear Rate***		
TEMP17	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 32B***								***Sorted By: Average Wear Rate***		
TEMP22	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 33B***								***Sorted By: Average Wear Rate***		
TEMP23	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-"B" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP15	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-Presep 1A to "A" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP10	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-Presep 1B to "B" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP11	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-Presep 2A to "A" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP12	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line:	***MS-Presep 2B to "B" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP13	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:18PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line: MS-"A" Header to MSR 31A										***Sorted By: Flow Order***	
TEMP18	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"A" Header to MSR 31A & 32A										***Sorted By: Flow Order***	
TEMP16	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"A" Header to MSR 32A										***Sorted By: Flow Order***	
TEMP19	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"A" Header to MSR 33A										***Sorted By: Flow Order***	
TEMP20	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"A" MSR Header										***Sorted By: Flow Order***	
TEMP14	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"B" Header to MSR 31B										***Sorted By: Flow Order***	
TEMP21	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"B" Header to MSR 31B & 32B										***Sorted By: Flow Order***	
TEMP17	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"B" Header to MSR 32B										***Sorted By: Flow Order***	
TEMP22	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"B" Header to MSR 33B										***Sorted By: Flow Order***	
TEMP23	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-"B" MSR Header										***Sorted By: Flow Order***	
TEMP15	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-Presep 1A to "A" MSR Header										***Sorted By: Flow Order***	
TEMP10	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-Presep 1B to "B" MSR Header										***Sorted By: Flow Order***	
TEMP11	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-Presep 2A to "A" MSR Header										***Sorted By: Flow Order***	
TEMP12	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD
===>Grouped by Line: MS-Presep 2B to "B" MSR Header										***Sorted By: Flow Order***	
TEMP13	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	'175.36'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:18PM

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-"A" Header to MSR 31A**					***Sorted By:Remaining Life***		
TEMP18	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 31A & 32A**					***Sorted By:Remaining Life***		
TEMP16	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 32A**					***Sorted By:Remaining Life***		
TEMP19	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 33A**					***Sorted By:Remaining Life***		
TEMP20	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" MSR Header**					***Sorted By:Remaining Life***		
TEMP14	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B**					***Sorted By:Remaining Life***		
TEMP21	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B & 32B**					***Sorted By:Remaining Life***		
TEMP17	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 32B**					***Sorted By:Remaining Life***		
TEMP22	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 33B**					***Sorted By:Remaining Life***		
TEMP23	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" MSR Header**					***Sorted By:Remaining Life***		
TEMP15	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-Presep 1A to "A" MSR Header**					***Sorted By:Remaining Life***		
TEMP10	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-Presep 1B to "B" MSR Header**					***Sorted By:Remaining Life***		
TEMP11	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-Presep 2A to "A" MSR Header**					***Sorted By:Remaining Life***		
TEMP12	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-Presep 2B to "B" MSR Header**					***Sorted By:Remaining Life***		
TEMP13	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:52:18PM

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-"A" Header to MSR 31A**					***Sorted By:Flow Order***		
TEMP18	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 31A & 32A**					***Sorted By:Flow Order***		
TEMP16	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 32A**					***Sorted By:Flow Order***		
TEMP19	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 33A**					***Sorted By:Flow Order***		
TEMP20	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" MSR Header**					***Sorted By:Flow Order***		
TEMP14	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B**					***Sorted By:Flow Order***		
TEMP21	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B & 32B**					***Sorted By:Flow Order***		
TEMP17	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 32B**					***Sorted By:Flow Order***		
TEMP22	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 33B**					***Sorted By:Flow Order***		
TEMP23	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" MSR Header**					***Sorted By:Flow Order***		
TEMP15	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-Presep 1A to "A" MSR Header**					***Sorted By:Flow Order***		
TEMP10	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-Presep 1B to "B" MSR Header**					***Sorted By:Flow Order***		
TEMP11	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-Presep 2A to "A" MSR Header**					***Sorted By:Flow Order***		
TEMP12	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-Presep 2B to "B" MSR Header**					***Sorted By:Flow Order***		
TEMP13	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:53:08PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.1A_1 MSEP 31A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1A-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1A_2 MSEP 31A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1A-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1A_3 MSEP 31A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1A-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1B_1 MSEP 31B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1B-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1B_2 MSEP 31B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1B-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1B_3 MSEP 31B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1B-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.2A-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.2A-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.2A-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.2B MSEP 31B DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.2B-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.2B-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.2B-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.3A HDR to MSEP TK 31A***								***Sorted By: Average Wear Rate***		
MSD-01.3A-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.3B HDR to MSEP TK 31B***								***Sorted By: Average Wear Rate***		
MSD-01.3B-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5A-27N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-15P_2	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-28P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-06V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-05E	2	0.005	0.006	382.2	2.224	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-08E	4	0.005	0.006	382.2	2.224	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-24E	2	0.005	0.006	382.2	2.199	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-03E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5A-10E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-12E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-14E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-16E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-18E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-20E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-22E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-26E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-09P	54	0.005	0.005	382.2	2.246	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-04P	52	0.004	0.004	382.2	2.296	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-25P	52	0.004	0.004	382.2	2.248	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-23P	52	0.004	0.004	382.2	2.217	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-11P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-13P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-15P_1	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-17P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-19P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-21P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-07P	58	0.003	0.004	382.2	2.180	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-02P	66	0.003	0.003	382.2	2.217	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-04P	65	0.002	0.002	382.2	1.273	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-28P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-29P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5B-28N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-12E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-14E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-11P_2	54	1.372	0.653	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-13P	52	1.072	0.511	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-15P	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-01N	31	0.536	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-29P	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-30P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5B-04V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-06E	2	0.005	0.006	382.2	2.201	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-03E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-08E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-10E	4	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-24E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-26E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-16E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-18E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-20E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-22E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-01R (D/S)	7	0.005	0.005	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-11P_1	54	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-07P	52	0.004	0.004	382.2	2.240	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-27P	52	0.004	0.004	382.2	2.213	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-25P	52	0.004	0.004	382.2	2.224	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-32P	52	0.004	0.004	382.2	2.199	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-02P	57	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-09P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-05P	58	0.003	0.004	382.2	2.207	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-03E	2	0.003	0.004	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-05E	2	0.003	0.004	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-17P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-19P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-21P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-23P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-01R	7	0.003	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-06T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-06T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-04P	52	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-07P	52	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-08P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-30P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-31P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:08PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.1A_1 MSEP 31A to HDR***									***Sorted By: Flow Order***	
MSD-01.1A-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1A_2 MSEP 31A to HDR***									***Sorted By: Flow Order***	
MSD-01.1A-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1A_3 MSEP 31A to HDR***									***Sorted By: Flow Order***	
MSD-01.1A-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1A-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1B_1 MSEP 31B to HDR***									***Sorted By: Flow Order***	
MSD-01.1B-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1B_2 MSEP 31B to HDR***									***Sorted By: Flow Order***	
MSD-01.1B-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.1B_3 MSEP 31B to HDR***									***Sorted By: Flow Order***	
MSD-01.1B-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.1B-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***									***Sorted By: Flow Order***	
MSD-01.2A-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.2A-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***									***Sorted By: Flow Order***	
MSD-01.2A-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.2B MSEP 31B DR HDR***									***Sorted By: Flow Order***	
MSD-01.2B-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.2B-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.2B-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.3A HDR to MSEP TK 31A***									***Sorted By: Flow Order***	
MSD-01.3A-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3A-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.3B HDR to MSEP TK 31B***									***Sorted By: Flow Order***	
MSD-01.3B-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.3B-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***									***Sorted By: Flow Order***	
MSD-01.4A-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4A-04P	65	0.002	0.002	382.2	1.273	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-02P	66	0.003	0.003	382.2	2.217	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-03E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***									***Sorted By: Flow Order***	
MSD-01.5A-04P	52	0.004	0.004	382.2	2.296	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-05E	2	0.005	0.006	382.2	2.224	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-06V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-07P	58	0.003	0.004	382.2	2.180	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-08E	4	0.005	0.006	382.2	2.224	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-09P	54	0.005	0.005	382.2	2.246	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-10E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-11P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-12E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-13P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-14E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-15P_1	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-15P_2	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-28P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-28P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-16E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-17P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-18E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-19P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-20E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-21P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-29P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-22E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-23P	52	0.004	0.004	382.2	2.217	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-24E	2	0.005	0.006	382.2	2.199	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-25P	52	0.004	0.004	382.2	2.248	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-26E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5A-27N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***									***Sorted By: Flow Order***	
MSD-01.4B-01N	31	0.536	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-03E	2	0.003	0.004	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-04P	52	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-05E	2	0.003	0.004	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-07P	52	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-06T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-06T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.4B-08P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***									***Sorted By: Flow Order***	
MSD-01.5B-01R	7	0.003	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-01R (D/S)	7	0.005	0.005	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-02P	57	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-03E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-04V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-05P	58	0.003	0.004	382.2	2.207	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-06E	2	0.005	0.006	382.2	2.201	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-07P	52	0.004	0.004	382.2	2.240	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-08E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-09P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-10E	4	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-11P_1	54	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-11P_2	54	1.372	0.653	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-29P	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-12E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-13P	52	1.072	0.511	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-14E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-15P	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-30P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-30P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-16E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-17P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-18E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-19P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-20E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-21P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-22E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-23P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-31P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-24E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-25P	52	0.004	0.004	382.2	2.224	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-32P	52	0.004	0.004	382.2	2.199	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-26E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-27P	52	0.004	0.004	382.2	2.213	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.5B-28N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:08PM

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.1A_1 MSEP 31A to HDR**					***Sorted By:Remaining Life***		
MSD-01.1A-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-03P	0.250	0.226	0.106	0.106	16,279,438	Yes	203,584
MSD-01.1A-02T (D/S)	0.000	0.316	0.106	0.106	17,066,642	No	203,584
MSD-01.1A-02T (BR/SE)	0.000	0.347	0.106	0.106	24,483,092	No	203,584
===>Grouped by Line: **MSD-01.1A_2 MSEP 31A to HDR**					***Sorted By:Remaining Life***		
MSD-01.1A-04N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-08P	0.250	0.247	0.106	0.106	21,287,650	No	203,584
===>Grouped by Line: **MSD-01.1A_3 MSEP 31A to HDR**					***Sorted By:Remaining Life***		
MSD-01.1A-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,296	No	203,584
MSD-01.1A-07P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.1B_1 MSEP 31B to HDR**					***Sorted By:Remaining Life***		
MSD-01.1B-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-02T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,296	No	203,584
MSD-01.1B-03P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.1B_2 MSEP 31B to HDR**					***Sorted By:Remaining Life***		
MSD-01.1B-04N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-08P	0.250	0.247	0.106	0.106	21,287,650	No	203,584
===>Grouped by Line: **MSD-01.1B_3 MSEP 31B to HDR**					***Sorted By:Remaining Life***		
MSD-01.1B-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-07P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
MSD-01.1B-06T (BR/SE)	0.000	0.398	0.106	0.106	29,641,546	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.2A MSEP 31A DR HDR**					***Sorted By:Remaining Life***		
MSD-01.2A-01T (D/S)	0.000	0.242	0.106	0.106	7,512,382	No	203,584
MSD-01.2A-01T	0.250	0.246	0.106	0.106	13,872,795	No	203,584
MSD-01.2A-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,928	No	203,584
===>Grouped by Line: **MSD-01.2B MSEP 31B DR HDR**					***Sorted By:Remaining Life***		
MSD-01.2B-01T (D/S)	0.000	0.242	0.106	0.106	7,512,382	No	203,584
MSD-01.2B-01T	0.250	0.246	0.106	0.106	13,872,795	No	203,584
MSD-01.2B-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,928	No	203,584
===>Grouped by Line: **MSD-01.3A HDR to MSEP TK 31A**					***Sorted By:Remaining Life***		
MSD-01.3A-04V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3A-06V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3A-08N	0.250	0.239	0.106	0.106	5,300,244	No	203,584
MSD-01.3A-02P	0.250	0.223	0.106	0.106	6,908,539	Yes	203,584
MSD-01.3A-05P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3A-07P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3A-03E	0.250	0.365	0.106	0.106	11,114,757	Yes	203,584
MSD-01.3A-01T (BR/SE)	0.000	0.550	0.106	0.106	14,111,929	No	203,584
MSD-01.3A-01T	0.250	0.578	0.106	0.106	21,289,112	No	203,584
MSD-01.3A-01T (D/S)	0.000	0.415	0.106	0.106	25,151,708	No	203,584
===>Grouped by Line: **MSD-01.3B HDR to MSEP TK 31B**					***Sorted By:Remaining Life***		
MSD-01.3B-04V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3B-06V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3B-01T (BR/SE)	0.000	0.237	0.106	0.106	4,154,737	No	203,584
MSD-01.3B-08N	0.250	0.239	0.106	0.106	5,300,244	No	203,584
MSD-01.3B-01T	0.250	0.241	0.106	0.106	6,083,242	No	203,584
MSD-01.3B-02P	0.250	0.243	0.106	0.106	8,057,946	No	203,584
MSD-01.3B-03E	0.250	0.319	0.106	0.106	9,158,984	Yes	203,584
MSD-01.3B-05P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3B-07P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3B-01T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
===>Grouped by Line: **MSD-01.4A TK 31A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.5A-27N	0.280	0.296	0.055	0.055	2,582,584	Yes	203,584
MSD-01.4A-01N	0.322	0.292	0.071	0.071	3,155,368	No	203,584
MSD-01.5A-15P_2	0.280	0.255	0.055	0.055	3,436,178	No	203,584
MSD-01.5A-28P_1	0.280	0.269	0.055	0.055	8,353,320	No	203,584
MSD-01.4A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.4A TK 31A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.4A-04P	0.349	0.349	0.071	0.071	100,000,000	No	95,673
MSD-01.5A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.5A-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-02P	0.314	0.314	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-03E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-04P	0.349	0.349	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-05E	0.319	0.319	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-06V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.5A-07P	0.289	0.289	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-08E	0.319	0.319	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-09P	0.317	0.317	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-10E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-16E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-17P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-18E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-19P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-20E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-21P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-29P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-22E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-23P	0.314	0.314	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-24E	0.302	0.302	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-25P	0.318	0.318	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-26E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-11P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-12E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-13P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-14E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-15P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-28P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
===>Grouped by Line: **MSD-01.4B TK 31B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.5B-28N	0.280	0.240	0.055	0.055	1,987,376	No	203,584
MSD-01.5B-14E	0.280	0.243	0.055	0.055	2,183,161	No	203,584
MSD-01.5B-12E	0.280	0.281	0.055	0.055	2,617,632	Yes	203,584
MSD-01.5B-11P_2	0.280	0.251	0.055	0.055	2,626,260	Yes	203,584
MSD-01.5B-15P	0.280	0.255	0.055	0.055	3,436,178	No	203,584
MSD-01.4B-01N	0.322	0.316	0.071	0.071	3,498,910	No	95,673
MSD-01.5B-13P	0.280	0.263	0.055	0.055	3,566,424	Yes	203,584
MSD-01.5B-29P	0.280	0.269	0.055	0.055	8,353,320	No	203,584
MSD-01.5B-30P_1	0.280	0.269	0.055	0.055	8,353,320	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.4B TK 31B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.4B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-03E	0.322	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.4B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-05E	0.322	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.4B-07P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-08P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.5B-01R	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.5B-01R (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-02P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-03E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-04V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.5B-05P	0.307	0.307	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-06E	0.303	0.303	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-07P	0.313	0.313	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-08E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-09P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-10E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-11P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-30P_2	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-16E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-17P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-18E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-19P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-20E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-21P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-22E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-23P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-31P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-24E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-25P	0.302	0.302	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-32P	0.302	0.302	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-26E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-27P	0.311	0.311	0.055	0.055	100,000,000	No	95,673

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:08PM

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.1A_1 MSEP 31A to HDR**					***Sorted By:Flow Order***		
MSD-01.1A-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-02T (BR/SE)	0.000	0.347	0.106	0.106	24,483,092	No	203,584
MSD-01.1A-02T (D/S)	0.000	0.316	0.106	0.106	17,066,642	No	203,584
MSD-01.1A-03P	0.250	0.226	0.106	0.106	16,279,438	Yes	203,584
===>Grouped by Line: **MSD-01.1A_2 MSEP 31A to HDR**					***Sorted By:Flow Order***		
MSD-01.1A-04N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-08P	0.250	0.247	0.106	0.106	21,287,650	No	203,584
===>Grouped by Line: **MSD-01.1A_3 MSEP 31A to HDR**					***Sorted By:Flow Order***		
MSD-01.1A-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,296	No	203,584
MSD-01.1A-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1A-07P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.1B_1 MSEP 31B to HDR**					***Sorted By:Flow Order***		
MSD-01.1B-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,296	No	203,584
MSD-01.1B-02T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-03P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.1B_2 MSEP 31B to HDR**					***Sorted By:Flow Order***		
MSD-01.1B-04N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-08P	0.250	0.247	0.106	0.106	21,287,650	No	203,584
===>Grouped by Line: **MSD-01.1B_3 MSEP 31B to HDR**					***Sorted By:Flow Order***		
MSD-01.1B-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-06T (BR/SE)	0.000	0.398	0.106	0.106	29,641,546	No	203,584
MSD-01.1B-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.1B-07P	0.250	0.247	0.106	0.106	19,116,156	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.2A MSEP 31A DR HDR**				***Sorted By:Flow Order***		
MSD-01.2A-01T	0.250	0.246	0.106	0.106	13,872,795	No	203,584
MSD-01.2A-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,928	No	203,584
MSD-01.2A-01T (D/S)	0.000	0.242	0.106	0.106	7,512,382	No	203,584
===>Grouped by Line:	**MSD-01.2B MSEP 31B DR HDR**				***Sorted By:Flow Order***		
MSD-01.2B-01T	0.250	0.246	0.106	0.106	13,872,795	No	203,584
MSD-01.2B-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,928	No	203,584
MSD-01.2B-01T (D/S)	0.000	0.242	0.106	0.106	7,512,382	No	203,584
===>Grouped by Line:	**MSD-01.3A HDR to MSEP TK 31A**				***Sorted By:Flow Order***		
MSD-01.3A-01T (D/S)	0.000	0.415	0.106	0.106	25,151,708	No	203,584
MSD-01.3A-01T	0.250	0.578	0.106	0.106	21,289,112	No	203,584
MSD-01.3A-01T (BR/SE)	0.000	0.550	0.106	0.106	14,111,929	No	203,584
MSD-01.3A-02P	0.250	0.223	0.106	0.106	6,908,539	Yes	203,584
MSD-01.3A-03E	0.250	0.365	0.106	0.106	11,114,757	Yes	203,584
MSD-01.3A-04V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3A-05P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3A-06V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3A-07P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3A-08N	0.250	0.239	0.106	0.106	5,300,244	No	203,584
===>Grouped by Line:	**MSD-01.3B HDR to MSEP TK 31B**				***Sorted By:Flow Order***		
MSD-01.3B-01T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.3B-01T	0.250	0.241	0.106	0.106	6,083,242	No	203,584
MSD-01.3B-01T (BR/SE)	0.000	0.237	0.106	0.106	4,154,737	No	203,584
MSD-01.3B-02P	0.250	0.243	0.106	0.106	8,057,946	No	203,584
MSD-01.3B-03E	0.250	0.319	0.106	0.106	9,158,984	Yes	203,584
MSD-01.3B-04V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3B-05P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3B-06V	0.250	0.237	0.113	0.113	3,917,297	No	203,584
MSD-01.3B-07P	0.250	0.244	0.106	0.106	9,986,409	No	203,584
MSD-01.3B-08N	0.250	0.239	0.106	0.106	5,300,244	No	203,584
===>Grouped by Line:	**MSD-01.4A TK 31A to HD TK**				***Sorted By:Flow Order***		
MSD-01.4A-01N	0.322	0.292	0.071	0.071	3,155,368	No	203,584
MSD-01.4A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-04P	0.349	0.349	0.071	0.071	100,000,000	No	95,673
MSD-01.5A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.5A-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.4A TK 31A to HD TK**					***Sorted By:Flow Order***		
MSD-01.5A-02P	0.314	0.314	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-03E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-04P	0.349	0.349	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-05E	0.319	0.319	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-06V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.5A-07P	0.289	0.289	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-08E	0.319	0.319	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-09P	0.317	0.317	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-10E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-11P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-12E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-13P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-14E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-15P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-15P_2	0.280	0.255	0.055	0.055	3,436,178	No	203,584
MSD-01.5A-28P_1	0.280	0.269	0.055	0.055	8,353,320	No	203,584
MSD-01.5A-28P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-16E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-17P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-18E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-19P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-20E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-21P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-29P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-22E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-23P	0.314	0.314	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-24E	0.302	0.302	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-25P	0.318	0.318	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-26E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5A-27N	0.280	0.296	0.055	0.055	2,582,584	Yes	203,584
===>Grouped by Line: **MSD-01.4B TK 31B to HD TK**					***Sorted By:Flow Order***		
MSD-01.4B-01N	0.322	0.316	0.071	0.071	3,498,910	No	95,673
MSD-01.4B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-03E	0.322	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.4B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-05E	0.322	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.4B-07P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-08P	0.322	0.322	0.071	0.071	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD-01.4B TK 31B to HD TK**					*Sorted By:Flow Order*		
MSD-01.5B-01R	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.5B-01R (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-02P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-03E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-04V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.5B-05P	0.307	0.307	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-06E	0.303	0.303	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-07P	0.313	0.313	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-08E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-09P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-10E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-11P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-11P_2	0.280	0.251	0.055	0.055	2,626,260	Yes	203,584
MSD-01.5B-29P	0.280	0.269	0.055	0.055	8,353,320	No	203,584
MSD-01.5B-12E	0.280	0.281	0.055	0.055	2,617,632	Yes	203,584
MSD-01.5B-13P	0.280	0.263	0.055	0.055	3,566,424	Yes	203,584
MSD-01.5B-14E	0.280	0.243	0.055	0.055	2,183,161	No	203,584
MSD-01.5B-15P	0.280	0.255	0.055	0.055	3,436,178	No	203,584
MSD-01.5B-30P_1	0.280	0.269	0.055	0.055	8,353,320	No	203,584
MSD-01.5B-30P_2	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-16E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-17P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-18E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-19P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-20E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-21P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-22E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-23P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-31P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-24E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-25P	0.302	0.302	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-32P	0.302	0.302	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-26E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.5B-27P	0.311	0.311	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-28N	0.280	0.240	0.055	0.055	1,987,376	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:53:23PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.6A_1 MSEP 32A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6A-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6A_2 MSEP 32A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6A-04N	31	0.302	0.144	382.2	0.241	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6A_3 MSEP 32A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6A-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6B_1 MSEP 32B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6B-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-03P	60	0.138	0.066	382.2	0.181	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6B_2 MSEP 32B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6B-04N	31	0.302	0.144	382.2	0.241	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-08P	61	0.125	0.059	382.2	0.181	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6B_3 MSEP 32B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6B-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-07P	60	0.136	0.065	382.2	0.178	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.7A-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7A-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.7A-02P	62	0.163	0.078	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7A-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.7B MSEP 32B DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.7B-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7B-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7B-02P	62	0.166	0.079	382.2	0.358	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7B-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.8A HDR to MSEP TK 32A***								***Sorted By: Average Wear Rate***		
MSD-01.8A-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.8B HDR to MSEP TK 32B***								***Sorted By: Average Wear Rate***		
MSD-01.8B-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-02P	61	0.316	0.151	382.2	0.535	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:23PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.6A_1 MSEP 32A to HDR***									***Sorted By: Flow Order***	
MSD-01.6A-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6A_2 MSEP 32A to HDR***									***Sorted By: Flow Order***	
MSD-01.6A-04N	31	0.302	0.144	382.2	0.241	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6A_3 MSEP 32A to HDR***									***Sorted By: Flow Order***	
MSD-01.6A-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6A-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6B_1 MSEP 32B to HDR***									***Sorted By: Flow Order***	
MSD-01.6B-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-03P	60	0.138	0.066	382.2	0.181	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6B_2 MSEP 32B to HDR***									***Sorted By: Flow Order***	
MSD-01.6B-04N	31	0.302	0.144	382.2	0.241	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-08P	61	0.125	0.059	382.2	0.181	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.6B_3 MSEP 32B to HDR***									***Sorted By: Flow Order***	
MSD-01.6B-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.6B-07P	60	0.136	0.065	382.2	0.178	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***									***Sorted By: Flow Order***	
MSD-01.7A-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7A-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***									***Sorted By: Flow Order***	
MSD-01.7A-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7A-02P	62	0.163	0.078	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.7B MSEP 32B DR HDR***									***Sorted By: Flow Order***	
MSD-01.7B-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7B-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7B-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.7B-02P	62	0.166	0.079	382.2	0.358	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.8A HDR to MSEP TK 32A***									***Sorted By: Flow Order***	
MSD-01.8A-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8A-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.8B HDR to MSEP TK 32B***									***Sorted By: Flow Order***	
MSD-01.8B-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-02P	61	0.316	0.151	382.2	0.535	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.8B-08N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:23PM

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.6A_1 MSEP 32A to HDR**					***Sorted By:Remaining Life***		
MSD-01.6A-02T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6A-03P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.6A_2 MSEP 32A to HDR**					***Sorted By:Remaining Life***		
MSD-01.6A-08P	0.250	0.247	0.106	0.106	21,287,650	No	203,584
MSD-01.6A-04N	1.125	1.118	0.106	0.106	61,698,268	No	203,584
===>Grouped by Line: **MSD-01.6A_3 MSEP 32A to HDR**					***Sorted By:Remaining Life***		
MSD-01.6A-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6A-07P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.6B_1 MSEP 32B to HDR**					***Sorted By:Remaining Life***		
MSD-01.6B-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-02T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6B-03P	0.312	0.309	0.106	0.106	26,980,676	No	203,584
===>Grouped by Line: **MSD-01.6B_2 MSEP 32B to HDR**					***Sorted By:Remaining Life***		
MSD-01.6B-08P	0.312	0.309	0.106	0.106	30,026,004	No	203,584
MSD-01.6B-04N	1.125	1.118	0.106	0.106	61,698,268	No	203,584
===>Grouped by Line: **MSD-01.6B_3 MSEP 32B to HDR**					***Sorted By:Remaining Life***		
MSD-01.6B-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6B-07P	0.264	0.261	0.106	0.106	20,919,198	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.7A MSEP 32A DR HDR**					***Sorted By:Remaining Life***		
MSD-01.7A-02P	0.250	0.220	0.106	0.106	12,846,674	Yes	203,584
MSD-01.7A-01T (D/S)	0.000	0.444	0.106	0.106	18,608,170	Yes	203,584
MSD-01.7A-01T	0.250	0.329	0.106	0.106	22,071,172	No	203,584
MSD-01.7A-01T (BR/SE)	0.000	0.516	0.106	0.106	48,948,612	No	203,584
===>Grouped by Line: **MSD-01.7B MSEP 32B DR HDR**					***Sorted By:Remaining Life***		
MSD-01.7B-01T (D/S)	0.000	0.352	0.106	0.106	13,551,510	Yes	203,584
MSD-01.7B-01T (BR/SE)	0.000	0.277	0.106	0.106	20,417,896	No	203,584
MSD-01.7B-02P	0.304	0.300	0.106	0.106	21,568,298	No	203,584
MSD-01.7B-01T	0.250	0.329	0.106	0.106	22,071,172	Yes	203,584
===>Grouped by Line: **MSD-01.8A HDR to MSEP TK 32A**					***Sorted By:Remaining Life***		
MSD-01.8A-08N	0.250	0.181	0.106	0.106	2,974,721	Yes	203,584
MSD-01.8A-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8A-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8A-01T	0.250	0.212	0.106	0.106	4,779,765	Yes	203,584
MSD-01.8A-01T (BR/SE)	0.000	0.312	0.106	0.106	6,548,902	No	203,584
MSD-01.8A-02P	0.250	0.235	0.106	0.106	7,599,688	Yes	203,584
MSD-01.8A-05P	0.250	0.224	0.106	0.106	8,548,258	Yes	203,584
MSD-01.8A-07P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.8A-03E	0.250	0.389	0.106	0.106	12,129,775	Yes	203,584
MSD-01.8A-01T (D/S)	0.000	0.286	0.106	0.106	14,666,354	Yes	203,584
===>Grouped by Line: **MSD-01.8B HDR to MSEP TK 32B**					***Sorted By:Remaining Life***		
MSD-01.8B-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8B-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8B-03E	0.250	0.250	0.106	0.106	6,174,945	Yes	203,584
MSD-01.8B-02P	0.285	0.231	0.106	0.106	7,275,190	Yes	203,584
MSD-01.8B-01T (BR/SE)	0.000	0.346	0.106	0.106	7,616,591	No	203,584
MSD-01.8B-08N	0.250	0.320	0.106	0.106	8,522,333	Yes	203,584
MSD-01.8B-01T	0.250	0.325	0.106	0.106	9,906,987	Yes	203,584
MSD-01.8B-05P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.8B-07P	0.250	0.257	0.106	0.106	10,890,797	Yes	203,584
MSD-01.8B-01T (D/S)	0.000	0.338	0.106	0.106	18,876,686	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:23PM

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.6A_1 MSEP 32A to HDR**					***Sorted By:Flow Order***		
MSD-01.6A-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6A-02T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-03P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.6A_2 MSEP 32A to HDR**					***Sorted By:Flow Order***		
MSD-01.6A-04N	1.125	1.118	0.106	0.106	61,698,268	No	203,584
MSD-01.6A-08P	0.250	0.247	0.106	0.106	21,287,650	No	203,584
===>Grouped by Line: **MSD-01.6A_3 MSEP 32A to HDR**					***Sorted By:Flow Order***		
MSD-01.6A-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6A-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6A-07P	0.250	0.247	0.106	0.106	19,116,156	No	203,584
===>Grouped by Line: **MSD-01.6B_1 MSEP 32B to HDR**					***Sorted By:Flow Order***		
MSD-01.6B-01N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6B-02T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-03P	0.312	0.309	0.106	0.106	26,980,676	No	203,584
===>Grouped by Line: **MSD-01.6B_2 MSEP 32B to HDR**					***Sorted By:Flow Order***		
MSD-01.6B-04N	1.125	1.118	0.106	0.106	61,698,268	No	203,584
MSD-01.6B-08P	0.312	0.309	0.106	0.106	30,026,004	No	203,584
===>Grouped by Line: **MSD-01.6B_3 MSEP 32B to HDR**					***Sorted By:Flow Order***		
MSD-01.6B-05N	0.250	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,295	No	203,584
MSD-01.6B-06T (D/S)	0.000	0.245	0.106	0.106	11,298,780	No	203,584
MSD-01.6B-07P	0.264	0.261	0.106	0.106	20,919,198	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: MSD-01.7A MSEP 32A DR HDR					Sorted By:Flow Order		
MSD-01.7A-01T	0.250	0.329	0.106	0.106	22,071,172	No	203,584
MSD-01.7A-01T (BR/SE)	0.000	0.516	0.106	0.106	48,948,612	No	203,584
MSD-01.7A-01T (D/S)	0.000	0.444	0.106	0.106	18,608,170	Yes	203,584
MSD-01.7A-02P	0.250	0.220	0.106	0.106	12,846,674	Yes	203,584
===>Grouped by Line: MSD-01.7B MSEP 32B DR HDR					Sorted By:Flow Order		
MSD-01.7B-01T	0.250	0.329	0.106	0.106	22,071,172	Yes	203,584
MSD-01.7B-01T (BR/SE)	0.000	0.277	0.106	0.106	20,417,896	No	203,584
MSD-01.7B-01T (D/S)	0.000	0.352	0.106	0.106	13,551,510	Yes	203,584
MSD-01.7B-02P	0.304	0.300	0.106	0.106	21,568,298	No	203,584
===>Grouped by Line: MSD-01.8A HDR to MSEP TK 32A					Sorted By:Flow Order		
MSD-01.8A-01T (D/S)	0.000	0.286	0.106	0.106	14,666,354	Yes	203,584
MSD-01.8A-01T	0.250	0.212	0.106	0.106	4,779,765	Yes	203,584
MSD-01.8A-01T (BR/SE)	0.000	0.312	0.106	0.106	6,548,902	No	203,584
MSD-01.8A-02P	0.250	0.235	0.106	0.106	7,599,688	Yes	203,584
MSD-01.8A-03E	0.250	0.389	0.106	0.106	12,129,775	Yes	203,584
MSD-01.8A-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8A-05P	0.250	0.224	0.106	0.106	8,548,258	Yes	203,584
MSD-01.8A-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8A-07P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.8A-08N	0.250	0.181	0.106	0.106	2,974,721	Yes	203,584
===>Grouped by Line: MSD-01.8B HDR to MSEP TK 32B					Sorted By:Flow Order		
MSD-01.8B-01T (D/S)	0.000	0.338	0.106	0.106	18,876,686	Yes	203,584
MSD-01.8B-01T	0.250	0.325	0.106	0.106	9,906,987	Yes	203,584
MSD-01.8B-01T (BR/SE)	0.000	0.346	0.106	0.106	7,616,591	No	203,584
MSD-01.8B-02P	0.285	0.231	0.106	0.106	7,275,190	Yes	203,584
MSD-01.8B-03E	0.250	0.250	0.106	0.106	6,174,945	Yes	203,584
MSD-01.8B-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8B-05P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.8B-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.8B-07P	0.250	0.257	0.106	0.106	10,890,797	Yes	203,584
MSD-01.8B-08N	0.250	0.320	0.106	0.106	8,522,333	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:53:37PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.11A_1 MSEP 33A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11A-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11A_2 MSEP 33A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11A-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11A_3 MSEP 33A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11A-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11B_1 MSEP 33B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11B-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11B_2 MSEP 33B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11B-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11B_3 MSEP 33B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11B-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.12A-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12A-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.12A-02P	62	0.163	0.078	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12A-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.12B MSEP 33B DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.12B-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12B-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12B-02P	62	0.163	0.078	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12B-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.13A HDR to MSEP TK 33A***								***Sorted By: Average Wear Rate***		
MSD-01.13A-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-10N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-08E	2	0.454	0.216	382.2	0.563	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-09P	52	0.302	0.144	382.2	0.553	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-07P	58	0.256	0.122	382.2	0.533	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.13B HDR to MSEP TK 33B***								***Sorted By: Average Wear Rate***		
MSD-01.13B-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-10N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-08E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-09P	52	0.290	0.138	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:37PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.11A_1 MSEP 33A to HDR***								***Sorted By: Flow Order***		
MSD-01.11A-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11A_2 MSEP 33A to HDR***								***Sorted By: Flow Order***		
MSD-01.11A-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11A_3 MSEP 33A to HDR***								***Sorted By: Flow Order***		
MSD-01.11A-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11A-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11B_1 MSEP 33B to HDR***								***Sorted By: Flow Order***		
MSD-01.11B-01N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-02T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-02T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-03P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11B_2 MSEP 33B to HDR***								***Sorted By: Flow Order***		
MSD-01.11B-04N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-08P	61	0.122	0.058	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.11B_3 MSEP 33B to HDR***								***Sorted By: Flow Order***		
MSD-01.11B-05N	31	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-06T (BR/SE)	10	0.181	0.086	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-06T (D/S)	10	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.11B-07P	60	0.136	0.065	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***								***Sorted By: Flow Order***		
MSD-01.12A-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12A-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***									***Sorted By: Flow Order***	
MSD-01.12A-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12A-02P	62	0.163	0.078	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.12B MSEP 33B DR HDR***									***Sorted By: Flow Order***	
MSD-01.12B-01T	12	0.186	0.088	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12B-01T (BR/SE)	12	0.154	0.073	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12B-01T (D/S)	12	0.335	0.159	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.12B-02P	62	0.163	0.078	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.13A HDR to MSEP TK 33A***									***Sorted By: Flow Order***	
MSD-01.13A-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-07P	58	0.256	0.122	382.2	0.533	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-08E	2	0.454	0.216	382.2	0.563	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-09P	52	0.302	0.144	382.2	0.553	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13A-10N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.13B HDR to MSEP TK 33B***									***Sorted By: Flow Order***	
MSD-01.13B-01T (D/S)	11	0.226	0.108	382.2	0.177	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-01T	11	0.408	0.194	382.2	0.351	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-01T (BR/SE)	11	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-02P	61	0.313	0.149	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-03E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-04V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-05P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-06V	25	0.580	0.276	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-07P	58	0.255	0.122	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-08E	2	0.429	0.204	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-09P	52	0.290	0.138	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD
MSD-01.13B-10N	30	0.464	0.221	382.2	0.529	0.0	12.750	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:37PM

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.11A_1 MSEP 33A to HDR**					***Sorted By:Remaining Life***		
MSD-01.11A-01N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-02T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11A-03P	0.250	0.247	0.106	0.106	19,116,036	No	203,584
===>Grouped by Line: **MSD-01.11A_2 MSEP 33A to HDR**					***Sorted By:Remaining Life***		
MSD-01.11A-04N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-08P	0.250	0.247	0.106	0.106	21,287,516	No	203,584
===>Grouped by Line: **MSD-01.11A_3 MSEP 33A to HDR**					***Sorted By:Remaining Life***		
MSD-01.11A-06T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-05N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11A-07P	0.250	0.247	0.106	0.106	19,116,036	No	203,584
===>Grouped by Line: **MSD-01.11B_1 MSEP 33B to HDR**					***Sorted By:Remaining Life***		
MSD-01.11B-01N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-02T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11B-03P	0.250	0.247	0.106	0.106	19,116,036	No	203,584
===>Grouped by Line: **MSD-01.11B_2 MSEP 33B to HDR**					***Sorted By:Remaining Life***		
MSD-01.11B-04N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-08P	0.250	0.247	0.106	0.106	21,287,516	No	203,584
===>Grouped by Line: **MSD-01.11B_3 MSEP 33B to HDR**					***Sorted By:Remaining Life***		
MSD-01.11B-05N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-06T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11B-07P	0.250	0.247	0.106	0.106	19,116,036	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.12A MSEP 33A DR HDR**				***Sorted By:Remaining Life***		
MSD-01.12A-01T (D/S)	0.000	0.242	0.106	0.106	7,512,417	No	203,584
MSD-01.12A-01T	0.250	0.246	0.106	0.106	13,872,708	No	203,584
MSD-01.12A-02P	0.250	0.246	0.106	0.106	15,849,107	No	203,584
MSD-01.12A-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,822	No	203,584
===>Grouped by Line:	**MSD-01.12B MSEP 33B DR HDR**				***Sorted By:Remaining Life***		
MSD-01.12B-01T (D/S)	0.000	0.242	0.106	0.106	7,512,417	No	203,584
MSD-01.12B-01T	0.250	0.246	0.106	0.106	13,872,708	No	203,584
MSD-01.12B-02P	0.250	0.246	0.106	0.106	15,849,107	No	203,584
MSD-01.12B-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,822	No	203,584
===>Grouped by Line:	**MSD-01.13A HDR to MSEP TK 33A**				***Sorted By:Remaining Life***		
MSD-01.13A-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13A-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13A-10N	0.250	0.239	0.106	0.106	5,300,249	No	203,584
MSD-01.13A-08E	0.437	0.238	0.106	0.106	5,342,399	Yes	203,584
MSD-01.13A-01T	0.250	0.241	0.106	0.106	6,083,270	No	203,584
MSD-01.13A-02P	0.250	0.222	0.106	0.106	6,858,364	Yes	203,584
MSD-01.13A-09P	0.382	0.231	0.106	0.106	7,625,660	Yes	203,584
MSD-01.13A-01T (BR/SE)	0.000	0.369	0.106	0.106	8,352,206	Yes	203,584
MSD-01.13A-05P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.13A-03E	0.250	0.362	0.106	0.106	10,978,856	Yes	203,584
MSD-01.13A-07P	0.268	0.262	0.106	0.106	11,220,111	Yes	203,584
MSD-01.13A-01T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
===>Grouped by Line:	**MSD-01.13B HDR to MSEP TK 33B**				***Sorted By:Remaining Life***		
MSD-01.13B-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13B-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13B-10N	0.250	0.239	0.106	0.106	5,300,249	No	203,584
MSD-01.13B-08E	0.250	0.240	0.106	0.106	5,764,644	No	203,584
MSD-01.13B-01T (BR/SE)	0.000	0.290	0.106	0.106	5,851,067	No	203,584
MSD-01.13B-02P	0.250	0.226	0.106	0.106	7,071,025	Yes	203,584
MSD-01.13B-09P	0.250	0.243	0.106	0.106	8,736,774	No	203,584
MSD-01.13B-03E	0.250	0.331	0.106	0.106	9,643,632	Yes	203,584
MSD-01.13B-05P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.13B-07P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.13B-01T (D/S)	0.000	0.299	0.106	0.106	15,721,535	No	203,584
MSD-01.13B-01T	0.250	0.528	0.106	0.106	19,021,954	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:53:37PM

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.11A_1 MSEP 33A to HDR**					***Sorted By:Flow Order***		
MSD-01.11A-01N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11A-02T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-03P	0.250	0.247	0.106	0.106	19,116,036	No	203,584
===>Grouped by Line: **MSD-01.11A_2 MSEP 33A to HDR**					***Sorted By:Flow Order***		
MSD-01.11A-04N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-08P	0.250	0.247	0.106	0.106	21,287,516	No	203,584
===>Grouped by Line: **MSD-01.11A_3 MSEP 33A to HDR**					***Sorted By:Flow Order***		
MSD-01.11A-05N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11A-06T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11A-07P	0.250	0.247	0.106	0.106	19,116,036	No	203,584
===>Grouped by Line: **MSD-01.11B_1 MSEP 33B to HDR**					***Sorted By:Flow Order***		
MSD-01.11B-01N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-02T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11B-02T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-03P	0.250	0.247	0.106	0.106	19,116,036	No	203,584
===>Grouped by Line: **MSD-01.11B_2 MSEP 33B to HDR**					***Sorted By:Flow Order***		
MSD-01.11B-04N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-08P	0.250	0.247	0.106	0.106	21,287,516	No	203,584
===>Grouped by Line: **MSD-01.11B_3 MSEP 33B to HDR**					***Sorted By:Flow Order***		
MSD-01.11B-05N	0.250	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-06T (BR/SE)	0.000	0.246	0.106	0.106	14,230,207	No	203,584
MSD-01.11B-06T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.11B-07P	0.250	0.247	0.106	0.106	19,116,036	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.12A MSEP 33A DR HDR**					***Sorted By:Flow Order***		
MSD-01.12A-01T	0.250	0.246	0.106	0.106	13,872,708	No	203,584
MSD-01.12A-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,822	No	203,584
MSD-01.12A-01T (D/S)	0.000	0.242	0.106	0.106	7,512,417	No	203,584
MSD-01.12A-02P	0.250	0.246	0.106	0.106	15,849,107	No	203,584
===>Grouped by Line: **MSD-01.12B MSEP 33B DR HDR**					***Sorted By:Flow Order***		
MSD-01.12B-01T	0.250	0.246	0.106	0.106	13,872,708	No	203,584
MSD-01.12B-01T (BR/SE)	0.000	0.246	0.106	0.106	16,816,822	No	203,584
MSD-01.12B-01T (D/S)	0.000	0.242	0.106	0.106	7,512,417	No	203,584
MSD-01.12B-02P	0.250	0.246	0.106	0.106	15,849,107	No	203,584
===>Grouped by Line: **MSD-01.13A HDR to MSEP TK 33A**					***Sorted By:Flow Order***		
MSD-01.13A-01T (D/S)	0.000	0.245	0.106	0.106	11,298,709	No	203,584
MSD-01.13A-01T	0.250	0.241	0.106	0.106	6,083,270	No	203,584
MSD-01.13A-01T (BR/SE)	0.000	0.369	0.106	0.106	8,352,206	Yes	203,584
MSD-01.13A-02P	0.250	0.222	0.106	0.106	6,858,364	Yes	203,584
MSD-01.13A-03E	0.250	0.362	0.106	0.106	10,978,856	Yes	203,584
MSD-01.13A-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13A-05P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.13A-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13A-07P	0.268	0.262	0.106	0.106	11,220,111	Yes	203,584
MSD-01.13A-08E	0.437	0.238	0.106	0.106	5,342,399	Yes	203,584
MSD-01.13A-09P	0.382	0.231	0.106	0.106	7,625,660	Yes	203,584
MSD-01.13A-10N	0.250	0.239	0.106	0.106	5,300,249	No	203,584
===>Grouped by Line: **MSD-01.13B HDR to MSEP TK 33B**					***Sorted By:Flow Order***		
MSD-01.13B-01T (D/S)	0.000	0.299	0.106	0.106	15,721,535	No	203,584
MSD-01.13B-01T	0.250	0.528	0.106	0.106	19,021,954	Yes	203,584
MSD-01.13B-01T (BR/SE)	0.000	0.290	0.106	0.106	5,851,067	No	203,584
MSD-01.13B-02P	0.250	0.226	0.106	0.106	7,071,025	Yes	203,584
MSD-01.13B-03E	0.250	0.331	0.106	0.106	9,643,632	Yes	203,584
MSD-01.13B-04V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13B-05P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.13B-06V	0.250	0.237	0.113	0.113	3,917,300	No	203,584
MSD-01.13B-07P	0.250	0.244	0.106	0.106	9,986,419	No	203,584
MSD-01.13B-08E	0.250	0.240	0.106	0.106	5,764,644	No	203,584
MSD-01.13B-09P	0.250	0.243	0.106	0.106	8,736,774	No	203,584
MSD-01.13B-10N	0.250	0.239	0.106	0.106	5,300,249	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:54:08PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.10A-25N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-26P_2	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-06V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-22E	2	0.005	0.006	382.2	2.221	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-03E	2	0.005	0.006	382.2	2.210	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-08E	2	0.005	0.006	382.2	2.207	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-05E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-12E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-14E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-16E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-18E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-20E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-24E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-10E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-21P	52	0.004	0.004	382.2	2.188	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-09P	52	0.004	0.004	382.2	2.210	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-23P	52	0.004	0.004	382.2	2.204	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-04P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-13P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-15P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-17P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-19P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-07P	58	0.003	0.004	382.2	2.186	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-11P	51	0.003	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-02P	66	0.003	0.003	382.2	2.202	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.9A-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-04P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-26P_1	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-26P_3	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-27P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.10B-27N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-11E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-13E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-12P	52	1.072	0.511	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-14P	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-28P	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-29P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-05V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-07E	2	0.005	0.006	382.2	2.238	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-25E	2	0.005	0.006	382.2	2.220	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-02E	4	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-04E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-09E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-23E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-15E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-17E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-19E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-21E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-03P	54	0.005	0.005	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-26P	52	0.004	0.004	382.2	2.182	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-08P	52	0.004	0.004	382.2	2.204	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-24P	52	0.004	0.004	382.2	2.198	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-10P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-06P	58	0.003	0.004	382.2	2.195	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-16P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-18P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-20P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-22P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.9B-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-04P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-29P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-30P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:08PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***									***Sorted By: Flow Order***	
MSD-01.9A-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9A-04P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-02P	66	0.003	0.003	382.2	2.202	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-03E	2	0.005	0.006	382.2	2.210	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-04P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-05E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-06V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-07P	58	0.003	0.004	382.2	2.186	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-08E	2	0.005	0.006	382.2	2.207	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-09P	52	0.004	0.004	382.2	2.210	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-10E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-11P	51	0.003	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-12E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-13P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-26P_1	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-26P_2	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-26P_3	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-14E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-15P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-16E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-17P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-18E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-19P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-27P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***									***Sorted By: Flow Order***	
MSD-01.10A-20E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-21P	52	0.004	0.004	382.2	2.188	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-22E	2	0.005	0.006	382.2	2.221	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-23P	52	0.004	0.004	382.2	2.204	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-24E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10A-25N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***									***Sorted By: Flow Order***	
MSD-01.9B-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.9B-04P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-02E	4	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-03P	54	0.005	0.005	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-04E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-05V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-06P	58	0.003	0.004	382.2	2.195	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-07E	2	0.005	0.006	382.2	2.238	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-08P	52	0.004	0.004	382.2	2.204	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-09E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-10P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-28P	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-11E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-12P	52	1.072	0.511	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-13E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-14P	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-29P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-29P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-15E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-16P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-17E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-18P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-19E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-20P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-21E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-22P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***									***Sorted By: Flow Order***	
MSD-01.10B-30P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-23E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-24P	52	0.004	0.004	382.2	2.198	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-25E	2	0.005	0.006	382.2	2.220	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-26P	52	0.004	0.004	382.2	2.182	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.10B-27N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:08PM

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10A-25N	0.280	0.267	0.055	0.055	2,271,580	Yes	203,584
MSD-01.9A-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.10A-26P_2	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.10A-11P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-12E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-09P	0.293	0.293	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-04P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-05E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-13P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-10E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-07P	0.293	0.293	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-08E	0.307	0.307	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-06V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.10A-03E	0.309	0.309	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-02P	0.304	0.304	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.9A-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10A-17P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-18E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-19P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-27P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-20E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-21P	0.294	0.294	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-22E	0.317	0.317	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-23P	0.289	0.289	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-24E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.9A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10A-26P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10A-26P_3	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-14E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-15P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-16E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
===>Grouped by Line: **MSD-01.9B TK 32B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10B-11E	0.280	0.210	0.055	0.055	1,794,466	Yes	203,584
MSD-01.10B-27N	0.280	0.240	0.055	0.055	1,987,378	No	203,584
MSD-01.10B-13E	0.280	0.243	0.055	0.055	2,183,162	No	203,584
MSD-01.10B-12P	0.280	0.224	0.055	0.055	2,897,227	Yes	203,584
MSD-01.9B-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.10B-14P	0.280	0.255	0.055	0.055	3,436,180	No	203,584
MSD-01.10B-28P	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.10B-29P_1	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.9B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9B-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9B-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10B-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.10B-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-02E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-03P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-04E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-05V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.10B-06P	0.299	0.299	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-07E	0.328	0.328	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-08P	0.289	0.289	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-09E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-10P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-29P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-15E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-16P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-17E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-18P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-19E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-20P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-21E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-22P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-30P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-23E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-24P	0.285	0.285	0.055	0.055	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9B TK 32B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10B-25E	0.316	0.316	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-26P	0.290	0.290	0.055	0.055	100,000,000	No	95,673

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:08PM

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Flow Order***		
MSD-01.9A-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.9A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9A-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.10A-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-02P	0.304	0.304	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-03E	0.309	0.309	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-04P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-05E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-06V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.10A-07P	0.293	0.293	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-08E	0.307	0.307	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-09P	0.293	0.293	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-10E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-11P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-12E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-13P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-26P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-26P_2	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.10A-26P_3	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-14E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-15P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-16E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-17P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-18E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-19P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-27P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-20E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-21P	0.294	0.294	0.055	0.055	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Flow Order***		
MSD-01.10A-22E	0.317	0.317	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-23P	0.289	0.289	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-24E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10A-25N	0.280	0.267	0.055	0.055	2,271,580	Yes	203,584
===>Grouped by Line: **MSD-01.9B TK 32B to HD TK**					***Sorted By:Flow Order***		
MSD-01.9B-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.9B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9B-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9B-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.9B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10B-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.10B-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-02E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-03P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-04E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-05V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.10B-06P	0.299	0.299	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-07E	0.328	0.328	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-08P	0.289	0.289	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-09E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-10P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-28P	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.10B-11E	0.280	0.210	0.055	0.055	1,794,466	Yes	203,584
MSD-01.10B-12P	0.280	0.224	0.055	0.055	2,897,227	Yes	203,584
MSD-01.10B-13E	0.280	0.243	0.055	0.055	2,183,162	No	203,584
MSD-01.10B-14P	0.280	0.255	0.055	0.055	3,436,180	No	203,584
MSD-01.10B-29P_1	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.10B-29P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-15E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-16P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-17E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-18P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-19E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-20P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-21E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-22P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-30P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-23E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.10B-24P	0.285	0.285	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-25E	0.316	0.316	0.047	0.047	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9B TK 32B to HD TK**					***Sorted By:Flow Order***		
MSD-01.10B-26P	0.290	0.290	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-27N	0.280	0.240	0.055	0.055	1,987,378	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:54:39PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14A TK 33A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.15A-20N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-02V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-04E	2	0.006	0.006	382.2	2.258	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-13E	2	0.006	0.006	382.2	2.247	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-15E	2	0.005	0.006	382.2	2.242	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-05E	4	0.005	0.006	382.2	2.229	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-09E	2	0.005	0.006	382.2	2.199	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-11E	2	0.005	0.006	382.2	2.182	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-07E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-17E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-19E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-06P	54	0.005	0.005	382.2	2.198	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-10P	52	0.004	0.004	382.2	2.205	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-16P	52	0.004	0.004	382.2	2.173	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-14P	52	0.004	0.004	382.2	2.169	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-08P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-18P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-12P	52	0.004	0.004	382.2	2.179	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-03P	58	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-04P	65	0.002	0.002	382.2	1.257	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-22P	9	0.002	0.002	382.2	2.169	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-21P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.15B-29N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-13E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-15E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-12P_2	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-14P	52	1.072	0.511	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-16P	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-30P	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-31P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-05V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-27E	2	0.006	0.006	382.2	2.258	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-07E	4	0.005	0.006	382.2	2.210	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-02E	4	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-04E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-09E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-25E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-11E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-17E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-19E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-21E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-23E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-08P	54	0.005	0.005	382.2	2.219	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-03P	54	0.005	0.005	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-28P	52	0.004	0.004	382.2	2.170	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-10P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-26P	52	0.004	0.004	382.2	2.188	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-12P_1	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-18P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-20P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-22P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-24P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-06P	58	0.003	0.004	382.2	2.146	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-04P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.15B-31P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-32P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:39PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14A TK 33A to HD TK***									***Sorted By: Flow Order***	
MSD-01.14A-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14A-04P	65	0.002	0.002	382.2	1.257	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-02V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-03P	58	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-04E	2	0.006	0.006	382.2	2.258	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-05E	4	0.005	0.006	382.2	2.229	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-06P	54	0.005	0.005	382.2	2.198	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-07E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-08P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-21P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-09E	2	0.005	0.006	382.2	2.199	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-10P	52	0.004	0.004	382.2	2.205	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-11E	2	0.005	0.006	382.2	2.182	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-12P	52	0.004	0.004	382.2	2.179	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-13E	2	0.006	0.006	382.2	2.247	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-14P	52	0.004	0.004	382.2	2.169	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-22P	9	0.002	0.002	382.2	2.169	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-15E	2	0.005	0.006	382.2	2.242	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-16P	52	0.004	0.004	382.2	2.173	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-17E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-18P	52	0.004	0.004	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-19E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15A-20N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***									***Sorted By: Flow Order***	
MSD-01.14B-01N	31	1.286	0.613	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-02P	61	0.002	0.003	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-03T	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-03T (D/S)	15	0.003	0.003	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.14B-04P	65	0.002	0.002	382.2	1.255	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-01E	16	0.002	0.002	382.2	1.251	0.0	8.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-01E (D/S)	16	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-02E	4	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-03P	54	0.005	0.005	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-04E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-05V	25	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-06P	58	0.003	0.004	382.2	2.146	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-07E	4	0.005	0.006	382.2	2.210	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-08P	54	0.005	0.005	382.2	2.219	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-09E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-10P	52	0.004	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-11E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-12P_1	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-12P_2	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-30P	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-13E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-14P	52	1.072	0.511	382.2	2.191	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-15E	2	1.586	0.756	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-16P	52	1.072	0.511	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-31P_1	9	0.471	0.225	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-31P_2	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-17E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-18P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-19E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-20P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-21E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-22P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-23E	1	0.005	0.005	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-24P	51	0.003	0.004	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-32P	9	0.002	0.002	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-25E	2	0.005	0.006	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-26P	52	0.004	0.004	382.2	2.188	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-27E	2	0.006	0.006	382.2	2.258	0.0	6.625	6.935	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***									***Sorted By: Flow Order***	
MSD-01.15B-28P	52	0.004	0.004	382.2	2.170	0.0	6.625	6.935	0.000	'73.20'	ARD
MSD-01.15B-29N	30	1.714	0.817	382.2	2.168	0.0	6.625	6.935	0.000	'73.20'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:39PM

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14A TK 33A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.15A-20N	0.280	0.277	0.055	0.055	2,378,824	Yes	203,584
MSD-01.14A-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.15A-02V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.15A-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.14A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14A-04P	0.324	0.324	0.071	0.071	100,000,000	No	95,673
MSD-01.15A-03P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-04E	0.341	0.341	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-05E	0.322	0.322	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-06P	0.285	0.285	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-07E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-08P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-21P	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-09E	0.302	0.302	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-10P	0.306	0.306	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-11E	0.290	0.290	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-12P	0.272	0.272	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-13E	0.334	0.334	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-14P	0.281	0.281	0.055	0.055	100,000,000	No	95,673
MSD-01.14A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.15A-22P	0.281	0.281	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-15E	0.331	0.331	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-16P	0.284	0.284	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-17E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-18P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-19E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.15B-15E	0.280	0.192	0.055	0.055	1,585,775	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.15B-13E	0.280	0.232	0.055	0.055	2,049,532	Yes	203,584
MSD-01.15B-29N	0.280	0.280	0.055	0.055	2,410,997	Yes	203,584
MSD-01.15B-14P	0.280	0.219	0.055	0.055	2,811,432	Yes	203,584
MSD-01.14B-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.15B-12P_2	0.280	0.255	0.055	0.055	3,436,180	No	203,584
MSD-01.15B-16P	0.280	0.270	0.055	0.055	3,686,541	Yes	203,584
MSD-01.15B-30P	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.15B-31P_1	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.15B-31P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-17E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-18P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-19E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-20P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-21E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-22P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-23E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-24P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-32P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-25E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-26P	0.278	0.278	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-27E	0.341	0.341	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-28P	0.282	0.282	0.055	0.055	100,000,000	No	95,673
MSD-01.14B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14B-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14B-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.15B-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.15B-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-02E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-03P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-04E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-05V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.15B-06P	0.265	0.265	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-07E	0.309	0.309	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-08P	0.299	0.299	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-09E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-10P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-11E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-12P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:39PM

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14A TK 33A to HD TK**					***Sorted By:Flow Order***		
MSD-01.14A-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584
MSD-01.14A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14A-04P	0.324	0.324	0.071	0.071	100,000,000	No	95,673
MSD-01.15A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.15A-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-02V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.15A-03P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-04E	0.341	0.341	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-05E	0.322	0.322	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-06P	0.285	0.285	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-07E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-08P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-21P	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-09E	0.302	0.302	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-10P	0.306	0.306	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-11E	0.290	0.290	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-12P	0.272	0.272	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-13E	0.334	0.334	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-14P	0.281	0.281	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-22P	0.281	0.281	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-15E	0.331	0.331	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-16P	0.284	0.284	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-17E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-18P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-19E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15A-20N	0.280	0.277	0.055	0.055	2,378,824	Yes	203,584
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Flow Order***		
MSD-01.14B-01N	0.322	0.292	0.071	0.071	3,155,371	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: MSD-01.14B TK 33B to HD TK					Sorted By:Flow Order		
MSD-01.14B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14B-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14B-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.14B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.15B-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.15B-01E (D/S)	0.000	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-02E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-03P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-04E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-05V	0.280	0.280	0.059	0.059	100,000,000	No	95,673
MSD-01.15B-06P	0.265	0.265	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-07E	0.309	0.309	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-08P	0.299	0.299	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-09E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-10P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-11E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-12P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-12P_2	0.280	0.255	0.055	0.055	3,436,180	No	203,584
MSD-01.15B-30P	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.15B-13E	0.280	0.232	0.055	0.055	2,049,532	Yes	203,584
MSD-01.15B-14P	0.280	0.219	0.055	0.055	2,811,432	Yes	203,584
MSD-01.15B-15E	0.280	0.192	0.055	0.055	1,585,775	Yes	203,584
MSD-01.15B-16P	0.280	0.270	0.055	0.055	3,686,541	Yes	203,584
MSD-01.15B-31P_1	0.280	0.269	0.055	0.055	8,353,328	No	203,584
MSD-01.15B-31P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-17E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-18P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-19E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-20P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-21E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-22P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-23E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-24P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-32P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-25E	0.280	0.280	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-26P	0.278	0.278	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-27E	0.341	0.341	0.047	0.047	100,000,000	No	95,673
MSD-01.15B-28P	0.282	0.282	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-29N	0.280	0.280	0.055	0.055	2,410,997	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:54:43PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-MS Drain Tank 31A to DCT***								***Sorted By: Average Wear Rate***		
TEMP24	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 31B to DCT***								***Sorted By: Average Wear Rate***		
TEMP27	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32A to DCT***								***Sorted By: Average Wear Rate***		
TEMP25	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32B to DCT***								***Sorted By: Average Wear Rate***		
TEMP28	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33A to DCT***								***Sorted By: Average Wear Rate***		
TEMP26	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33B to DCT***								***Sorted By: Average Wear Rate***		
TEMP29	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:43PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-MS Drain Tank 31A to DCT***									***Sorted By: Flow Order***	
TEMP24	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 31B to DCT***									***Sorted By: Flow Order***	
TEMP27	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32A to DCT***									***Sorted By: Flow Order***	
TEMP25	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32B to DCT***									***Sorted By: Flow Order***	
TEMP28	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33A to DCT***									***Sorted By: Flow Order***	
TEMP26	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33B to DCT***									***Sorted By: Flow Order***	
TEMP29	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	'73.21'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:43PM

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-MS Drain Tank 31A to DCT**					***Sorted By:Remaining Life***		
TEMP24	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 31B to DCT**					***Sorted By:Remaining Life***		
TEMP27	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32A to DCT**					***Sorted By:Remaining Life***		
TEMP25	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32B to DCT**					***Sorted By:Remaining Life***		
TEMP28	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33A to DCT**					***Sorted By:Remaining Life***		
TEMP26	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33B to DCT**					***Sorted By:Remaining Life***		
TEMP29	0.000	0.117	0.055	0.055	276,658	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:54:43PM

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-MS Drain Tank 31A to DCT**					***Sorted By:Flow Order***		
TEMP24	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 31B to DCT**					***Sorted By:Flow Order***		
TEMP27	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32A to DCT**					***Sorted By:Flow Order***		
TEMP25	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32B to DCT**					***Sorted By:Flow Order***		
TEMP28	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33A to DCT**					***Sorted By:Flow Order***		
TEMP26	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33B to DCT**					***Sorted By:Flow Order***		
TEMP29	0.000	0.117	0.055	0.055	276,658	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:55:09PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.1 PRESEP 1B DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.2-10O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-09V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-02.1-01T (BR/SE)	10	1.462	0.582	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-01.2-04E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-08E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-05P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-02.1-01T (D/S)	10	0.724	0.288	387.3	0.606	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-01.2-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.1-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-01.3 PRESEP 1A DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.4-10O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-09V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-04E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-08E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-05P	51	0.696	0.277	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.3-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-01.5 PRESEP 2B DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.6-14O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.5 PRESEP 2B DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.6-13V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-04E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-08E	4	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-10E	4	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-12E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-09P	54	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-11P	54	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-05P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.5-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-01.7 PRESEP 2A DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.8-14O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-13V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-04E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-08E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-10E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-12E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-05P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-09P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-11P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.7-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-02.2 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.2-01T (BR/SE)	12	1.242	0.495	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.2-01T (D/S)	12	1.077	0.429	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-22T (D/S)	15	0.788	0.314	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-22T	15	0.788	0.314	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.2-01T	12	0.594	0.236	387.3	0.606	0.0	16.000	6.911	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.3 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.3-01T (D/S)	12	1.527	0.608	387.3	1.825	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.3-01T (BR/SE)	12	1.242	0.495	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.3-01T	12	1.077	0.429	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.4-20O	6	11.965	5.334	387.3	22.335	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-30V	21	2.997	2.992	387.3	8.992	0.0	8.625	6.911	0.000	'73.20'	ARD
PD-02.4-21N	30	2.178	0.867	387.3	2.809	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-01T (D/S)	12	1.955	0.779	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-12E	2	1.765	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-16E	2	1.765	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-18E	2	1.765	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-08E	1	1.574	0.627	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-10E	1	1.574	0.627	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-14E	1	1.574	0.627	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-01T	12	1.527	0.608	387.3	1.825	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-07P	54	1.526	0.608	387.3	2.438	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-01T (BR/SE)	12	1.242	0.495	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.4-13P	52	1.192	0.475	387.3	2.433	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-17P	52	1.192	0.475	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-19P	52	1.192	0.475	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-29R (D/S)	17	1.079	1.077	387.3	8.992	0.0	8.625	6.911	0.000	'73.20'	ARD
PD-02.4-09P	51	1.049	0.418	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-11P	51	1.049	0.418	387.3	2.433	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-15P	51	1.049	0.418	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-25T (BR/SE)	13	0.945	0.950	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-02E	4	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-28E	2	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-04E	2	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-06E	4	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-22E	2	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-03P	54	0.605	0.608	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-23R	18	0.529	0.532	387.3	2.450	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-29R	17	0.488	0.490	387.3	2.516	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-05P	52	0.473	0.475	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-27P	63	0.378	0.380	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-25T	13	0.291	0.292	387.3	0.681	0.0	30.000	6.911	0.000	'73.20'	ARD
PD-02.4-23R (D/S)	18	0.174	0.175	387.3	0.683	0.0	30.000	6.911	0.000	'73.20'	ARD
PD-02.4-24P	68	0.145	0.146	387.3	0.683	0.0	30.000	6.911	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.4-31R	18	0.007	0.007	387.3	8.707	0.0	8.625	6.911	0.000	'73.20'	ARD
PD-02.4-31R (D/S)	18	0.002	0.002	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-32P	68	0.002	0.002	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-25T (D/S)	13	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	'0.00'	ARD
PD-02.4-26P	63	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	'0.00'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:55:09PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.1 PRESEP 1B DR to HDR***									***Sorted By: Flow Order***	
PD-01.1-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.2-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.2-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-04E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-05P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-08E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-09V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.2-10O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-02.1-01T (BR/SE)	10	1.462	0.582	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.1-01T (D/S)	10	0.724	0.288	387.3	0.606	0.0	16.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-01.3 PRESEP 1A DR to HDR***									***Sorted By: Flow Order***	
PD-01.3-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.4-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.4-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-04E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-05P	51	0.696	0.277	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-08E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-09V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.4-10O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-01.5 PRESEP 2B DR to HDR***									***Sorted By: Flow Order***	
PD-01.5-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.5 PRESEP 2B DR to HDR***									***Sorted By: Flow Order***	
PD-01.6-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.6-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-04E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-05P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-08E	4	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-09P	54	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-10E	4	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-11P	54	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-12E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-13V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.6-14O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-01.7 PRESEP 2A DR to HDR***									***Sorted By: Flow Order***	
PD-01.7-01N	31	0.001	0.000	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.8-01R	7	0.658	0.262	387.3	0.804	0.0	14.000	6.911	0.000	'73.20'	ARD
PD-01.8-01R (D/S)	7	1.012	0.403	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-02B	3	1.107	0.441	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-03P	53	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-04E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-05P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-06E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-07P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-08E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-09P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-10E	2	1.170	0.466	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-11P	52	0.790	0.315	387.3	1.417	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-12E	1	1.043	0.416	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-13V	25	1.581	0.630	387.3	1.410	0.0	10.750	6.911	0.000	'73.20'	ARD
PD-01.8-14O	6	5.988	2.590	387.3	6.460	0.0	10.750	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-02.2 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.2-01T (BR/SE)	12	1.242	0.495	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.2-01T (D/S)	12	1.077	0.429	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-22T	15	0.788	0.314	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-22T (D/S)	15	0.788	0.314	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.2-01T	12	0.594	0.236	387.3	0.606	0.0	16.000	6.911	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.3 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.3-01T (BR/SE)	12	1.242	0.495	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.3-01T (D/S)	12	1.527	0.608	387.3	1.825	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.3-01T	12	1.077	0.429	387.3	1.216	0.0	16.000	6.911	0.000	'73.20'	ARD
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.4-01T (BR/SE)	12	1.242	0.495	387.3	1.648	0.0	10.000	6.911	0.000	'73.20'	ARD
PD-02.4-01T	12	1.527	0.608	387.3	1.825	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-01T (D/S)	12	1.955	0.779	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-02E	4	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-03P	54	0.605	0.608	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-04E	2	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-05P	52	0.473	0.475	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-22E	2	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-23R	18	0.529	0.532	387.3	2.450	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-23R (D/S)	18	0.174	0.175	387.3	0.683	0.0	30.000	6.911	0.000	'73.20'	ARD
PD-02.4-24P	68	0.145	0.146	387.3	0.683	0.0	30.000	6.911	0.000	'73.20'	ARD
PD-02.4-25T	13	0.291	0.292	387.3	0.681	0.0	30.000	6.911	0.000	'73.20'	ARD
PD-02.4-25T (BR/SE)	13	0.945	0.950	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-27P	63	0.378	0.380	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-28E	2	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-06E	4	0.700	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-07P	54	1.526	0.608	387.3	2.438	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-08E	1	1.574	0.627	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-09P	51	1.049	0.418	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-10E	1	1.574	0.627	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-11P	51	1.049	0.418	387.3	2.433	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-12E	2	1.765	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-13P	52	1.192	0.475	387.3	2.433	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-14E	1	1.574	0.627	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-15P	51	1.049	0.418	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-16E	2	1.765	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-17P	52	1.192	0.475	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-18E	2	1.765	0.703	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-19P	52	1.192	0.475	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-29R	17	0.488	0.490	387.3	2.516	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-29R (D/S)	17	1.079	1.077	387.3	8.992	0.0	8.625	6.911	0.000	'73.20'	ARD
PD-02.4-30V	21	2.997	2.992	387.3	8.992	0.0	8.625	6.911	0.000	'73.20'	ARD
PD-02.4-31R	18	0.007	0.007	387.3	8.707	0.0	8.625	6.911	0.000	'73.20'	ARD
PD-02.4-31R (D/S)	18	0.002	0.002	387.3	2.435	0.0	16.000	6.911	0.000	'73.20'	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.4-32P	68	0.002	0.002	387.3	2.434	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-20O	6	11.965	5.334	387.3	22.335	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-21N	30	2.178	0.867	387.3	2.809	0.0	16.000	6.911	0.000	'73.20'	ARD
PD-02.4-25T (D/S)	13	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	'0.00'	ARD
PD-02.4-26P	63	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	'0.00'	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:55:09PM

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.1 PRESEP 1B DR to HDR**					***Sorted By:Remaining Life***		
PD-01.2-10O	0.365	0.345	0.089	0.089	866,349	No	154,778
PD-01.2-09V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-02.1-01T (BR/SE)	0.000	0.339	0.083	0.083	3,857,604	No	154,778
PD-01.2-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.2-04E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.2-02B	0.365	0.345	0.089	0.089	5,096,401	No	154,778
PD-01.2-08E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.2-01R (D/S)	0.000	0.347	0.089	0.089	5,610,616	No	154,778
PD-02.1-01T (D/S)	0.000	0.362	0.132	0.132	6,980,559	No	154,778
PD-01.2-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.2-05P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.2-03P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.2-01R	0.000	0.363	0.116	0.116	8,269,764	No	154,778
PD-01.1-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line: **PD-01.3 PRESEP 1A DR to HDR**					***Sorted By:Remaining Life***		
PD-01.4-10O	0.380	0.299	0.089	0.089	712,005	No	154,778
PD-01.4-09V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.4-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.4-02B	0.365	0.354	0.089	0.089	5,275,484	Yes	154,778
PD-01.4-04E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.4-08E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.4-03P	0.365	0.340	0.089	0.089	6,976,635	Yes	154,778
PD-01.4-01R (D/S)	0.000	0.417	0.089	0.089	7,126,114	Yes	154,778
PD-01.4-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.4-01R	0.000	0.365	0.116	0.116	8,334,168	Yes	154,778
PD-01.4-05P	0.365	0.353	0.089	0.089	8,337,515	No	154,778
PD-01.3-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Remaining Life***		
PD-01.6-14O	0.365	0.324	0.089	0.089	796,523	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Remaining Life***		
PD-01.6-13V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.6-04E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-08E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-10E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-02B	0.365	0.345	0.089	0.089	5,096,401	No	154,778
PD-01.6-12E	0.365	0.337	0.089	0.089	5,224,388	Yes	154,778
PD-01.6-01R (D/S)	0.000	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.6-09P	0.365	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.6-11P	0.365	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.6-03P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.6-05P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.6-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.6-01R	0.000	0.363	0.116	0.116	8,269,764	No	154,778
PD-01.5-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line: **PD-01.7 PRESEP 2A DR to HDR**					***Sorted By:Remaining Life***		
PD-01.8-14O	0.365	0.298	0.089	0.089	708,623	No	154,778
PD-01.8-13V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.8-04E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-08E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-10E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-02B	0.365	0.345	0.089	0.089	5,096,401	No	154,778
PD-01.8-12E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.8-01R (D/S)	0.000	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.8-03P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-05P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-09P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-11P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-01R	0.000	0.363	0.116	0.116	8,269,764	No	154,778
PD-01.7-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line: **PD-02.2 PRESEP HDR to HD TK**					***Sorted By:Remaining Life***		
PD-02.2-01T (BR/SE)	0.000	0.306	0.083	0.083	3,951,851	No	154,778
PD-02.4-22T	0.375	0.361	0.132	0.132	6,378,183	No	154,778
PD-02.4-22T (D/S)	0.000	0.361	0.132	0.132	6,378,183	No	154,778
PD-02.2-01T (D/S)	0.000	0.458	0.132	0.132	6,649,015	No	154,778
PD-02.2-01T	0.375	0.442	0.132	0.132	11,452,162	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-02.3 PRESEP HDR to HD TK**					***Sorted By:Remaining Life***		
PD-02.3-01T (D/S)	0.000	0.436	0.132	0.132	4,373,189	No	154,778
PD-02.3-01T (BR/SE)	0.000	0.343	0.083	0.083	4,606,927	No	154,778
PD-02.3-01T	0.375	0.507	0.132	0.132	7,654,017	No	154,778
===>Grouped by Line: **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Remaining Life***		
PD-02.4-20O	0.421	0.313	0.132	0.132	297,339	No	154,778
PD-02.4-30V	0.000	0.299	0.076	0.076	652,469	No	66,383
PD-02.4-29R (D/S)	0.000	0.314	0.071	0.071	1,971,829	No	66,383
PD-02.4-25T (BR/SE)	0.000	0.368	0.132	0.132	2,170,815	No	66,383
PD-02.4-01T (D/S)	0.000	0.353	0.132	0.132	2,485,989	No	154,778
PD-02.4-12E	0.375	0.344	0.132	0.132	2,634,267	No	154,778
PD-02.4-18E	0.375	0.344	0.132	0.132	2,634,267	No	154,778
PD-02.4-02E	0.375	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-04E	0.375	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-22E	0.000	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-28E	0.000	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-06E	0.375	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-08E	0.375	0.347	0.132	0.132	3,000,670	No	154,778
PD-02.4-10E	0.375	0.347	0.132	0.132	3,000,670	No	154,778
PD-02.4-14E	0.375	0.347	0.132	0.132	3,000,670	No	154,778
PD-02.4-16E	0.375	0.375	0.132	0.132	3,020,677	Yes	154,778
PD-02.4-07P	0.375	0.348	0.132	0.132	3,106,584	No	154,778
PD-02.4-03P	0.375	0.370	0.132	0.132	3,429,067	No	66,383
PD-02.4-23R	0.000	0.371	0.132	0.132	3,928,374	No	66,383
PD-02.4-01T	0.375	0.410	0.132	0.132	3,995,187	No	154,778
PD-02.4-13P	0.375	0.354	0.132	0.132	4,085,225	No	154,778
PD-02.4-19P	0.375	0.354	0.132	0.132	4,085,225	No	154,778
PD-02.4-17P	0.375	0.356	0.132	0.132	4,119,687	Yes	154,778
PD-02.4-05P	0.375	0.371	0.132	0.132	4,407,708	No	66,383
PD-02.4-09P	0.375	0.356	0.132	0.132	4,695,286	No	154,778
PD-02.4-11P	0.375	0.356	0.132	0.132	4,695,286	No	154,778
PD-02.4-15P	0.375	0.356	0.132	0.132	4,695,286	No	154,778
PD-02.4-01T (BR/SE)	0.000	0.350	0.083	0.083	4,730,685	No	154,778
PD-02.4-27P	0.000	0.372	0.132	0.132	5,526,154	No	66,383
PD-02.4-29R	0.000	0.496	0.132	0.132	6,508,054	No	66,383
PD-02.4-21N	0.899	0.806	0.114	0.114	6,992,245	Yes	154,778
PD-02.4-25T	0.000	0.623	0.248	0.248	11,231,189	No	66,383
PD-02.4-23R (D/S)	0.000	0.624	0.248	0.248	18,762,702	No	66,383
PD-02.4-24P	0.000	0.624	0.248	0.248	22,528,456	No	66,383
PD-02.4-31R	0.000	0.277	0.071	0.071	100,000,000	No	66,383
PD-02.4-31R (D/S)	0.000	0.375	0.132	0.132	100,000,000	No	66,383

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Remaining Life***		
PD-02.4-32P	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-25T (D/S)	0.000	0.625	0.248	0.248	100,000,000	No	0
PD-02.4-26P	0.000	0.625	0.248	0.248	100,000,000	No	0

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:55:09PM

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.1 PRESEP 1B DR to HDR**					***Sorted By:Flow Order***		
PD-01.1-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.2-01R	0.000	0.363	0.116	0.116	8,269,764	No	154,778
PD-01.2-01R (D/S)	0.000	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.2-02B	0.365	0.345	0.089	0.089	5,096,401	No	154,778
PD-01.2-03P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.2-04E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.2-05P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.2-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.2-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.2-08E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.2-09V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.2-10O	0.365	0.345	0.089	0.089	866,349	No	154,778
PD-02.1-01T (BR/SE)	0.000	0.339	0.083	0.083	3,857,604	No	154,778
PD-02.1-01T (D/S)	0.000	0.362	0.132	0.132	6,980,559	No	154,778
===>Grouped by Line: **PD-01.3 PRESEP 1A DR to HDR**					***Sorted By:Flow Order***		
PD-01.3-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.4-01R	0.000	0.365	0.116	0.116	8,334,168	Yes	154,778
PD-01.4-01R (D/S)	0.000	0.417	0.089	0.089	7,126,114	Yes	154,778
PD-01.4-02B	0.365	0.354	0.089	0.089	5,275,484	Yes	154,778
PD-01.4-03P	0.365	0.340	0.089	0.089	6,976,635	Yes	154,778
PD-01.4-04E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.4-05P	0.365	0.353	0.089	0.089	8,337,515	No	154,778
PD-01.4-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.4-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.4-08E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.4-09V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.4-10O	0.380	0.299	0.089	0.089	712,005	No	154,778
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Flow Order***		
PD-01.5-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Flow Order***		
PD-01.6-01R	0.000	0.363	0.116	0.116	8,269,764	No	154,778
PD-01.6-01R (D/S)	0.000	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.6-02B	0.365	0.345	0.089	0.089	5,096,401	No	154,778
PD-01.6-03P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.6-04E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-05P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.6-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.6-08E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-09P	0.365	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.6-10E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.6-11P	0.365	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.6-12E	0.365	0.337	0.089	0.089	5,224,388	Yes	154,778
PD-01.6-13V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.6-14O	0.365	0.324	0.089	0.089	796,523	No	154,778
===>Grouped by Line: **PD-01.7 PRESEP 2A DR to HDR**					***Sorted By:Flow Order***		
PD-01.7-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.8-01R	0.000	0.363	0.116	0.116	8,269,764	No	154,778
PD-01.8-01R (D/S)	0.000	0.347	0.089	0.089	5,610,616	No	154,778
PD-01.8-02B	0.365	0.345	0.089	0.089	5,096,401	No	154,778
PD-01.8-03P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-04E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-05P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-06E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-07P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-08E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-09P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-10E	0.365	0.344	0.089	0.089	4,799,917	No	154,778
PD-01.8-11P	0.365	0.351	0.089	0.089	7,290,386	No	154,778
PD-01.8-12E	0.365	0.347	0.089	0.089	5,428,823	No	154,778
PD-01.8-13V	0.365	0.337	0.095	0.095	3,363,117	No	154,778
PD-01.8-14O	0.365	0.298	0.089	0.089	708,623	No	154,778
===>Grouped by Line: **PD-02.2 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.2-01T (BR/SE)	0.000	0.306	0.083	0.083	3,951,851	No	154,778
PD-02.2-01T (D/S)	0.000	0.458	0.132	0.132	6,649,015	No	154,778
PD-02.4-22T	0.375	0.361	0.132	0.132	6,378,183	No	154,778
PD-02.4-22T (D/S)	0.000	0.361	0.132	0.132	6,378,183	No	154,778
PD-02.2-01T	0.375	0.442	0.132	0.132	11,452,162	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-02.3 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.3-01T (BR/SE)	0.000	0.343	0.083	0.083	4,606,927	No	154,778
PD-02.3-01T (D/S)	0.000	0.436	0.132	0.132	4,373,189	No	154,778
PD-02.3-01T	0.375	0.507	0.132	0.132	7,654,017	No	154,778
===>Grouped by Line: **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.4-01T (BR/SE)	0.000	0.350	0.083	0.083	4,730,685	No	154,778
PD-02.4-01T	0.375	0.410	0.132	0.132	3,995,187	No	154,778
PD-02.4-01T (D/S)	0.000	0.353	0.132	0.132	2,485,989	No	154,778
PD-02.4-02E	0.375	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-03P	0.375	0.370	0.132	0.132	3,429,067	No	66,383
PD-02.4-04E	0.375	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-05P	0.375	0.371	0.132	0.132	4,407,708	No	66,383
PD-02.4-22E	0.000	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-23R	0.000	0.371	0.132	0.132	3,928,374	No	66,383
PD-02.4-23R (D/S)	0.000	0.624	0.248	0.248	18,762,702	No	66,383
PD-02.4-24P	0.000	0.624	0.248	0.248	22,528,456	No	66,383
PD-02.4-25T	0.000	0.623	0.248	0.248	11,231,189	No	66,383
PD-02.4-25T (BR/SE)	0.000	0.368	0.132	0.132	2,170,815	No	66,383
PD-02.4-27P	0.000	0.372	0.132	0.132	5,526,154	No	66,383
PD-02.4-28E	0.000	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-06E	0.375	0.370	0.132	0.132	2,956,750	No	66,383
PD-02.4-07P	0.375	0.348	0.132	0.132	3,106,584	No	154,778
PD-02.4-08E	0.375	0.347	0.132	0.132	3,000,670	No	154,778
PD-02.4-09P	0.375	0.356	0.132	0.132	4,695,286	No	154,778
PD-02.4-10E	0.375	0.347	0.132	0.132	3,000,670	No	154,778
PD-02.4-11P	0.375	0.356	0.132	0.132	4,695,286	No	154,778
PD-02.4-12E	0.375	0.344	0.132	0.132	2,634,267	No	154,778
PD-02.4-13P	0.375	0.354	0.132	0.132	4,085,225	No	154,778
PD-02.4-14E	0.375	0.347	0.132	0.132	3,000,670	No	154,778
PD-02.4-15P	0.375	0.356	0.132	0.132	4,695,286	No	154,778
PD-02.4-16E	0.375	0.375	0.132	0.132	3,020,677	Yes	154,778
PD-02.4-17P	0.375	0.356	0.132	0.132	4,119,687	Yes	154,778
PD-02.4-18E	0.375	0.344	0.132	0.132	2,634,267	No	154,778
PD-02.4-19P	0.375	0.354	0.132	0.132	4,085,225	No	154,778
PD-02.4-29R	0.000	0.496	0.132	0.132	6,508,054	No	66,383
PD-02.4-29R (D/S)	0.000	0.314	0.071	0.071	1,971,829	No	66,383
PD-02.4-30V	0.000	0.299	0.076	0.076	652,469	No	66,383
PD-02.4-31R	0.000	0.277	0.071	0.071	100,000,000	No	66,383
PD-02.4-31R (D/S)	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-32P	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-20O	0.421	0.313	0.132	0.132	297,339	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.4-21N	0.899	0.806	0.114	0.114	6,992,245	Yes	154,778
PD-02.4-25T (D/S)	0.000	0.625	0.248	0.248	100,000,000	No	0
PD-02.4-26P	0.000	0.625	0.248	0.248	100,000,000	No	0

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:55:46PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_1 RH 31A to TK 31A***								***Sorted By: Average Wear Rate***		
RHD01.1A-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.1A-35F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-02E	2	2.069	1.178	489.8	7.247	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-43E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-45E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-47E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-18E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-20E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-29E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-31E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-33E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2A-01R (D/S)	17	1.956	1.091	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.1A-25E	3	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-27E	3	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-39E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-41E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-14E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-22E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-24E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.1A-34P_1	54	1.792	1.020	489.8	7.257	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-21P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.1A-02R	18	1.697	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.1A-37T (D/S)	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-37T	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-07P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-09P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-44P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-13P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-46P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-48P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2A-01R	17	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-17P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-19P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-03P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-26P	53	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-28P_1	53	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-30P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-32P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-40P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-42P_1	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-15P	51	1.198	0.682	489.8	7.790	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-05P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-23P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-38P	65	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.1A-02R (D/S)	18	0.930	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-01P	68	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-36P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-34P_2	9	0.616	0.351	489.8	7.257	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-07P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-42P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-09P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-44P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-13P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-21P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-28P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***								***Sorted By: Average Wear Rate***		
RHD02.1A-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.1B_1 RH 31B to TK 31B***								***Sorted By: Average Wear Rate***		
RHD01.1B-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.1B-14F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-30E	4	2.069	1.178	489.8	7.247	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2B-01R (D/S)	17	2.041	1.139	489.8	17.209	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.1B-35E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-37E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-39E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-41E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-43E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-45E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-18E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-49E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-51E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-22E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-24E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-26E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-02E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-28E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-32E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-10E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-47E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-20E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-31P	54	1.785	1.016	489.8	7.226	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-36P	54	1.742	0.992	489.8	7.790	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.1B-02R	18	1.641	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.1B-34T (D/S)	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-34T	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

===>Grouped by Line: RHD-01.1B_2 TK 31B to B HDR ***Sorted By: Average Wear Rate***

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
RHD01.1B-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-52P	52	1.401	0.797	489.8	7.262	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-29P	52	1.398	0.796	489.8	9.386	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-07P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-38P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-09P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-40P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-13P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-42P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-44P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-17P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-46P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-19P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-50P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-23P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2B-01R	17	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-25P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-27P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-03P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-33P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-11P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-48P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-21P_1	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-05P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-01P	68	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.1B-02R (D/S)	18	0.902	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-15P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-38P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-42P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-21P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-27P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.1B-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:55:46PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_1 RH 31A to TK 31A***									***Sorted By: Flow Order***	
RHD01.1A-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***									***Sorted By: Flow Order***	
RHD01.1A-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-07P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-07P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-09P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-09P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-13P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-13P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-14E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-15P	51	1.198	0.682	489.8	7.790	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-17P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-18E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-19P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-20E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-21P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-21P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-22E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-23P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-24E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	RHD-01.1A_2 TK 31A to A HDR									Sorted By: Flow Order	
RHD01.1A-25E	3	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-26P	53	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-27E	3	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-28P_1	53	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-28P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-29E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-30P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-31E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-32P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-33E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-34P_1	54	1.792	1.020	489.8	7.257	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-34P_2	9	0.616	0.351	489.8	7.257	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-35F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-36P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-37T	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-37T (D/S)	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-38P	65	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-39E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-40P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-41E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-42P_1	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-42P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-43E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-44P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-44P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-45E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-46P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-47E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1A-48P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2A-01R	17	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2A-01R (D/S)	17	1.956	1.091	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.1A-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.1A-02R	18	1.697	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.1A-02R (D/S)	18	0.930	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-01P	68	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-02E	2	2.069	1.178	489.8	7.247	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-03P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2A-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***									***Sorted By: Flow Order***	
RHD02.2A-05P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.1B_1 RH 31B to TK 31B***									***Sorted By: Flow Order***	
RHD01.1B-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***									***Sorted By: Flow Order***	
RHD01.1B-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-07P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-09P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-10E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-11P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-13P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-14F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-15P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-17P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-18E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-19P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-20E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-21P_1	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-21P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-22E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-23P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-24E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-25P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-26E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-27P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-27P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-28E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-29P	52	1.398	0.796	489.8	9.386	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-30E	4	2.069	1.178	489.8	7.247	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-31P	54	1.785	1.016	489.8	7.226	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-32E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-33P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

===>Grouped by Line: RHD-01.1B_2 TK 31B to B HDR ***Sorted By: Flow Order***

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
RHD01.1B-34T	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-34T (D/S)	15	1.633	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-35E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-36P	54	1.742	0.992	489.8	7.790	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-37E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-38P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-38P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-39E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-40P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-41E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-42P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-42P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-43E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-44P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-45E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-46P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-47E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-48P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-49E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-50P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-51E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.1B-52P	52	1.401	0.797	489.8	7.262	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2B-01R	17	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.2B-01R (D/S)	17	2.041	1.139	489.8	17.209	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.1B-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.1B-02R	18	1.641	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.1B-02R (D/S)	18	0.902	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-01P	68	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-02E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-03P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.2B-05P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:55:46PM

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_1 RH 31A to TK 31A**					***Sorted By:Remaining Life***		
RHD01.1A-03N	0.432	0.376	0.233	0.233	1,009,131	Yes	203,584
RHD01.1A-02P	0.432	0.367	0.233	0.233	1,407,932	Yes	203,584
RHD01.1A-01N	0.432	0.541	0.233	0.233	1,741,042	Yes	203,584
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Remaining Life***		
RHD01.1A-35F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD02.2A-02E	0.473	0.326	0.233	0.233	689,071	Yes	203,584
RHD01.1A-04N	0.432	0.385	0.233	0.233	858,828	No	203,584
RHD02.1A-02R	0.000	0.334	0.158	0.158	906,152	No	16,992
RHD01.2A-01R (D/S)	0.000	0.292	0.158	0.158	1,070,984	No	203,584
RHD01.1A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-16E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-20E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-18E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-29E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-31E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-33E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-43E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-45E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-47E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.2A-03P	0.432	0.338	0.233	0.233	1,189,155	Yes	203,584
RHD01.1A-25E	0.432	0.388	0.233	0.233	1,250,546	No	203,584
RHD01.1A-27E	0.432	0.388	0.233	0.233	1,250,546	No	203,584
RHD02.2A-04E	0.432	0.381	0.233	0.233	1,269,649	Yes	203,584
RHD01.1A-14E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-22E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-24E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-39E	0.432	0.390	0.233	0.233	1,348,014	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Remaining Life***		
RHD01.1A-41E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-21P_1	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.1A-37T	0.432	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1A-37T (D/S)	0.000	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1A-05P	0.432	0.386	0.233	0.233	1,605,703	Yes	203,584
RHD01.1A-34P_1	0.475	0.433	0.233	0.233	1,722,141	No	203,584
RHD02.1A-02R (D/S)	0.000	0.430	0.233	0.233	1,859,269	No	16,992
RHD01.1A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-09P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-17P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-13P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-07P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.2A-01R	0.000	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-19P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-26P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-28P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-30P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-32P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-44P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-46P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-48P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.2A-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD01.1A-15P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.2A-05P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-23P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-40P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-42P_1	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-38P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD01.1A-36P	0.462	0.423	0.233	0.233	4,418,795	Yes	203,584
RHD01.1A-09P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-13P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-07P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-21P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-28P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-42P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-44P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-34P_2	0.475	0.461	0.233	0.233	5,692,704	No	203,584
RHD02.1A-01V	0.337	0.501	0.132	0.132	100,000,000	No	203,584
===>Grouped by Line: **RHD-01.1B_1 RH 31B to TK 31B**					***Sorted By:Remaining Life***		
RHD01.1B-01N	0.432	0.369	0.233	0.233	768,079	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1B_1 RH 31B to TK 31B**					***Sorted By:Remaining Life***		
RHD01.1B-03N	0.432	0.381	0.233	0.233	1,049,518	No	203,584
RHD01.1B-02P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
===>Grouped by Line: **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Remaining Life***		
RHD01.1B-14F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.1B-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD02.1B-02R	0.000	0.322	0.158	0.158	843,296	No	82,559
RHD01.1B-16E	0.432	0.364	0.233	0.233	1,005,545	Yes	203,584
RHD01.1B-30E	0.473	0.369	0.233	0.233	1,015,244	Yes	203,584
RHD02.2B-02E	0.432	0.373	0.233	0.233	1,066,886	Yes	203,584
RHD01.1B-41E	0.432	0.379	0.233	0.233	1,112,724	Yes	203,584
RHD01.1B-39E	0.432	0.380	0.233	0.233	1,120,363	Yes	203,584
RHD01.1B-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-18E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-22E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-24E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-26E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-28E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-32E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-35E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-37E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-43E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-45E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-49E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-10E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1B-20E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1B-47E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD02.2B-04E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1B-51E	0.432	0.411	0.233	0.233	1,360,860	Yes	203,584
RHD01.1B-36P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.2B-01R (D/S)	0.401	0.350	0.158	0.158	1,476,396	Yes	203,584
RHD02.2B-03P	0.432	0.364	0.233	0.233	1,481,745	Yes	203,584
RHD01.1B-34T	0.432	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1B-34T (D/S)	0.000	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1B-31P	0.469	0.411	0.233	0.233	1,535,360	Yes	203,584
RHD01.1B-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD02.1B-02R (D/S)	0.000	0.424	0.233	0.233	1,796,193	No	82,559
RHD01.1B-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-09P	0.432	0.400	0.233	0.233	1,893,836	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Remaining Life***		
RHD01.1B-13P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-19P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-23P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-25P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-27P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-33P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-38P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-44P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-46P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-50P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-52P	0.476	0.414	0.233	0.233	1,986,413	Yes	203,584
RHD01.1B-40P	0.432	0.415	0.233	0.233	2,058,379	Yes	203,584
RHD02.2B-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD01.1B-17P	0.432	0.423	0.233	0.233	2,145,246	Yes	203,584
RHD01.1B-11P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1B-21P_1	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1B-48P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.2B-05P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1B-42P_1	0.432	0.430	0.233	0.233	2,227,978	Yes	203,584
RHD01.1B-29P	0.473	0.441	0.233	0.233	2,285,963	No	203,584
RHD01.2B-01R	0.000	0.462	0.233	0.233	2,589,485	Yes	203,584
RHD01.1B-15P	0.432	0.421	0.233	0.233	4,368,364	Yes	203,584
RHD01.1B-21P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-27P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-38P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-42P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.1B-01V	0.337	0.596	0.132	0.132	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:55:46PM

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_1 RH 31A to TK 31A**					***Sorted By:Flow Order***		
RHD01.1A-01N	0.432	0.541	0.233	0.233	1,741,042	Yes	203,584
RHD01.1A-02P	0.432	0.367	0.233	0.233	1,407,932	Yes	203,584
RHD01.1A-03N	0.432	0.376	0.233	0.233	1,009,131	Yes	203,584
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Flow Order***		
RHD01.1A-04N	0.432	0.385	0.233	0.233	858,828	No	203,584
RHD01.1A-05P	0.432	0.386	0.233	0.233	1,605,703	Yes	203,584
RHD01.1A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-07P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-07P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-09P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-09P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-13P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-13P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-14E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-15P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-16E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-17P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-18E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-19P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-20E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-21P_1	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.1A-21P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-22E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-23P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-24E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-25E	0.432	0.388	0.233	0.233	1,250,546	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Flow Order***		
RHD01.1A-26P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-27E	0.432	0.388	0.233	0.233	1,250,546	No	203,584
RHD01.1A-28P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-28P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-29E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-30P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-31E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-32P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-33E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-34P_1	0.475	0.433	0.233	0.233	1,722,141	No	203,584
RHD01.1A-34P_2	0.475	0.461	0.233	0.233	5,692,704	No	203,584
RHD01.1A-35F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.1A-36P	0.462	0.423	0.233	0.233	4,418,795	Yes	203,584
RHD01.1A-37T	0.432	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1A-37T (D/S)	0.000	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1A-38P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD01.1A-39E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-40P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-41E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1A-42P_1	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1A-42P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-43E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-44P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-44P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1A-45E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-46P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1A-47E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1A-48P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.2A-01R	0.000	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.2A-01R (D/S)	0.000	0.292	0.158	0.158	1,070,984	No	203,584
RHD02.1A-01V	0.337	0.501	0.132	0.132	100,000,000	No	203,584
RHD02.1A-02R	0.000	0.334	0.158	0.158	906,152	No	16,992
RHD02.1A-02R (D/S)	0.000	0.430	0.233	0.233	1,859,269	No	16,992
RHD02.2A-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD02.2A-02E	0.473	0.326	0.233	0.233	689,071	Yes	203,584
RHD02.2A-03P	0.432	0.338	0.233	0.233	1,189,155	Yes	203,584
RHD02.2A-04E	0.432	0.381	0.233	0.233	1,269,649	Yes	203,584
RHD02.2A-05P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
===>Grouped by Line: **RHD-01.1B_1 RH 31B to TK 31B**					***Sorted By:Flow Order***		
RHD01.1B-01N	0.432	0.369	0.233	0.233	768,079	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1B_1 RH 31B to TK 31B**					***Sorted By:Flow Order***		
RHD01.1B-02P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.1B-03N	0.432	0.381	0.233	0.233	1,049,518	No	203,584
===>Grouped by Line: **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Flow Order***		
RHD01.1B-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.1B-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.1B-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-09P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-10E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1B-11P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1B-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-13P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-14F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.1B-15P	0.432	0.421	0.233	0.233	4,368,364	Yes	203,584
RHD01.1B-16E	0.432	0.364	0.233	0.233	1,005,545	Yes	203,584
RHD01.1B-17P	0.432	0.423	0.233	0.233	2,145,246	Yes	203,584
RHD01.1B-18E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-19P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-20E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1B-21P_1	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1B-21P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-22E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-23P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-24E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-25P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-26E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-27P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-27P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-28E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-29P	0.473	0.441	0.233	0.233	2,285,963	No	203,584
RHD01.1B-30E	0.473	0.369	0.233	0.233	1,015,244	Yes	203,584
RHD01.1B-31P	0.469	0.411	0.233	0.233	1,535,360	Yes	203,584
RHD01.1B-32E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-33P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-34T	0.432	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1B-34T (D/S)	0.000	0.394	0.233	0.233	1,518,584	No	203,584
RHD01.1B-35E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-36P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.1B-37E	0.432	0.385	0.233	0.233	1,163,615	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Flow Order***		
RHD01.1B-38P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-38P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-39E	0.432	0.380	0.233	0.233	1,120,363	Yes	203,584
RHD01.1B-40P	0.432	0.415	0.233	0.233	2,058,379	Yes	203,584
RHD01.1B-41E	0.432	0.379	0.233	0.233	1,112,724	Yes	203,584
RHD01.1B-42P_1	0.432	0.430	0.233	0.233	2,227,978	Yes	203,584
RHD01.1B-42P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.1B-43E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-44P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-45E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-46P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-47E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.1B-48P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.1B-49E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.1B-50P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.1B-51E	0.432	0.411	0.233	0.233	1,360,860	Yes	203,584
RHD01.1B-52P	0.476	0.414	0.233	0.233	1,986,413	Yes	203,584
RHD01.2B-01R	0.000	0.462	0.233	0.233	2,589,485	Yes	203,584
RHD01.2B-01R (D/S)	0.401	0.350	0.158	0.158	1,476,396	Yes	203,584
RHD02.1B-01V	0.337	0.596	0.132	0.132	100,000,000	No	203,584
RHD02.1B-02R	0.000	0.322	0.158	0.158	843,296	No	82,559
RHD02.1B-02R (D/S)	0.000	0.424	0.233	0.233	1,796,193	No	82,559
RHD02.2B-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD02.2B-02E	0.432	0.373	0.233	0.233	1,066,886	Yes	203,584
RHD02.2B-03P	0.432	0.364	0.233	0.233	1,481,745	Yes	203,584
RHD02.2B-04E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD02.2B-05P	0.432	0.404	0.233	0.233	2,200,860	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:56:04PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_1 RH 32A to TK 32A***								***Sorted By: Average Wear Rate***		
RHD01.3A-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.8A-01R (D/S)	7	3.477	1.939	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.5A-03F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.8A-02P	57	2.788	1.555	489.8	16.750	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.3A-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-02E	2	2.069	1.178	489.8	7.247	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.3A-02R	18	2.059	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.7A-04E	2	2.049	1.166	489.8	7.170	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-14E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7A-02E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.8A-01R	7	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7A-03P	54	1.742	0.992	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-15R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-05R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-07P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-09P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-13P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-03P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-05P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.6A-04E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-06E	4	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-08E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-10E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-12E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-14E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.3A-02R (D/S)	18	1.114	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-02P	67	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-06L (D/S)	10	1.061	0.604	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4A-06L	10	1.061	0.604	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6A-07P	54	1.034	0.589	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.5A-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7A-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.6A-02T (D/S)	15	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.3A-15R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.5A-05R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-02T	15	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.4A-01P	68	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.6A-05P	52	0.808	0.460	489.8	5.119	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-09P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-11P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.4A-01P_1	68	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-13P	52	0.808	0.460	489.8	11.023	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-15P_1	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.5A-01R	17	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.7A-01R	17	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-01P	68	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.5A-04P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.6A-03P_1	65	0.647	0.368	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7A-01P	60	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6A-03P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.4A-01P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-15P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.3A-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:56:04PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_1 RH 32A to TK 32A***									***Sorted By: Flow Order***	
RHD01.3A-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***									***Sorted By: Flow Order***	
RHD01.3A-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-07P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-09P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-13P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-14E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-15R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3A-15R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.4A-01P_1	68	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.4A-01P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.5A-01R	17	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.5A-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-02P	67	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-03F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-04P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-05R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5A-05R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-01P	68	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-02T	15	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-02T (D/S)	15	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***									***Sorted By: Flow Order***	
RHD01.6A-03P_1	65	0.647	0.368	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-03P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-04E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-05P	52	0.808	0.460	489.8	5.119	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-06E	4	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-07P	54	1.034	0.589	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-08E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-09P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-10E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-11P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-12E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-13P	52	0.808	0.460	489.8	11.023	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-14E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-15P_1	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.6A-15P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.7A-01R	17	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.7A-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7A-02E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7A-03P	54	1.742	0.992	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7A-04E	2	2.049	1.166	489.8	7.170	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.8A-01R	7	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.8A-01R (D/S)	7	3.477	1.939	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.8A-02P	57	2.788	1.555	489.8	16.750	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3A-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3A-02R	18	2.059	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3A-02R (D/S)	18	1.114	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-01P	68	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-02E	2	2.069	1.178	489.8	7.247	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-03P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-05P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.4A-06L	10	1.061	0.604	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4A-06L (D/S)	10	1.061	0.604	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.7A-01P	60	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:56:04PM

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_1 RH 32A to TK 32A**					***Sorted By:Remaining Life***		
RHD01.3A-01N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.3A-03N	0.432	0.381	0.233	0.233	1,049,518	No	203,584
RHD01.3A-02P	0.432	0.376	0.233	0.233	1,496,414	Yes	203,584
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Remaining Life***		
RHD02.3A-02R	0.000	0.237	0.158	0.158	404,433	No	134,852
RHD02.3A-02R (D/S)	0.000	0.277	0.233	0.233	420,058	No	134,852
RHD01.5A-03F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.3A-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.8A-02P	0.376	0.302	0.158	0.158	808,659	Yes	203,584
RHD01.8A-01R (D/S)	0.000	0.359	0.158	0.158	905,690	Yes	203,584
RHD01.7A-04E	0.458	0.386	0.233	0.233	1,148,773	Yes	203,584
RHD01.3A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.7A-02E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.4A-02E	0.473	0.400	0.233	0.233	1,245,839	No	203,584
RHD01.8A-01R	0.000	0.399	0.233	0.233	1,338,873	Yes	203,584
RHD02.4A-04E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.7A-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.3A-15R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD01.3A-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.3A-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-13P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-09P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.4A-03P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.5A-02P	0.432	0.372	0.233	0.233	1,970,450	Yes	203,584
RHD02.4A-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Remaining Life***		
RHD01.6A-14E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-06E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-08E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-04E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-10E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-12E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD02.4A-05P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.5A-05R	0.000	0.474	0.233	0.233	2,438,325	Yes	203,584
RHD01.6A-07P	0.500	0.476	0.303	0.303	2,570,927	No	203,584
RHD02.4A-06L	0.594	0.559	0.378	0.378	2,623,471	Yes	203,584
RHD01.6A-02T	0.500	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.6A-02T (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.3A-15R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.7A-01R (D/S)	0.000	0.409	0.233	0.233	2,769,424	No	203,584
RHD02.4A-06L (D/S)	0.000	0.569	0.378	0.378	2,778,005	No	203,584
RHD01.5A-05R (D/S)	0.000	0.480	0.303	0.303	2,803,301	Yes	203,584
RHD01.5A-01R	0.000	0.464	0.303	0.303	3,053,528	No	203,584
RHD01.6A-01P	0.500	0.466	0.303	0.303	3,091,617	Yes	203,584
RHD01.6A-13P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-09P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.4A-01P_1	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-05P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-15P_1	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.7A-01R	0.000	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-11P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.5A-01R (D/S)	0.000	0.462	0.233	0.233	3,594,406	No	203,584
RHD01.5A-04P	0.432	0.412	0.233	0.233	4,165,587	Yes	203,584
RHD01.6A-03P_1	0.500	0.485	0.303	0.303	4,328,089	No	203,584
RHD02.7A-01P	0.594	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.4A-01P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD01.6A-03P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD01.6A-15P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD02.3A-01V	0.337	0.318	0.132	0.132	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:56:04PM

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_1 RH 32A to TK 32A**					***Sorted By:Flow Order***		
RHD01.3A-01N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.3A-02P	0.432	0.376	0.233	0.233	1,496,414	Yes	203,584
RHD01.3A-03N	0.432	0.381	0.233	0.233	1,049,518	No	203,584
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Flow Order***		
RHD01.3A-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.3A-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.3A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-09P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-13P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.3A-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.3A-15R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD01.3A-15R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.4A-01P_1	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.4A-01P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD01.5A-01R	0.000	0.464	0.303	0.303	3,053,528	No	203,584
RHD01.5A-01R (D/S)	0.000	0.462	0.233	0.233	3,594,406	No	203,584
RHD01.5A-02P	0.432	0.372	0.233	0.233	1,970,450	Yes	203,584
RHD01.5A-03F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.5A-04P	0.432	0.412	0.233	0.233	4,165,587	Yes	203,584
RHD01.5A-05R	0.000	0.474	0.233	0.233	2,438,325	Yes	203,584
RHD01.5A-05R (D/S)	0.000	0.480	0.303	0.303	2,803,301	Yes	203,584
RHD01.6A-01P	0.500	0.466	0.303	0.303	3,091,617	Yes	203,584
RHD01.6A-02T	0.500	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.6A-02T (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.6A-03P_1	0.500	0.485	0.303	0.303	4,328,089	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Flow Order***		
RHD01.6A-03P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD01.6A-04E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-05P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-06E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-07P	0.500	0.476	0.303	0.303	2,570,927	No	203,584
RHD01.6A-08E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-09P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-10E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-11P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-12E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-13P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-14E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.6A-15P_1	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.6A-15P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD01.7A-01R	0.000	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.7A-01R (D/S)	0.000	0.409	0.233	0.233	2,769,424	No	203,584
RHD01.7A-02E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.7A-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.7A-04E	0.458	0.386	0.233	0.233	1,148,773	Yes	203,584
RHD01.8A-01R	0.000	0.399	0.233	0.233	1,338,873	Yes	203,584
RHD01.8A-01R (D/S)	0.000	0.359	0.158	0.158	905,690	Yes	203,584
RHD01.8A-02P	0.376	0.302	0.158	0.158	808,659	Yes	203,584
RHD02.3A-01V	0.337	0.318	0.132	0.132	100,000,000	No	203,584
RHD02.3A-02R	0.000	0.237	0.158	0.158	404,433	No	134,852
RHD02.3A-02R (D/S)	0.000	0.277	0.233	0.233	420,058	No	134,852
RHD02.4A-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD02.4A-02E	0.473	0.400	0.233	0.233	1,245,839	No	203,584
RHD02.4A-03P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.4A-04E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD02.4A-05P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.4A-06L	0.594	0.559	0.378	0.378	2,623,471	Yes	203,584
RHD02.4A-06L (D/S)	0.000	0.569	0.378	0.378	2,778,005	No	203,584
RHD02.7A-01P	0.594	0.579	0.378	0.378	4,868,460	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:56:27PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_1 RH 32B to TK 32B***								***Sorted By: Average Wear Rate***		
RHD01.3B-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.5B-03F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-18E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.9B-01R (D/S)	17	1.956	1.091	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3B-02R	18	1.684	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.7B-03R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-20R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5B-05R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-07P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-09P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-13P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-15P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-17P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-19P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5B-02P	67	1.107	0.630	489.8	7.170	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7B-02P	67	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7B-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.5B-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.6B-19E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-04E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-06E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-02E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-02E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-06E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-08E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-10E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-11E	4	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-13E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-15E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-02E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-04E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-06E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-04E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-12P	54	0.679	0.386	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.5B-04P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.6B-17T (D/S)	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-21T (D/S)	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-21T	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.7B-03R (D/S)	18	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.3B-20R (D/S)	18	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.5B-05R (D/S)	18	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-17T	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-01P	68	0.539	0.307	489.8	2.524	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-20P_1	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.7B-01R	17	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-01P_1	68	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-05P	52	0.530	0.302	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.9B-01R	17	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.4B-01P_1	68	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-03P	52	0.530	0.302	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.5B-01R	17	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-03P_1	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-07P	52	0.530	0.302	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-09P_1	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-14P	52	0.530	0.302	489.8	3.172	3.9	10.750	6.413	0.000	'37.79'	HBD

===>Grouped by Line: RHD-01.3B_2 TK 32B to B HDR ***Sorted By: Average Wear Rate***

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
RHD01.6B-16P	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-07P	51	0.470	0.267	489.8	2.496	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-03P	51	0.467	0.266	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-05P	51	0.467	0.266	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-05P	51	0.467	0.266	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-18P	65	0.424	0.242	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-22P_1	65	0.424	0.242	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-01P	68	0.362	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.3B-02R (D/S)	18	0.360	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-22P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-20P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-01P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.4B-01P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-03P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-09P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.3B-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:56:27PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_1 RH 32B to TK 32B***									***Sorted By: Flow Order***	
RHD01.3B-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***									***Sorted By: Flow Order***	
RHD01.3B-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-07P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-09P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-13P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-15P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-17P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-18E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-19P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-20R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.3B-20R (D/S)	18	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.4B-01P_1	68	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.4B-01P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.5B-01R	17	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.5B-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5B-02P	67	1.107	0.630	489.8	7.170	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5B-03F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5B-04P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***									***Sorted By: Flow Order***	
RHD01.5B-05R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.5B-05R (D/S)	18	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-01P	68	0.539	0.307	489.8	2.524	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-02E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-03P_1	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-03P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-04E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-05P	51	0.467	0.266	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-06E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-07P	52	0.530	0.302	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-08E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-09P_1	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-09P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-10E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-11E	4	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-12P	54	0.679	0.386	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-13E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-14P	52	0.530	0.302	489.8	3.172	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-15E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-16P	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-17T	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-17T (D/S)	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-18P	65	0.424	0.242	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-19E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-20P_1	52	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-20P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-21T	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-21T (D/S)	15	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-22P_1	65	0.424	0.242	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.6B-22P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.7B-01R	17	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.7B-01R (D/S)	17	0.980	0.558	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7B-02P	67	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7B-03R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.7B-03R (D/S)	18	0.637	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-01P_1	68	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-01P_2	9	0.233	0.133	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-02E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***									***Sorted By: Flow Order***	
RHD01.8B-03P	51	0.467	0.266	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-04E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-05P	52	0.530	0.302	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.8B-06E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.9B-01R	17	0.530	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD01.9B-01R (D/S)	17	1.956	1.091	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3B-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3B-02R	18	1.684	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.3B-02R (D/S)	18	0.360	0.362	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-01P	68	0.362	0.302	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-02E	2	0.785	0.447	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-03P	52	0.530	0.302	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-04E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-05P	51	0.467	0.266	489.8	12.437	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-06E	1	0.700	0.399	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.4B-07P	51	0.470	0.267	489.8	2.496	3.9	10.750	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:56:27PM

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_1 RH 32B to TK 32B**					***Sorted By:Remaining Life***		
RHD01.3B-03N	0.432	0.414	0.233	0.233	1,280,245	Yes	203,584
RHD01.3B-02P	0.432	0.386	0.233	0.233	1,605,501	Yes	203,584
RHD01.3B-01N	0.432	0.781	0.233	0.233	3,098,998	Yes	203,584
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Remaining Life***		
RHD01.5B-03F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.3B-16E	0.432	0.355	0.233	0.233	929,374	Yes	203,584
RHD01.3B-04N	0.432	0.398	0.233	0.233	934,769	Yes	203,584
RHD01.3B-06E	0.432	0.356	0.233	0.233	940,684	Yes	203,584
RHD01.3B-10E	0.432	0.390	0.233	0.233	1,202,571	Yes	203,584
RHD01.3B-14E	0.432	0.395	0.233	0.233	1,240,769	Yes	203,584
RHD01.3B-08E	0.432	0.396	0.233	0.233	1,246,266	Yes	203,584
RHD01.9B-01R (D/S)	0.000	0.327	0.158	0.158	1,354,768	Yes	203,584
RHD01.3B-12E	0.432	0.412	0.233	0.233	1,370,642	Yes	203,584
RHD01.3B-18E	0.432	0.417	0.233	0.233	1,403,027	Yes	203,584
RHD02.3B-02R	0.000	0.449	0.158	0.158	1,499,808	No	50,115
RHD01.3B-19P	0.432	0.379	0.233	0.233	1,651,344	Yes	203,584
RHD01.3B-09P	0.432	0.386	0.233	0.233	1,730,187	Yes	203,584
RHD01.3B-15P	0.432	0.387	0.233	0.233	1,743,942	Yes	203,584
RHD01.3B-17P	0.432	0.391	0.233	0.233	1,787,022	Yes	203,584
RHD01.3B-13P	0.432	0.392	0.233	0.233	1,800,474	Yes	203,584
RHD01.3B-05P	0.432	0.406	0.233	0.233	1,808,738	Yes	203,584
RHD01.3B-07P	0.432	0.393	0.233	0.233	1,809,333	Yes	203,584
RHD01.3B-11P	0.432	0.399	0.233	0.233	1,879,620	Yes	203,584
RHD01.3B-20R	0.000	0.439	0.233	0.233	2,081,639	Yes	203,584
RHD01.7B-02P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD01.7B-01R (D/S)	0.000	0.409	0.233	0.233	2,769,424	No	203,584
RHD01.5B-01R (D/S)	0.000	0.409	0.233	0.233	2,769,424	No	203,584
RHD01.5B-02P	0.458	0.432	0.233	0.233	2,770,964	No	203,584
RHD02.4B-01P	0.594	0.481	0.378	0.378	3,004,676	No	134,852
RHD01.7B-03R	0.000	0.534	0.233	0.233	3,039,163	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Remaining Life***		
RHD01.7B-03R (D/S)	0.000	0.511	0.378	0.378	3,224,297	Yes	203,584
RHD01.6B-02E	0.594	0.574	0.378	0.378	3,854,393	Yes	203,584
RHD01.6B-19E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.8B-04E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-06E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-08E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-10E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-11E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-13E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-15E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.5B-04P	0.475	0.412	0.233	0.233	4,159,232	Yes	203,584
RHD01.8B-02E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD02.4B-04E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD02.4B-06E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD01.6B-04E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD01.6B-12P	0.594	0.578	0.378	0.378	4,541,827	No	203,584
RHD01.6B-03P_1	0.594	0.535	0.378	0.378	4,567,768	Yes	203,584
RHD01.6B-21T	0.594	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-21T (D/S)	0.000	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-17T	0.594	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-17T (D/S)	0.000	0.579	0.378	0.378	4,868,460	No	203,584
RHD02.4B-02E	0.000	0.628	0.378	0.378	4,906,585	Yes	203,584
RHD01.4B-01P_1	0.594	0.553	0.378	0.378	5,088,722	Yes	203,584
RHD01.8B-01P_1	0.594	0.554	0.378	0.378	5,106,128	Yes	203,584
RHD02.4B-03P	0.594	0.565	0.378	0.378	5,436,904	Yes	203,584
RHD01.6B-01P	0.634	0.569	0.378	0.378	5,467,389	Yes	203,584
RHD01.9B-01R	0.000	0.572	0.378	0.378	5,645,055	Yes	203,584
RHD01.6B-20P_1	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.7B-01R	0.000	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.8B-05P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.5B-01R	0.000	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-07P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-09P_1	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-14P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-16P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.8B-06E	0.594	0.692	0.378	0.378	6,163,493	Yes	203,584
RHD01.5B-05R	0.000	0.850	0.233	0.233	6,230,788	Yes	203,584
RHD01.8B-03P	0.594	0.583	0.378	0.378	6,768,873	No	203,584
RHD02.4B-05P	0.594	0.583	0.378	0.378	6,768,873	No	203,584
RHD01.6B-05P	0.594	0.583	0.378	0.378	6,768,873	No	203,584
RHD02.4B-07P	0.609	0.598	0.378	0.378	7,219,036	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Remaining Life***		
RHD01.6B-22P_1	0.594	0.584	0.378	0.378	7,481,529	No	203,584
RHD01.6B-18P	0.594	0.584	0.378	0.378	7,481,529	No	203,584
RHD01.5B-05R (D/S)	0.000	0.726	0.378	0.378	8,416,429	Yes	203,584
RHD01.3B-20R (D/S)	0.000	0.730	0.378	0.378	8,506,991	Yes	203,584
RHD02.3B-02R (D/S)	0.000	0.800	0.378	0.378	10,214,259	No	50,115
RHD01.6B-20P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.6B-22P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.8B-01P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.4B-01P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.6B-03P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.6B-09P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD02.3B-01V	0.337	0.621	0.132	0.132	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:56:27PM

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-01.3B_1 RH 32B to TK 32B**					***Sorted By:Flow Order***		
RHD01.3B-01N	0.432	0.781	0.233	0.233	3,098,998	Yes	203,584
RHD01.3B-02P	0.432	0.386	0.233	0.233	1,605,501	Yes	203,584
RHD01.3B-03N	0.432	0.414	0.233	0.233	1,280,245	Yes	203,584
===>*Grouped by Line:* **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Flow Order***		
RHD01.3B-04N	0.432	0.398	0.233	0.233	934,769	Yes	203,584
RHD01.3B-05P	0.432	0.406	0.233	0.233	1,808,738	Yes	203,584
RHD01.3B-06E	0.432	0.356	0.233	0.233	940,684	Yes	203,584
RHD01.3B-07P	0.432	0.393	0.233	0.233	1,809,333	Yes	203,584
RHD01.3B-08E	0.432	0.396	0.233	0.233	1,246,266	Yes	203,584
RHD01.3B-09P	0.432	0.386	0.233	0.233	1,730,187	Yes	203,584
RHD01.3B-10E	0.432	0.390	0.233	0.233	1,202,571	Yes	203,584
RHD01.3B-11P	0.432	0.399	0.233	0.233	1,879,620	Yes	203,584
RHD01.3B-12E	0.432	0.412	0.233	0.233	1,370,642	Yes	203,584
RHD01.3B-13P	0.432	0.392	0.233	0.233	1,800,474	Yes	203,584
RHD01.3B-14E	0.432	0.395	0.233	0.233	1,240,769	Yes	203,584
RHD01.3B-15P	0.432	0.387	0.233	0.233	1,743,942	Yes	203,584
RHD01.3B-16E	0.432	0.355	0.233	0.233	929,374	Yes	203,584
RHD01.3B-17P	0.432	0.391	0.233	0.233	1,787,022	Yes	203,584
RHD01.3B-18E	0.432	0.417	0.233	0.233	1,403,027	Yes	203,584
RHD01.3B-19P	0.432	0.379	0.233	0.233	1,651,344	Yes	203,584
RHD01.3B-20R	0.000	0.439	0.233	0.233	2,081,639	Yes	203,584
RHD01.3B-20R (D/S)	0.000	0.730	0.378	0.378	8,506,991	Yes	203,584
RHD01.4B-01P_1	0.594	0.553	0.378	0.378	5,088,722	Yes	203,584
RHD01.4B-01P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.5B-01R	0.000	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.5B-01R (D/S)	0.000	0.409	0.233	0.233	2,769,424	No	203,584
RHD01.5B-02P	0.458	0.432	0.233	0.233	2,770,964	No	203,584
RHD01.5B-03F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.5B-04P	0.475	0.412	0.233	0.233	4,159,232	Yes	203,584
RHD01.5B-05R	0.000	0.850	0.233	0.233	6,230,788	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Flow Order***		
RHD01.5B-05R (D/S)	0.000	0.726	0.378	0.378	8,416,429	Yes	203,584
RHD01.6B-01P	0.634	0.569	0.378	0.378	5,467,389	Yes	203,584
RHD01.6B-02E	0.594	0.574	0.378	0.378	3,854,393	Yes	203,584
RHD01.6B-03P_1	0.594	0.535	0.378	0.378	4,567,768	Yes	203,584
RHD01.6B-03P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.6B-04E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD01.6B-05P	0.594	0.583	0.378	0.378	6,768,873	No	203,584
RHD01.6B-06E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-07P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-08E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-09P_1	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-09P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.6B-10E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-11E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-12P	0.594	0.578	0.378	0.378	4,541,827	No	203,584
RHD01.6B-13E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-14P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-15E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-16P	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-17T	0.594	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-17T (D/S)	0.000	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-18P	0.594	0.584	0.378	0.378	7,481,529	No	203,584
RHD01.6B-19E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.6B-20P_1	0.594	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.6B-20P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.6B-21T	0.594	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-21T (D/S)	0.000	0.579	0.378	0.378	4,868,460	No	203,584
RHD01.6B-22P_1	0.594	0.584	0.378	0.378	7,481,529	No	203,584
RHD01.6B-22P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.7B-01R	0.000	0.582	0.378	0.378	5,913,687	No	203,584
RHD01.7B-01R (D/S)	0.000	0.409	0.233	0.233	2,769,424	No	203,584
RHD01.7B-02P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD01.7B-03R	0.000	0.534	0.233	0.233	3,039,163	No	203,584
RHD01.7B-03R (D/S)	0.000	0.511	0.378	0.378	3,224,297	Yes	203,584
RHD01.8B-01P_1	0.594	0.554	0.378	0.378	5,106,128	Yes	203,584
RHD01.8B-01P_2	0.594	0.589	0.378	0.378	13,895,423	No	203,584
RHD01.8B-02E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD01.8B-03P	0.594	0.583	0.378	0.378	6,768,873	No	203,584
RHD01.8B-04E	0.594	0.576	0.378	0.378	3,879,731	No	203,584
RHD01.8B-05P	0.594	0.582	0.378	0.378	5,913,687	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Flow Order***		
RHD01.8B-06E	0.594	0.692	0.378	0.378	6,163,493	Yes	203,584
RHD01.9B-01R	0.000	0.572	0.378	0.378	5,645,055	Yes	203,584
RHD01.9B-01R (D/S)	0.000	0.327	0.158	0.158	1,354,768	Yes	203,584
RHD02.3B-01V	0.337	0.621	0.132	0.132	100,000,000	No	203,584
RHD02.3B-02R	0.000	0.449	0.158	0.158	1,499,808	No	50,115
RHD02.3B-02R (D/S)	0.000	0.800	0.378	0.378	10,214,259	No	50,115
RHD02.4B-01P	0.594	0.481	0.378	0.378	3,004,676	No	134,852
RHD02.4B-02E	0.000	0.628	0.378	0.378	4,906,585	Yes	203,584
RHD02.4B-03P	0.594	0.565	0.378	0.378	5,436,904	Yes	203,584
RHD02.4B-04E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD02.4B-05P	0.594	0.583	0.378	0.378	6,768,873	No	203,584
RHD02.4B-06E	0.594	0.578	0.378	0.378	4,393,357	No	203,584
RHD02.4B-07P	0.609	0.598	0.378	0.378	7,219,036	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:57:01PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_1 RH 33A to TK 33A***								***Sorted By: Average Wear Rate***		
RHD01.10A-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.13A-01R (D/S)	7	3.477	1.939	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.10A-18F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.5A-02R	18	2.059	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.12A-03E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-04E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-02E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.13A-01R	7	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-06E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-08E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-12E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-01T (D/S)	14	1.778	1.012	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12A-01T	14	1.778	1.012	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12A-05P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-20R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-07P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-15P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.10A-17P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-03P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-07P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-09P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-13P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.11A-01E	4	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11A-03E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.5A-02R (D/S)	18	1.114	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-02P	64	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.11A-02P	54	1.034	0.589	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.10A-20R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.6A-01P	57	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.11A-04P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.6A-05P	51	0.682	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-19P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.5A-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.10B_1 RH 33B to TK 33B***								***Sorted By: Average Wear Rate***		
RHD01.10B-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.10B-26F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-52T (D/S)	10	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-52T	10	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-54E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-56E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-58E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-12E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-60E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-15E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-62E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-63E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-17E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-19E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.10B-21E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-22E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-24E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-28E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-30E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-42E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-44E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-46E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-48E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-50E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12B-01R (D/S)	17	1.956	1.091	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD01.10B-06E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-32E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-34E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-36E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-38E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-40E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-13P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-16P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-23P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-53P	60	1.633	0.930	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-64R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-55P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-57P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-09P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-11P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-59P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-61P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-18P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-20P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-25P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-29P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-31P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-43P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-45P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-47P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-49P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.10B-51P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-07P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-33P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-35P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-37P_1	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-39P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-41P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.11B-02E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-04E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.6B-02P	54	1.049	0.597	489.8	10.997	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.10B-64R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-01P_1	68	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-03P	52	0.808	0.460	489.8	11.023	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-05P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12B-01R	17	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.6B-01E	4	0.695	0.701	489.8	4.100	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.10B-27P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-57P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-13P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-61P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-25P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-37P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-47P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.11B-01P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.5B-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:57:01PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_1 RH 33A to TK 33A***									***Sorted By: Flow Order***	
RHD01.10A-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***									***Sorted By: Flow Order***	
RHD01.10A-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-06E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-07P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-08E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-09P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-12E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-13P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-15P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-16E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-17P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-18F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-19P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-20R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10A-20R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11A-01E	4	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11A-02P	54	1.034	0.589	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11A-03E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11A-04P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12A-01T	14	1.778	1.012	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12A-01T (D/S)	14	1.778	1.012	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12A-02P	64	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***									***Sorted By: Flow Order***	
RHD01.12A-03E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-04E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-05P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-07P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.12A-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.13A-01R	7	1.906	1.085	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.13A-01R (D/S)	7	3.477	1.939	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.5A-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.5A-02R	18	2.059	1.697	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.5A-02R (D/S)	18	1.114	0.930	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-01P	57	0.929	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-02E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-03P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-04E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.6A-05P	51	0.682	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.10B_1 RH 33B to TK 33B***									***Sorted By: Flow Order***	
RHD01.10B-01N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-02P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-03N	30	2.178	1.240	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***									***Sorted By: Flow Order***	
RHD01.10B-04N	31	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-05P	61	1.470	0.837	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-06E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-07P	51	1.198	0.682	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-09P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-11P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-12E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-13P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-13P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-15E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-16P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-17E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-18P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-19E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***									***Sorted By: Flow Order***	
RHD01.10B-20P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-21E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-22E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-23P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-24E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-25P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-25P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-26F	6	3.312	1.885	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-27P	56	0.662	0.377	489.8	8.712	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-28E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-29P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-30E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-31P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-32E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-33P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-34E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-35P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-36E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-37P_1	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-37P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-38E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-39P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-40E	1	1.797	1.023	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-41P	51	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-42E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-43P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-44E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-45P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-46E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-47P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-47P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-48E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-49P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-50E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-51P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-52T	10	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-52T (D/S)	10	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-53P	60	1.633	0.930	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***									***Sorted By: Flow Order***	
RHD01.10B-54E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-55P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-56E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-57P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-57P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-58E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-59P	52	1.361	0.775	489.8	11.433	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-60E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-61P_1	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-61P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-62E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-63E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-64R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD01.10B-64R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-01P_1	68	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-01P_2	9	0.356	0.202	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-02E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-03P	52	0.808	0.460	489.8	11.023	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-04E	2	1.196	0.681	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.11B-05P	52	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12B-01R	17	0.808	0.460	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD01.12B-01R (D/S)	17	1.956	1.091	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.5B-01V	24	0.010	0.006	489.8	16.071	3.9	4.500	6.413	0.000	'37.79'	HBD
RHD02.6B-01E	4	0.695	0.701	489.8	4.100	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.6B-02P	54	1.049	0.597	489.8	10.997	3.9	8.625	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:57:01PM

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10A_1 RH 33A to TK 33A**					***Sorted By:Remaining Life***		
RHD01.10A-01N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.10A-03N	0.432	0.381	0.233	0.233	1,049,518	No	203,584
RHD01.10A-02P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
===>Grouped by Line: **RHD-01.10A_2 TK 33A to A HDR**					***Sorted By:Remaining Life***		
RHD02.5A-02R (D/S)	0.000	0.256	0.233	0.233	222,194	Yes	134,852
RHD02.5A-02R	0.000	0.243	0.158	0.158	435,406	No	134,852
RHD01.10A-18F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD02.6A-02E	0.432	0.319	0.233	0.233	655,119	Yes	203,584
RHD01.13A-01R (D/S)	0.000	0.312	0.158	0.158	693,393	Yes	203,584
RHD01.10A-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.12A-08E	0.432	0.384	0.233	0.233	1,154,592	Yes	203,584
RHD01.12A-03E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.12A-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.12A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10A-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10A-16E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.12A-01T	0.000	0.451	0.303	0.303	1,283,288	No	203,584
RHD01.10A-08E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10A-06E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10A-12E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD02.6A-04E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.12A-01T (D/S)	0.000	0.463	0.303	0.303	1,387,167	No	203,584
RHD01.12A-05P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.6A-03P	0.432	0.360	0.233	0.233	1,437,900	Yes	203,584
RHD01.13A-01R	0.000	0.447	0.233	0.233	1,726,526	Yes	203,584
RHD01.10A-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.10A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.12A-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10A-17P	0.432	0.400	0.233	0.233	1,893,836	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10A_2 TK 33A to A HDR**					***Sorted By:Remaining Life***		
RHD01.10A-15P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.11A-01E	0.500	0.451	0.303	0.303	1,904,056	Yes	203,584
RHD01.11A-02P	0.500	0.440	0.303	0.303	2,030,793	Yes	203,584
RHD02.6A-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD01.11A-03E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.10A-07P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10A-09P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10A-13P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10A-20R	0.000	0.471	0.233	0.233	2,404,731	No	203,584
RHD01.12A-02P	0.432	0.405	0.233	0.233	2,425,918	No	203,584
RHD02.6A-05P	0.000	0.429	0.233	0.233	2,525,076	No	33,461
RHD01.10A-20R (D/S)	0.000	0.479	0.303	0.303	2,788,442	Yes	203,584
RHD01.11A-04P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.10A-19P	0.432	0.404	0.233	0.233	3,973,337	Yes	203,584
RHD02.5A-01V	0.337	0.490	0.132	0.132	100,000,000	No	203,584
===>Grouped by Line: **RHD-01.10B_1 RH 33B to TK 33B**					***Sorted By:Remaining Life***		
RHD01.10B-01N	0.432	0.386	0.233	0.233	864,482	Yes	203,584
RHD01.10B-03N	0.432	0.400	0.233	0.233	1,181,254	Yes	203,584
RHD01.10B-02P	0.432	0.385	0.233	0.233	1,595,234	Yes	203,584
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Remaining Life***		
RHD01.10B-26F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.10B-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.12B-01R (D/S)	0.000	0.292	0.158	0.158	1,070,984	No	203,584
RHD01.10B-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-15E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-17E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-19E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-21E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-22E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-24E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-30E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-42E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-44E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-46E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-48E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-50E	0.432	0.385	0.233	0.233	1,163,615	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Remaining Life***		
RHD01.10B-54E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-56E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-58E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-60E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-62E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-63E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-52T (D/S)	0.000	0.468	0.233	0.233	1,328,050	Yes	203,584
RHD01.10B-06E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-32E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-34E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-36E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-38E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-40E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-13P_1	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.10B-16P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.10B-23P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.10B-52T	0.432	0.504	0.233	0.233	1,531,568	No	203,584
RHD01.10B-53P	0.432	0.402	0.233	0.233	1,596,142	Yes	203,584
RHD01.10B-64R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD01.10B-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.10B-28E	0.432	0.466	0.233	0.233	1,784,780	Yes	203,584
RHD01.10B-09P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-18P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-20P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-25P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-31P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-43P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-45P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-47P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-49P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-51P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-55P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-57P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-59P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-61P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-29P	0.432	0.405	0.233	0.233	1,941,728	Yes	203,584
RHD01.11B-02E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.11B-04E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.10B-07P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-33P	0.432	0.404	0.233	0.233	2,200,860	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Remaining Life***		
RHD01.10B-35P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-37P_1	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-39P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-41P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-64R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.6B-02P	0.528	0.504	0.303	0.303	2,941,973	No	203,584
RHD02.6B-01E	0.559	0.555	0.303	0.303	3,148,192	No	50,115
RHD01.11B-01P_1	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.11B-03P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.11B-05P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.12B-01R	0.000	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.10B-13P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-25P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-37P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-47P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-57P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-61P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-27P	0.432	0.440	0.233	0.233	4,809,863	Yes	203,584
RHD01.11B-01P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD02.5B-01V	0.337	0.552	0.132	0.132	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:57:01PM

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10A_1 RH 33A to TK 33A**					***Sorted By:Flow Order***		
RHD01.10A-01N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.10A-02P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.10A-03N	0.432	0.381	0.233	0.233	1,049,518	No	203,584
===>Grouped by Line: **RHD-01.10A_2 TK 33A to A HDR**					***Sorted By:Flow Order***		
RHD01.10A-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.10A-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.10A-06E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10A-07P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10A-08E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10A-09P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10A-12E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10A-13P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10A-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10A-15P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10A-16E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10A-17P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10A-18F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.10A-19P	0.432	0.404	0.233	0.233	3,973,337	Yes	203,584
RHD01.10A-20R	0.000	0.471	0.233	0.233	2,404,731	No	203,584
RHD01.10A-20R (D/S)	0.000	0.479	0.303	0.303	2,788,442	Yes	203,584
RHD01.11A-01E	0.500	0.451	0.303	0.303	1,904,056	Yes	203,584
RHD01.11A-02P	0.500	0.440	0.303	0.303	2,030,793	Yes	203,584
RHD01.11A-03E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.11A-04P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.12A-01T	0.000	0.451	0.303	0.303	1,283,288	No	203,584
RHD01.12A-01T (D/S)	0.000	0.463	0.303	0.303	1,387,167	No	203,584
RHD01.12A-02P	0.432	0.405	0.233	0.233	2,425,918	No	203,584
RHD01.12A-03E	0.432	0.385	0.233	0.233	1,163,615	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10A_2 TK 33A to A HDR**					***Sorted By:Flow Order***		
RHD01.12A-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.12A-05P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.12A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.12A-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.12A-08E	0.432	0.384	0.233	0.233	1,154,592	Yes	203,584
RHD01.13A-01R	0.000	0.447	0.233	0.233	1,726,526	Yes	203,584
RHD01.13A-01R (D/S)	0.000	0.312	0.158	0.158	693,393	Yes	203,584
RHD02.5A-01V	0.337	0.490	0.132	0.132	100,000,000	No	203,584
RHD02.5A-02R	0.000	0.243	0.158	0.158	435,406	No	134,852
RHD02.5A-02R (D/S)	0.000	0.256	0.233	0.233	222,194	Yes	134,852
RHD02.6A-01P	0.432	0.418	0.233	0.233	2,089,878	No	134,852
RHD02.6A-02E	0.432	0.319	0.233	0.233	655,119	Yes	203,584
RHD02.6A-03P	0.432	0.360	0.233	0.233	1,437,900	Yes	203,584
RHD02.6A-04E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD02.6A-05P	0.000	0.429	0.233	0.233	2,525,076	No	33,461
===>Grouped by Line: **RHD-01.10B_1 RH 33B to TK 33B**					***Sorted By:Flow Order***		
RHD01.10B-01N	0.432	0.386	0.233	0.233	864,482	Yes	203,584
RHD01.10B-02P	0.432	0.385	0.233	0.233	1,595,234	Yes	203,584
RHD01.10B-03N	0.432	0.400	0.233	0.233	1,181,254	Yes	203,584
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Flow Order***		
RHD01.10B-04N	0.432	0.369	0.233	0.233	768,079	No	203,584
RHD01.10B-05P	0.432	0.398	0.233	0.233	1,727,057	No	203,584
RHD01.10B-06E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-07P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-09P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-13P_1	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.10B-13P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-15E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-16P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.10B-17E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-18P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-19E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-20P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-21E	0.432	0.385	0.233	0.233	1,163,615	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Flow Order***		
RHD01.10B-22E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-23P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD01.10B-24E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-25P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-25P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-26F	0.432	0.355	0.233	0.233	567,769	No	203,584
RHD01.10B-27P	0.432	0.440	0.233	0.233	4,809,863	Yes	203,584
RHD01.10B-28E	0.432	0.466	0.233	0.233	1,784,780	Yes	203,584
RHD01.10B-29P	0.432	0.405	0.233	0.233	1,941,728	Yes	203,584
RHD01.10B-30E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-31P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-32E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-33P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-34E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-35P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-36E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-37P_1	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-37P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-38E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-39P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-40E	0.432	0.390	0.233	0.233	1,348,014	No	203,584
RHD01.10B-41P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD01.10B-42E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-43P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-44E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-45P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-46E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-47P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-47P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-48E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-49P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-50E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-51P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-52T	0.432	0.504	0.233	0.233	1,531,568	No	203,584
RHD01.10B-52T (D/S)	0.000	0.468	0.233	0.233	1,328,050	Yes	203,584
RHD01.10B-53P	0.432	0.402	0.233	0.233	1,596,142	Yes	203,584
RHD01.10B-54E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-55P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-56E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-57P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Flow Order***		
RHD01.10B-57P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-58E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-59P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-60E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-61P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD01.10B-61P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD01.10B-62E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-63E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD01.10B-64R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD01.10B-64R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD01.11B-01P_1	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.11B-01P_2	0.500	0.492	0.303	0.303	8,161,897	No	203,584
RHD01.11B-02E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.11B-03P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.11B-04E	0.500	0.472	0.303	0.303	2,175,169	No	203,584
RHD01.11B-05P	0.500	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.12B-01R	0.000	0.481	0.303	0.303	3,390,936	No	203,584
RHD01.12B-01R (D/S)	0.000	0.292	0.158	0.158	1,070,984	No	203,584
RHD02.5B-01V	0.337	0.552	0.132	0.132	100,000,000	No	203,584
RHD02.6B-01E	0.559	0.555	0.303	0.303	3,148,192	No	50,115
RHD02.6B-02P	0.528	0.504	0.303	0.303	2,941,973	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:45AM
AnalysisDate/Time: 2/9/2010 3:57:50PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.10A-11T	14	3.219	1.832	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-11T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.10A-03E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-05E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-07E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-09E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-01R (D/S)	7	1.873	1.066	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-11T (D/S)	14	1.778	1.012	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-02P	57	1.463	0.833	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-01R	7	1.344	0.765	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.10A-04P	51	1.287	0.733	489.8	16.051	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-06P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-08P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-10P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.10B-16T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.10B-14T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.10B-16T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-12V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-14T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-03E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-09E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-11E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-01R (D/S)	7	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-06P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-17R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-02P_1	57	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.10B-04P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-08P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-10P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11B-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10B-13P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-15P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-17R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10B-01R	7	0.743	0.423	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.10B-02P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.11A A HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.11A-19T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.11A-17T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.11A-19T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-15V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-17T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-03E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-08E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-01R (D/S)	7	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-06P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-09P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-20R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-02P_1	57	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-04P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-13P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12A-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.11A-16P	58	1.243	0.708	489.8	7.330	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-01R	7	1.131	0.644	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.11A-18P	63	1.118	0.637	489.8	9.386	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-20R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.11A-02P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-09P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.12B B HDR to FWH 36B***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.12B B HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
RHD02.12B-11T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.12B-13T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.12B-13T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-09V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-11T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-02E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-03P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-14R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-05P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-07P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13B-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.12B-10P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-12P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-01P	64	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-14R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
RHD02.13A-16T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.13A-14T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.13A-16T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-12V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-14T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-02E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-09E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-11E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-03P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-06P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-17R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-08P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-10P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14A-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.13A-13P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-01P	64	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
RHD02.13A-15P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-17R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.13A-06P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.14B B HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
RHD02.14B-12T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.14B-12T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-08V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-10T (BR/SE)	13	1.919	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.14B-03P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-06P	54	1.742	0.992	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-10T	13	1.550	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-13R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15B-01N	30	1.251	0.712	489.8	3.829	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.14B-09P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-02E	4	1.147	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-01P	64	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-11P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-13R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.14B-14P	63	0.620	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
RHD02.15A-09T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.15A-07V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-09T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-11T (BR/SE)	13	1.919	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.15A-11T	13	1.550	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-12R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-03P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-05P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.16A-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.15A-08P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-02E	2	1.147	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-10P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-01P	64	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
RHD02.15A-12R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.15A-13P	63	0.620	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.7B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.2B-06L (D/S)	12	2.399	1.366	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.2B-06L (BR/SE)	12	2.292	1.305	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.7B-02E	2	2.165	1.232	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-04E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-06E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-03P	52	1.463	0.833	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-07P	51	1.315	0.748	489.8	8.198	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-05P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-01P	62	1.170	0.666	489.8	16.051	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.8A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.6A-06L (BR/SE)	12	2.292	1.305	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.6A-06L (D/S)	12	1.575	0.896	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8A-02E	1	1.268	0.721	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.6A-06L	12	0.870	0.495	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8A-03P	51	0.845	0.481	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8A-01P	62	0.768	0.437	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.8B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.8B-06T	14	2.997	1.706	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-06T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.7B-08L (BR/SE)	12	2.333	1.328	489.8	9.528	3.9	8.000	6.413	0.000	'37.79'	HBD
RHD02.7B-08L (D/S)	12	2.234	1.271	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-06T (D/S)	14	2.113	1.202	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-02E	2	2.016	1.147	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-04E	4	2.016	1.147	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-05P	54	1.743	0.992	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-03P	52	1.362	0.775	489.8	9.871	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-01P	62	1.096	0.624	489.8	7.678	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.7B-08L	12	0.874	0.497	489.8	2.492	3.9	10.750	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.9A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.9A-11T	14	2.997	1.706	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-11T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.2A-06L (BR/SE)	12	2.292	1.305	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.2A-06L (D/S)	12	2.234	1.271	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-11T (D/S)	14	2.113	1.202	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.9A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.9A-07E	3	1.907	1.085	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-09E	3	1.907	1.085	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-02E	1	1.798	1.023	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-04E	1	1.798	1.023	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-06E	1	1.798	1.023	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.2A-06L	12	1.575	0.896	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-08P	53	1.362	0.775	489.8	8.440	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-10P	53	1.362	0.775	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-03P	51	1.199	0.682	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-05P	51	1.199	0.682	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-01P	62	1.090	0.620	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.9B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.9B-02T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.9B-02T	14	2.113	1.202	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9B-02T (D/S)	14	1.167	0.664	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9B-01P	64	0.768	0.437	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:57:50PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.10A-01R	7	1.344	0.765	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.10A-01R (D/S)	7	1.873	1.066	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-02P	57	1.463	0.833	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-03E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-04P	51	1.287	0.733	489.8	16.051	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-05E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-06P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-07E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-08P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-09E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-10P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-11T	14	3.219	1.832	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-11T (D/S)	14	1.778	1.012	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.10A-11T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.10B-01R	7	0.743	0.423	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.10B-01R (D/S)	7	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-02P_1	57	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-02P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-03E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-04P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-06P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-08P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-09E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-10P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-11E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-12V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.10B-13P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-14T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-14T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.10B-15P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-16T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-16T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.10B-17R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.10B-17R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.11B-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.11A A HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.11A-01R	7	1.131	0.644	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.11A-01R (D/S)	7	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-02P_1	57	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-02P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-03E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-04P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-06P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-08E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-09P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-09P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-10E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-11P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-12E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-13P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-14E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-15V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-16P	58	1.243	0.708	489.8	7.330	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-17T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-17T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.11A-18P	63	1.118	0.637	489.8	9.386	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-19T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-19T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.11A-20R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.11A-20R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.12A-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.12B B HDR to FWH 36B***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.12B B HDR to FWH 36B***									***Sorted By: Flow Order***	
RHD02.12B-01P	64	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-02E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-03P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-05P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-07P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-08E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-09V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-10P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-11T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-11T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.12B-12P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-13T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-13T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.12B-14R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.12B-14R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.13B-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***									***Sorted By: Flow Order***	
RHD02.13A-01P	64	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-02E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-03P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-06P_1	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-06P_2	9	0.599	0.341	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-08P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-09E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-10P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-11E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-12V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-13P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-14T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-14T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.13A-15P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-16T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-16T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***									***Sorted By: Flow Order***	
RHD02.13A-17R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.13A-17R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.14A-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.14B B HDR to FWH 36C***									***Sorted By: Flow Order***	
RHD02.14B-01P	64	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-02E	4	1.147	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-03P	54	1.742	0.992	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-05E	4	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-06P	54	1.742	0.992	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-07E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-08V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-09P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-10T	13	1.550	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-10T (BR/SE)	13	1.919	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.14B-11P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-12T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-12T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.14B-14P	63	0.620	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-13R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.14B-13R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.15B-01N	30	1.251	0.712	489.8	3.829	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***									***Sorted By: Flow Order***	
RHD02.15A-01P	64	1.089	0.620	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-02E	2	1.147	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-03P	52	1.361	0.775	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-04E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-05P	52	1.361	0.775	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-06E	2	2.015	1.147	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-07V	22	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-08P	58	1.198	0.682	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-09T	13	2.722	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-09T (BR/SE)	13	3.371	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.15A-10P	63	1.089	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-11T	13	1.550	1.550	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-11T (BR/SE)	13	1.919	1.919	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.15A-13P	63	0.620	0.620	489.8	9.116	3.9	6.625	6.413	0.000	'37.79'	HBD
RHD02.15A-12R	18	1.525	0.868	489.8	7.039	3.9	6.625	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***									***Sorted By: Flow Order***	
RHD02.15A-12R (D/S)	18	0.970	0.552	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.16A-01N	30	1.293	0.736	489.8	3.971	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.7B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.2B-06L (BR/SE)	12	2.292	1.305	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.2B-06L (D/S)	12	2.399	1.366	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-01P	62	1.170	0.666	489.8	16.051	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-02E	2	2.165	1.232	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-03P	52	1.463	0.833	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-04E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-05P	51	1.287	0.733	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-06E	1	1.931	1.099	489.8	8.011	3.9	8.625	6.413	0.000	'37.79'	HBD
RHD02.7B-07P	51	1.315	0.748	489.8	8.198	3.9	8.625	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.8A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.6A-06L (BR/SE)	12	2.292	1.305	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.6A-06L	12	0.870	0.495	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.6A-06L (D/S)	12	1.575	0.896	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8A-01P	62	0.768	0.437	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8A-02E	1	1.268	0.721	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8A-03P	51	0.845	0.481	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.8B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.7B-08L	12	0.874	0.497	489.8	2.492	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-06T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.7B-08L (BR/SE)	12	2.333	1.328	489.8	9.528	3.9	8.000	6.413	0.000	'37.79'	HBD
RHD02.7B-08L (D/S)	12	2.234	1.271	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-01P	62	1.096	0.624	489.8	7.678	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-02E	2	2.016	1.147	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-03P	52	1.362	0.775	489.8	9.871	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-04E	4	2.016	1.147	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-05P	54	1.743	0.992	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-06T	14	2.997	1.706	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.8B-06T (D/S)	14	2.113	1.202	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.9A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.2A-06L (BR/SE)	12	2.292	1.305	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.9A-11T (D/S)	14	2.113	1.202	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-11T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.2A-06L	12	1.575	0.896	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.2A-06L (D/S)	12	2.234	1.271	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.9A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.9A-01P	62	1.090	0.620	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-02E	1	1.798	1.023	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-03P	51	1.199	0.682	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-04E	1	1.798	1.023	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-05P	51	1.199	0.682	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-06E	1	1.798	1.023	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-07E	3	1.907	1.085	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-08P	53	1.362	0.775	489.8	8.440	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-09E	3	1.907	1.085	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-10P	53	1.362	0.775	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9A-11T	14	2.997	1.706	489.8	7.629	3.9	10.750	6.413	0.000	'37.79'	HBD
===>Grouped by Line:	***RHD-02.9B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.9B-02T (D/S)	14	1.167	0.664	489.8	2.480	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9B-02T (BR/SE)	14	2.359	1.343	489.8	8.881	3.9	6.000	6.413	0.000	'37.79'	HBD
RHD02.9B-01P	64	0.768	0.437	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD
RHD02.9B-02T	14	2.113	1.202	489.8	5.045	3.9	10.750	6.413	0.000	'37.79'	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:57:50PM

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10A TK A HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.10A-11T (BR/SE)	0.000	0.351	0.211	0.211	913,020	Yes	203,584
RHD02.10A-03E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-05E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-09E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-07E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-11T	0.500	0.557	0.303	0.303	1,213,767	Yes	203,584
RHD02.10A-01R (D/S)	0.000	0.456	0.303	0.303	1,260,011	No	203,584
RHD02.10A-11T (D/S)	0.000	0.459	0.303	0.303	1,346,238	No	203,584
RHD02.10A-02P	0.500	0.466	0.303	0.303	1,712,963	No	203,584
RHD02.10A-04P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-06P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-10P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-08P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-01R	0.000	0.563	0.378	0.378	2,116,713	No	203,584
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Remaining Life***		
RHD02.10B-17R	0.000	0.321	0.233	0.233	890,461	Yes	203,584
RHD02.10B-12V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.10B-03E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-09E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-05E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-11E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-16T (BR/SE)	0.000	0.494	0.211	0.211	1,293,918	Yes	203,584
RHD02.10B-14T (BR/SE)	0.000	0.503	0.211	0.211	1,335,012	Yes	203,584
RHD02.10B-06P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.10B-01R (D/S)	0.000	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.10B-14T	0.432	0.551	0.233	0.233	1,798,464	Yes	203,584
RHD02.10B-16T	0.432	0.557	0.233	0.233	1,832,384	Yes	203,584
RHD02.10B-04P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-08P	0.432	0.400	0.233	0.233	1,893,836	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Remaining Life***		
RHD02.10B-02P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-10P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-13P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.10B-15P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.11B-01N	0.500	0.470	0.261	0.261	2,488,235	No	203,584
RHD02.10B-01R	0.000	0.577	0.378	0.378	4,121,869	No	203,584
RHD02.10B-02P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.10B-17R (D/S)	0.000	0.639	0.303	0.303	5,327,713	Yes	203,584
===>Grouped by Line: **RHD-02.11A A HDR to FWH 36A**					***Sorted By:Remaining Life***		
RHD02.11A-19T (BR/SE)	0.000	0.419	0.211	0.211	951,467	Yes	203,584
RHD02.11A-15V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.11A-17T (BR/SE)	0.000	0.454	0.211	0.211	1,111,278	No	203,584
RHD02.11A-03E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-05E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-17T	0.432	0.473	0.233	0.233	1,357,508	Yes	203,584
RHD02.11A-06P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.11A-01R (D/S)	0.000	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.11A-09P_1	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.11A-19T	0.432	0.482	0.233	0.233	1,408,388	Yes	203,584
RHD02.11A-20R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.11A-04P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-02P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-13P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-01R	0.000	0.474	0.303	0.303	2,319,904	No	203,584
RHD02.12A-01N	0.500	0.470	0.261	0.261	2,488,235	No	203,584
RHD02.11A-20R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.11A-16P	0.489	0.460	0.233	0.233	2,813,122	No	203,584
RHD02.11A-18P	0.473	0.447	0.233	0.233	2,946,873	No	203,584
RHD02.11A-02P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.11A-09P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
===>Grouped by Line: **RHD-02.12B B HDR to FWH 36B**					***Sorted By:Remaining Life***		
RHD02.12B-02E	0.432	0.306	0.233	0.233	555,805	Yes	203,584
RHD02.12B-13T (BR/SE)	0.000	0.359	0.211	0.211	677,507	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.12B B HDR to FWH 36B**					***Sorted By:Remaining Life***		
RHD02.12B-09V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.12B-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.12B-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.12B-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.12B-11T (BR/SE)	0.000	0.508	0.211	0.211	1,357,842	Yes	203,584
RHD02.12B-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.12B-13T	0.432	0.518	0.233	0.233	1,611,906	Yes	203,584
RHD02.12B-14R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.12B-05P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.12B-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.12B-11T	0.432	0.577	0.233	0.233	1,945,449	Yes	203,584
RHD02.12B-10P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.12B-01P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.12B-12P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.12B-14R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.13B-01N	0.500	1.095	0.261	0.261	9,930,344	No	203,584
===>Grouped by Line: **RHD-02.13A A HDR to FWH 36B**					***Sorted By:Remaining Life***		
RHD02.13A-16T (BR/SE)	0.000	0.336	0.211	0.211	572,489	Yes	203,584
RHD02.13A-05E	0.432	0.332	0.233	0.233	753,664	Yes	203,584
RHD02.13A-12V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.13A-14T (BR/SE)	0.000	0.437	0.211	0.211	1,033,656	Yes	203,584
RHD02.13A-02E	0.432	0.371	0.233	0.233	1,052,376	Yes	203,584
RHD02.13A-16T	0.432	0.433	0.233	0.233	1,131,377	Yes	203,584
RHD02.13A-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.13A-09E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.13A-11E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.13A-14T	0.432	0.477	0.233	0.233	1,380,121	Yes	203,584
RHD02.13A-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.13A-06P_1	0.432	0.412	0.233	0.233	1,581,761	Yes	203,584
RHD02.13A-01P	0.432	0.347	0.233	0.233	1,607,875	Yes	203,584
RHD02.13A-04E	0.432	0.445	0.233	0.233	1,616,935	Yes	203,584
RHD02.13A-17R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.13A-08P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.13A-10P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.13A-13P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.13A-15P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.13A-17R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.13A-06P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.14A-01N	0.500	1.072	0.261	0.261	9,656,579	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.14B B HDR to FWH 36C**					***Sorted By:Remaining Life***		
RHD02.14B-12T (BR/SE)	0.000	0.396	0.211	0.211	843,678	Yes	203,584
RHD02.14B-08V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.14B-10T (BR/SE)	0.000	0.428	0.211	0.211	992,561	No	16,992
RHD02.14B-10T	0.000	0.429	0.233	0.233	1,108,764	No	16,992
RHD02.14B-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.14B-05E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.14B-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.14B-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.14B-06P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.14B-02E	0.000	0.428	0.233	0.233	1,487,831	No	33,461
RHD02.14B-12T	0.432	0.516	0.233	0.233	1,601,090	Yes	203,584
RHD02.14B-13R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.14B-09P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.14B-01P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.14B-11P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.14B-13R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.14B-14P	0.000	0.430	0.233	0.233	2,780,930	No	33,461
RHD02.15B-01N	0.432	1.095	0.261	0.261	10,263,427	Yes	203,584
===>Grouped by Line: **RHD-02.15A A HDR to FWH 36C**					***Sorted By:Remaining Life***		
RHD02.15A-07V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.15A-11T (BR/SE)	0.000	0.425	0.211	0.211	976,092	No	33,461
RHD02.15A-11T	0.000	0.426	0.233	0.233	1,092,295	No	33,461
RHD02.15A-09T (BR/SE)	0.000	0.452	0.211	0.211	1,102,146	Yes	203,584
RHD02.15A-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.15A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.15A-02E	0.000	0.441	0.233	0.233	1,587,145	No	33,461
RHD02.15A-12R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.15A-09T	0.432	0.536	0.233	0.233	1,713,665	Yes	203,584
RHD02.15A-03P	0.432	0.400	0.233	0.233	1,893,836	Yes	203,584
RHD02.15A-05P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.15A-08P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.15A-01P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.15A-10P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.15A-12R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.15A-13P	0.000	0.430	0.233	0.233	2,780,930	No	33,461
RHD02.16A-01N	0.500	1.072	0.261	0.261	9,656,579	Yes	203,584
===>Grouped by Line: **RHD-02.7B TK B HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.7B-02E	0.500	0.450	0.303	0.303	1,041,404	No	203,584
RHD02.2B-06L (D/S)	0.000	0.478	0.303	0.303	1,123,719	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.7B TK B HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.7B-04E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.7B-06E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.7B-03P	0.500	0.466	0.303	0.303	1,712,963	No	203,584
RHD02.7B-05P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.7B-01P	0.500	0.473	0.303	0.303	2,230,623	No	203,584
RHD02.7B-07P	0.543	0.512	0.303	0.303	2,449,501	No	203,584
RHD02.2B-06L (BR/SE)	0.000	0.876	0.211	0.211	4,469,124	No	203,584
===>Grouped by Line: **RHD-02.8A TK A HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.6A-06L (BR/SE)	0.000	0.225	0.211	0.211	94,803	Yes	203,584
RHD02.6A-06L (D/S)	0.000	0.557	0.378	0.378	1,754,607	No	203,584
RHD02.8A-02E	0.594	0.565	0.378	0.378	2,266,676	No	203,584
RHD02.6A-06L	0.594	0.557	0.378	0.378	3,171,317	Yes	203,584
RHD02.8A-03P	0.594	0.574	0.378	0.378	3,578,852	No	203,584
RHD02.8A-01P	0.000	0.576	0.378	0.378	3,972,505	No	203,584
===>Grouped by Line: **RHD-02.8B TK B HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.7B-08L (D/S)	0.000	0.531	0.378	0.378	1,054,174	Yes	203,584
RHD02.8B-06T	0.594	0.599	0.378	0.378	1,138,269	Yes	203,584
RHD02.8B-06T (D/S)	0.000	0.545	0.378	0.378	1,216,935	No	203,584
RHD02.8B-02E	0.594	0.547	0.378	0.378	1,292,469	No	203,584
RHD02.8B-04E	0.594	0.547	0.378	0.378	1,292,469	No	203,584
RHD02.8B-05P	0.594	0.553	0.378	0.378	1,550,304	No	203,584
RHD02.8B-03P	0.594	0.562	0.378	0.378	2,084,539	No	203,584
RHD02.8B-01P	0.609	0.541	0.378	0.378	2,292,464	Yes	203,584
RHD02.8B-06T (BR/SE)	0.000	0.586	0.211	0.211	2,445,894	Yes	203,584
RHD02.7B-08L	0.605	0.551	0.378	0.378	3,052,353	Yes	203,584
RHD02.7B-08L (BR/SE)	0.000	1.159	0.281	0.281	5,791,157	No	203,584
===>Grouped by Line: **RHD-02.9A TK A HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.2A-06L (BR/SE)	0.000	0.379	0.211	0.211	1,126,960	No	203,584
RHD02.2A-06L (D/S)	0.000	0.542	0.378	0.378	1,131,479	No	203,584
RHD02.9A-11T (D/S)	0.000	0.545	0.378	0.378	1,216,935	No	203,584
RHD02.9A-11T	0.594	0.643	0.378	0.378	1,364,252	Yes	203,584
RHD02.9A-07E	0.594	0.550	0.378	0.378	1,386,763	No	203,584
RHD02.9A-09E	0.594	0.550	0.378	0.378	1,386,763	No	203,584
RHD02.9A-02E	0.594	0.552	0.378	0.378	1,492,486	No	203,584
RHD02.9A-04E	0.594	0.552	0.378	0.378	1,492,486	No	203,584
RHD02.9A-06E	0.594	0.552	0.378	0.378	1,492,486	No	203,584
RHD02.2A-06L	0.594	0.557	0.378	0.378	1,754,607	No	203,584
RHD02.9A-11T (BR/SE)	0.000	0.498	0.211	0.211	1,871,882	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.9A TK A HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.9A-08P	0.594	0.562	0.378	0.378	2,084,539	No	203,584
RHD02.9A-10P	0.594	0.562	0.378	0.378	2,084,539	No	203,584
RHD02.9A-03P	0.594	0.566	0.378	0.378	2,417,568	No	203,584
RHD02.9A-05P	0.594	0.566	0.378	0.378	2,417,568	No	203,584
RHD02.9A-01P	0.594	0.569	0.378	0.378	2,695,092	No	203,584
===>Grouped by Line: **RHD-02.9B TK B HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.9B-02T (BR/SE)	0.000	0.377	0.211	0.211	1,084,542	No	203,584
RHD02.9B-02T	0.594	0.545	0.378	0.378	1,216,935	No	203,584
RHD02.9B-02T (D/S)	0.000	0.567	0.378	0.378	2,492,943	No	203,584
RHD02.9B-01P	0.594	0.576	0.378	0.378	3,972,505	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/10/2010 9:11:05AM
AnalysisDate/Time: 2/9/2010 3:57:50PM

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10A TK A HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.10A-01R	0.000	0.563	0.378	0.378	2,116,713	No	203,584
RHD02.10A-01R (D/S)	0.000	0.456	0.303	0.303	1,260,011	No	203,584
RHD02.10A-02P	0.500	0.466	0.303	0.303	1,712,963	No	203,584
RHD02.10A-03E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-04P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-05E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-06P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-07E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-08P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-09E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.10A-10P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.10A-11T	0.500	0.557	0.303	0.303	1,213,767	Yes	203,584
RHD02.10A-11T (D/S)	0.000	0.459	0.303	0.303	1,346,238	No	203,584
RHD02.10A-11T (BR/SE)	0.000	0.351	0.211	0.211	913,020	Yes	203,584
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Flow Order***		
RHD02.10B-01R	0.000	0.577	0.378	0.378	4,121,869	No	203,584
RHD02.10B-01R (D/S)	0.000	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.10B-02P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-02P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.10B-03E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-04P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-05E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-06P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.10B-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-08P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-09E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-10P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.10B-11E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.10B-12V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.10B-13P	0.432	0.404	0.233	0.233	2,200,860	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Flow Order***		
RHD02.10B-14T	0.432	0.551	0.233	0.233	1,798,464	Yes	203,584
RHD02.10B-14T (BR/SE)	0.000	0.503	0.211	0.211	1,335,012	Yes	203,584
RHD02.10B-15P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.10B-16T	0.432	0.557	0.233	0.233	1,832,384	Yes	203,584
RHD02.10B-16T (BR/SE)	0.000	0.494	0.211	0.211	1,293,918	Yes	203,584
RHD02.10B-17R	0.000	0.321	0.233	0.233	890,461	Yes	203,584
RHD02.10B-17R (D/S)	0.000	0.639	0.303	0.303	5,327,713	Yes	203,584
RHD02.11B-01N	0.500	0.470	0.261	0.261	2,488,235	No	203,584
===>Grouped by Line: **RHD-02.11A A HDR to FWH 36A**					***Sorted By:Flow Order***		
RHD02.11A-01R	0.000	0.474	0.303	0.303	2,319,904	No	203,584
RHD02.11A-01R (D/S)	0.000	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.11A-02P_1	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-02P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.11A-03E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-04P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-05E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-06P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.11A-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-09P_1	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.11A-09P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.11A-10E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-11P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-12E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-13P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.11A-14E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.11A-15V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.11A-16P	0.489	0.460	0.233	0.233	2,813,122	No	203,584
RHD02.11A-17T	0.432	0.473	0.233	0.233	1,357,508	Yes	203,584
RHD02.11A-17T (BR/SE)	0.000	0.454	0.211	0.211	1,111,278	No	203,584
RHD02.11A-18P	0.473	0.447	0.233	0.233	2,946,873	No	203,584
RHD02.11A-19T	0.432	0.482	0.233	0.233	1,408,388	Yes	203,584
RHD02.11A-19T (BR/SE)	0.000	0.419	0.211	0.211	951,467	Yes	203,584
RHD02.11A-20R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.11A-20R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.12A-01N	0.500	0.470	0.261	0.261	2,488,235	No	203,584
===>Grouped by Line: **RHD-02.12B B HDR to FWH 36B**					***Sorted By:Flow Order***		
RHD02.12B-01P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.12B-02E	0.432	0.306	0.233	0.233	555,805	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.12B B HDR to FWH 36B**					***Sorted By:Flow Order***		
RHD02.12B-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.12B-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.12B-05P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.12B-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.12B-07P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.12B-08E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.12B-09V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.12B-10P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.12B-11T	0.432	0.577	0.233	0.233	1,945,449	Yes	203,584
RHD02.12B-11T (BR/SE)	0.000	0.508	0.211	0.211	1,357,842	Yes	203,584
RHD02.12B-12P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.12B-13T	0.432	0.518	0.233	0.233	1,611,906	Yes	203,584
RHD02.12B-13T (BR/SE)	0.000	0.359	0.211	0.211	677,507	Yes	203,584
RHD02.12B-14R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.12B-14R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.13B-01N	0.500	1.095	0.261	0.261	9,930,344	No	203,584
===>Grouped by Line: **RHD-02.13A A HDR to FWH 36B**					***Sorted By:Flow Order***		
RHD02.13A-01P	0.432	0.347	0.233	0.233	1,607,875	Yes	203,584
RHD02.13A-02E	0.432	0.371	0.233	0.233	1,052,376	Yes	203,584
RHD02.13A-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.13A-04E	0.432	0.445	0.233	0.233	1,616,935	Yes	203,584
RHD02.13A-05E	0.432	0.332	0.233	0.233	753,664	Yes	203,584
RHD02.13A-06P_1	0.432	0.412	0.233	0.233	1,581,761	Yes	203,584
RHD02.13A-06P_2	0.432	0.418	0.233	0.233	4,759,397	No	203,584
RHD02.13A-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.13A-08P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.13A-09E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.13A-10P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.13A-11E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.13A-12V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.13A-13P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.13A-14T	0.432	0.477	0.233	0.233	1,380,121	Yes	203,584
RHD02.13A-14T (BR/SE)	0.000	0.437	0.211	0.211	1,033,656	Yes	203,584
RHD02.13A-15P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.13A-16T	0.432	0.433	0.233	0.233	1,131,377	Yes	203,584
RHD02.13A-16T (BR/SE)	0.000	0.336	0.211	0.211	572,489	Yes	203,584
RHD02.13A-17R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.13A-17R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.14A-01N	0.500	1.072	0.261	0.261	9,656,579	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.14B B HDR to FWH 36C**					***Sorted By:Flow Order***		
RHD02.14B-01P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.14B-02E	0.000	0.428	0.233	0.233	1,487,831	No	33,461
RHD02.14B-03P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.14B-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.14B-05E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.14B-06P	0.432	0.392	0.233	0.233	1,401,317	No	203,584
RHD02.14B-07E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.14B-08V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.14B-09P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.14B-10T	0.000	0.429	0.233	0.233	1,108,764	No	16,992
RHD02.14B-10T (BR/SE)	0.000	0.428	0.211	0.211	992,561	No	16,992
RHD02.14B-11P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.14B-12T	0.432	0.516	0.233	0.233	1,601,090	Yes	203,584
RHD02.14B-12T (BR/SE)	0.000	0.396	0.211	0.211	843,678	Yes	203,584
RHD02.14B-14P	0.000	0.430	0.233	0.233	2,780,930	No	33,461
RHD02.14B-13R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.14B-13R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.15B-01N	0.432	1.095	0.261	0.261	10,263,427	Yes	203,584
===>Grouped by Line: **RHD-02.15A A HDR to FWH 36C**					***Sorted By:Flow Order***		
RHD02.15A-01P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.15A-02E	0.000	0.441	0.233	0.233	1,587,145	No	33,461
RHD02.15A-03P	0.432	0.400	0.233	0.233	1,893,836	Yes	203,584
RHD02.15A-04E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.15A-05P	0.432	0.400	0.233	0.233	1,893,836	No	203,584
RHD02.15A-06E	0.432	0.385	0.233	0.233	1,163,615	No	203,584
RHD02.15A-07V	0.432	0.369	0.200	0.200	951,594	No	203,584
RHD02.15A-08P	0.432	0.404	0.233	0.233	2,200,860	No	203,584
RHD02.15A-09T	0.432	0.536	0.233	0.233	1,713,665	Yes	203,584
RHD02.15A-09T (BR/SE)	0.000	0.452	0.211	0.211	1,102,146	Yes	203,584
RHD02.15A-10P	0.432	0.407	0.233	0.233	2,456,714	No	203,584
RHD02.15A-11T	0.000	0.426	0.233	0.233	1,092,295	No	33,461
RHD02.15A-11T (BR/SE)	0.000	0.425	0.211	0.211	976,092	No	33,461
RHD02.15A-13P	0.000	0.430	0.233	0.233	2,780,930	No	33,461
RHD02.15A-12R	0.000	0.397	0.233	0.233	1,652,602	No	203,584
RHD02.15A-12R (D/S)	0.000	0.477	0.303	0.303	2,766,167	No	203,584
RHD02.16A-01N	0.500	1.072	0.261	0.261	9,656,579	Yes	203,584
===>Grouped by Line: **RHD-02.7B TK B HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.2B-06L (BR/SE)	0.000	0.876	0.211	0.211	4,469,124	No	203,584
RHD02.2B-06L (D/S)	0.000	0.478	0.303	0.303	1,123,719	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-02.7B TK B HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.7B-01P	0.500	0.473	0.303	0.303	2,230,623	No	203,584
RHD02.7B-02E	0.500	0.450	0.303	0.303	1,041,404	No	203,584
RHD02.7B-03P	0.500	0.466	0.303	0.303	1,712,963	No	203,584
RHD02.7B-04E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.7B-05P	0.500	0.470	0.303	0.303	1,995,323	No	203,584
RHD02.7B-06E	0.500	0.455	0.303	0.303	1,210,990	No	203,584
RHD02.7B-07P	0.543	0.512	0.303	0.303	2,449,501	No	203,584
===>Grouped by Line:	**RHD-02.8A TK A HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.6A-06L (BR/SE)	0.000	0.225	0.211	0.211	94,803	Yes	203,584
RHD02.6A-06L	0.594	0.557	0.378	0.378	3,171,317	Yes	203,584
RHD02.6A-06L (D/S)	0.000	0.557	0.378	0.378	1,754,607	No	203,584
RHD02.8A-01P	0.000	0.576	0.378	0.378	3,972,505	No	203,584
RHD02.8A-02E	0.594	0.565	0.378	0.378	2,266,676	No	203,584
RHD02.8A-03P	0.594	0.574	0.378	0.378	3,578,852	No	203,584
===>Grouped by Line:	**RHD-02.8B TK B HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.7B-08L	0.605	0.551	0.378	0.378	3,052,353	Yes	203,584
RHD02.8B-06T (BR/SE)	0.000	0.586	0.211	0.211	2,445,894	Yes	203,584
RHD02.7B-08L (BR/SE)	0.000	1.159	0.281	0.281	5,791,157	No	203,584
RHD02.7B-08L (D/S)	0.000	0.531	0.378	0.378	1,054,174	Yes	203,584
RHD02.8B-01P	0.609	0.541	0.378	0.378	2,292,464	Yes	203,584
RHD02.8B-02E	0.594	0.547	0.378	0.378	1,292,469	No	203,584
RHD02.8B-03P	0.594	0.562	0.378	0.378	2,084,539	No	203,584
RHD02.8B-04E	0.594	0.547	0.378	0.378	1,292,469	No	203,584
RHD02.8B-05P	0.594	0.553	0.378	0.378	1,550,304	No	203,584
RHD02.8B-06T	0.594	0.599	0.378	0.378	1,138,269	Yes	203,584
RHD02.8B-06T (D/S)	0.000	0.545	0.378	0.378	1,216,935	No	203,584
===>Grouped by Line:	**RHD-02.9A TK A HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.2A-06L (BR/SE)	0.000	0.379	0.211	0.211	1,126,960	No	203,584
RHD02.9A-11T (D/S)	0.000	0.545	0.378	0.378	1,216,935	No	203,584
RHD02.9A-11T (BR/SE)	0.000	0.498	0.211	0.211	1,871,882	Yes	203,584
RHD02.2A-06L	0.594	0.557	0.378	0.378	1,754,607	No	203,584
RHD02.2A-06L (D/S)	0.000	0.542	0.378	0.378	1,131,479	No	203,584
RHD02.9A-01P	0.594	0.569	0.378	0.378	2,695,092	No	203,584
RHD02.9A-02E	0.594	0.552	0.378	0.378	1,492,486	No	203,584
RHD02.9A-03P	0.594	0.566	0.378	0.378	2,417,568	No	203,584
RHD02.9A-04E	0.594	0.552	0.378	0.378	1,492,486	No	203,584
RHD02.9A-05P	0.594	0.566	0.378	0.378	2,417,568	No	203,584
RHD02.9A-06E	0.594	0.552	0.378	0.378	1,492,486	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.9A TK A HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.9A-07E	0.594	0.550	0.378	0.378	1,386,763	No	203,584
RHD02.9A-08P	0.594	0.562	0.378	0.378	2,084,539	No	203,584
RHD02.9A-09E	0.594	0.550	0.378	0.378	1,386,763	No	203,584
RHD02.9A-10P	0.594	0.562	0.378	0.378	2,084,539	No	203,584
RHD02.9A-11T	0.594	0.643	0.378	0.378	1,364,252	Yes	203,584
===>Grouped by Line: **RHD-02.9B TK B HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.9B-02T (D/S)	0.000	0.567	0.378	0.378	2,492,943	No	203,584
RHD02.9B-02T (BR/SE)	0.000	0.377	0.211	0.211	1,084,542	No	203,584
RHD02.9B-01P	0.594	0.576	0.378	0.378	3,972,505	No	203,584
RHD02.9B-02T	0.594	0.545	0.378	0.378	1,216,935	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Appendix I

Pass 2 Wear Rate Analysis Reports

Wear Rate Analysis Run **Page**

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:41:38AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.153

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.1 FWH 35 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-06.1-03T	14	8.899	5.818	375.7	15.783	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.1-01T (D/S)	12	6.609	4.320	375.7	15.688	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.1-01T (BR/SE)	12	6.530	4.091	370.3	16.286	0.0	16.000	6.891	0.000	61.01	ARD
CD-06.1-03T (D/S)	14	6.040	3.949	375.7	7.891	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.1-01T	12	5.889	3.604	377.3	11.388	0.0	30.000	6.855	0.000	61.01	ARD
CD-06.1-03T (BR/SE)	14	5.180	3.387	375.7	12.681	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.1-02P	62	3.532	2.309	375.7	18.139	0.0	28.000	6.865	0.000	61.01	ARD
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***								***Sorted By: Average Wear Rate***		
CD-06.2A-24O	6	11.707	7.653	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3A-02N	30	8.529	5.576	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
CD-06.2A-07V	22	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-02E	2	5.481	3.583	375.7	12.699	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-04E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-06E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-09E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-11E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-13E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-15E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-17E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-19E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-20E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-26E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-28E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-33E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-31E	3	5.161	3.374	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-30E	1	4.866	3.181	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-12P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-21P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***								***Sorted By: Average Wear Rate***		
CD-06.2A-29P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3A-01R (D/S)	17	3.838	2.509	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
CD-06.2A-03P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-05P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-10P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-14P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-16P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-18P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-27P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-32P	53	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-34P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3A-01R	17	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-08P	58	3.244	2.121	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-01P	64	2.960	1.935	375.7	12.681	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-25P	56	2.341	1.531	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-22P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-23P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***								***Sorted By: Average Wear Rate***		
CD-06.2B-08O	6	11.707	7.653	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3B-02N	30	8.529	5.576	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
CD-06.2B-04T (BR/SE)	13	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-05V	22	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-04T	13	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-06E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-10E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-12E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-14E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-01R (D/S)	7	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-07P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-13P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-03T (D/S)	15	4.424	2.892	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-03T	15	4.424	2.892	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3B-01R (D/S)	17	3.838	2.509	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
CD-06.2B-01R	7	3.818	2.496	375.7	7.807	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.2B-02P	57	3.692	2.414	375.7	12.639	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-11P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***								***Sorted By: Average Wear Rate***		
CD-06.2B-15P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3B-01R	17	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-09P	56	2.341	1.531	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-35P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-36P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:41:38AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.153

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.1 FWH 35 OUT HDR***									***Sorted By: Flow Order***	
CD-06.1-01T	12	5.889	3.604	377.3	11.388	0.0	30.000	6.855	0.000	61.01	ARD
CD-06.1-01T (D/S)	12	6.609	4.320	375.7	15.688	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.1-02P	62	3.532	2.309	375.7	18.139	0.0	28.000	6.865	0.000	61.01	ARD
CD-06.1-03T	14	8.899	5.818	375.7	15.783	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.1-03T (BR/SE)	14	5.180	3.387	375.7	12.681	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.1-03T (D/S)	14	6.040	3.949	375.7	7.891	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.1-01T (BR/SE)	12	6.530	4.091	370.3	16.286	0.0	16.000	6.891	0.000	61.01	ARD
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***									***Sorted By: Flow Order***	
CD-06.2A-01P	64	2.960	1.935	375.7	12.681	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-02E	2	5.481	3.583	375.7	12.699	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-03P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-04E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-05P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-06E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-07V	22	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-08P	58	3.244	2.121	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-09E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-10P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-11E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-12P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-13E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-14P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-15E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-16P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-17E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-18P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-19E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2A HDR to BFP 31***									***Sorted By: Flow Order***	
CD-06.2A-20E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-21P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-22P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-23P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-24O	6	11.707	7.653	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-25P	56	2.341	1.531	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-26E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-27P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-28E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-29P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-30E	1	4.866	3.181	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-31E	3	5.161	3.374	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-32P	53	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-33E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2A-34P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3A-01R	17	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3A-01R (D/S)	17	3.838	2.509	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
CD-06.3A-02N	30	8.529	5.576	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***									***Sorted By: Flow Order***	
CD-06.2B-01R	7	3.818	2.496	375.7	7.807	0.0	30.000	6.865	0.000	61.01	ARD
CD-06.2B-01R (D/S)	7	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-02P	57	3.692	2.414	375.7	12.639	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-35P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-03T	15	4.424	2.892	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-03T (D/S)	15	4.424	2.892	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-04T	13	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-04T (BR/SE)	13	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-05V	22	7.373	4.820	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-06E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-07P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-36P	9	1.888	1.253	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-08O	6	11.707	7.653	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-09P	56	2.341	1.531	375.7	26.293	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-10E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-11P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-12E	4	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-06.2B HDR to BFP 32***									***Sorted By: Flow Order***	
CD-06.2B-13P	54	4.719	3.085	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-14E	2	5.456	3.567	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.2B-15P	52	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3B-01R	17	3.686	2.410	375.7	12.607	0.0	24.000	6.865	0.000	61.01	ARD
CD-06.3B-01R (D/S)	17	3.838	2.509	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD
CD-06.3B-02N	30	8.529	5.576	375.7	22.658	0.0	18.000	6.865	0.000	61.01	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:41:38AM

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.153

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.1 FWH 35 OUT HDR**					***Sorted By:Remaining Life***		
CD-06.1-03T	0.702	0.601	0.561	0.561	59,830	No	203,584
CD-06.1-01T (D/S)	0.659	0.619	0.561	0.561	116,524	No	203,584
CD-06.1-03T (D/S)	0.702	0.624	0.561	0.561	137,804	No	203,584
CD-06.1-01T	0.659	0.626	0.561	0.561	157,770	No	203,584
CD-06.1-01T (BR/SE)	0.000	0.395	0.299	0.299	204,008	Yes	203,584
CD-06.1-03T (BR/SE)	0.721	0.594	0.449	0.449	373,649	No	203,584
CD-06.1-02P	0.663	0.646	0.524	0.524	463,116	No	203,584
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Remaining Life***		
CD-06.2A-24O	0.688	0.416	0.523	0.523	-118,781	No	203,584
CD-06.2A-07V	0.688	0.517	0.559	0.559	-81,871	No	203,584
CD-06.2A-04E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-06E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-09E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-11E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-13E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-15E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-17E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-19E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-20E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-26E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-28E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-33E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-31E	0.688	0.568	0.523	0.523	117,674	No	203,584
CD-06.2A-30E	0.688	0.575	0.523	0.523	143,679	No	203,584
CD-06.2A-12P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2A-21P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2A-29P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2A-02E	0.729	0.602	0.523	0.523	192,864	Yes	203,584
CD-06.2A-03P	0.688	0.602	0.523	0.523	289,307	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Remaining Life***		
CD-06.2A-05P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-10P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-14P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-16P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-18P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-27P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-32P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-34P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-08P	0.688	0.613	0.523	0.523	371,222	No	203,584
CD-06.3A-01R	0.000	0.625	0.523	0.523	372,905	Yes	203,584
CD-06.3A-01R (D/S)	0.000	0.526	0.392	0.392	468,144	Yes	203,584
CD-06.2A-01P	0.721	0.652	0.523	0.523	586,113	Yes	203,584
CD-06.2A-25P	0.688	0.642	0.523	0.523	684,249	Yes	203,584
CD-06.2A-22P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.2A-23P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.3A-02N	0.562	1.009	0.392	0.392	968,553	Yes	203,584
===>Grouped by Line: **CD-06.2B HDR to BFP 32**					***Sorted By:Remaining Life***		
CD-06.2B-08O	0.688	0.416	0.523	0.523	-118,781	No	203,584
CD-06.2B-05V	0.688	0.517	0.559	0.559	-81,871	No	203,584
CD-06.2B-10E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2B-12E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2B-14E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2B-13P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2B-03T	0.688	0.585	0.523	0.523	189,188	No	203,584
CD-06.2B-03T (D/S)	0.000	0.585	0.523	0.523	189,188	No	203,584
CD-06.2B-07P	0.688	0.619	0.523	0.523	273,417	Yes	203,584
CD-06.2B-06E	0.688	0.635	0.523	0.523	275,923	Yes	203,584
CD-06.3B-01R (D/S)	0.000	0.473	0.392	0.392	281,963	No	203,584
CD-06.2B-11P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2B-15P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.3B-01R	0.000	0.602	0.523	0.523	289,307	No	203,584
CD-06.2B-02P	0.702	0.615	0.523	0.523	336,498	Yes	203,584
CD-06.2B-01R (D/S)	0.000	0.668	0.492	0.492	501,649	Yes	203,584
CD-06.2B-09P	0.688	0.615	0.523	0.523	529,728	Yes	203,584
CD-06.2B-04T (BR/SE)	0.000	0.882	0.523	0.523	652,290	Yes	203,584
CD-06.2B-01R	0.000	0.820	0.615	0.615	719,356	Yes	203,584
CD-06.2B-04T	0.688	0.955	0.523	0.523	784,958	Yes	203,584
CD-06.3B-02N	0.562	0.919	0.392	0.392	827,439	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-06.2B HDR to BFP 32**					***Sorted By:Remaining Life***		
CD-06.2B-35P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.2B-36P	0.688	0.644	0.523	0.523	848,890	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.153

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.1 FWH 35 OUT HDR**					***Sorted By:Flow Order***		
CD-06.1-01T	0.659	0.626	0.561	0.561	157,770	No	203,584
CD-06.1-01T (D/S)	0.659	0.619	0.561	0.561	116,524	No	203,584
CD-06.1-02P	0.663	0.646	0.524	0.524	463,116	No	203,584
CD-06.1-03T	0.702	0.601	0.561	0.561	59,830	No	203,584
CD-06.1-03T (BR/SE)	0.721	0.594	0.449	0.449	373,649	No	203,584
CD-06.1-03T (D/S)	0.702	0.624	0.561	0.561	137,804	No	203,584
CD-06.1-01T (BR/SE)	0.000	0.395	0.299	0.299	204,008	Yes	203,584
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Flow Order***		
CD-06.2A-01P	0.721	0.652	0.523	0.523	586,113	Yes	203,584
CD-06.2A-02E	0.729	0.602	0.523	0.523	192,864	Yes	203,584
CD-06.2A-03P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-04E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-05P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-06E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-07V	0.688	0.517	0.559	0.559	-81,871	No	203,584
CD-06.2A-08P	0.688	0.613	0.523	0.523	371,222	No	203,584
CD-06.2A-09E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-10P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-11E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-12P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2A-13E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-14P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-15E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-16P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-17E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-18P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-19E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-20E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-21P	0.688	0.578	0.523	0.523	157,901	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-06.2A HDR to BFP 31**					***Sorted By:Flow Order***		
CD-06.2A-22P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.2A-23P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.2A-24O	0.688	0.416	0.523	0.523	-118,781	No	203,584
CD-06.2A-25P	0.688	0.642	0.523	0.523	684,249	Yes	203,584
CD-06.2A-26E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-27P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-28E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-29P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2A-30E	0.688	0.575	0.523	0.523	143,679	No	203,584
CD-06.2A-31E	0.688	0.568	0.523	0.523	117,674	No	203,584
CD-06.2A-32P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2A-33E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2A-34P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.3A-01R	0.000	0.625	0.523	0.523	372,905	Yes	203,584
CD-06.3A-01R (D/S)	0.000	0.526	0.392	0.392	468,144	Yes	203,584
CD-06.3A-02N	0.562	1.009	0.392	0.392	968,553	Yes	203,584
===>Grouped by Line: **CD-06.2B HDR to BFP 32**					***Sorted By:Flow Order***		
CD-06.2B-01R	0.000	0.820	0.615	0.615	719,356	Yes	203,584
CD-06.2B-01R (D/S)	0.000	0.668	0.492	0.492	501,649	Yes	203,584
CD-06.2B-02P	0.702	0.615	0.523	0.523	336,498	Yes	203,584
CD-06.2B-35P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.2B-03T	0.688	0.585	0.523	0.523	189,188	No	203,584
CD-06.2B-03T (D/S)	0.000	0.585	0.523	0.523	189,188	No	203,584
CD-06.2B-04T	0.688	0.955	0.523	0.523	784,958	Yes	203,584
CD-06.2B-04T (BR/SE)	0.000	0.882	0.523	0.523	652,290	Yes	203,584
CD-06.2B-05V	0.688	0.517	0.559	0.559	-81,871	No	203,584
CD-06.2B-06E	0.688	0.635	0.523	0.523	275,923	Yes	203,584
CD-06.2B-07P	0.688	0.619	0.523	0.523	273,417	Yes	203,584
CD-06.2B-36P	0.688	0.644	0.523	0.523	848,890	No	203,584
CD-06.2B-08O	0.688	0.416	0.523	0.523	-118,781	No	203,584
CD-06.2B-09P	0.688	0.615	0.523	0.523	529,728	Yes	203,584
CD-06.2B-10E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2B-11P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.2B-12E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2B-13P	0.688	0.578	0.523	0.523	157,901	No	203,584
CD-06.2B-14E	0.688	0.561	0.523	0.523	94,481	No	203,584
CD-06.2B-15P	0.688	0.602	0.523	0.523	289,307	No	203,584
CD-06.3B-01R	0.000	0.602	0.523	0.523	289,307	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-06.2B HDR to BFP 32**					***Sorted By:Flow Order***		
CD-06.3B-01R (D/S)	0.000	0.473	0.392	0.392	281,963	No	203,584
CD-06.3B-02N	0.562	0.919	0.392	0.392	827,439	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HDR TO BFP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.153

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-06.1 FWH 35 OUT HDR**										***Sorted By: Flow Order***	
CD-06.1-01T (BR/SE)	0.000	99.5	114.0	99.5	114.0	0.447	GW	92,205	400.5	447.0	52.3	92,205
===>Grouped by Line:	**CD-06.2A HDR to BFP 31**										***Sorted By: Flow Order***	
CD-06.2A-01P	0.721	39.5	50.0	39.5	50.0	0.721	ER	0	652.2	721.0	68.8	78,649
CD-06.2A-02E	0.729	73.1	55.0	73.1	55.0	0.729	ER	0	601.6	729.0	127.4	78,649
CD-06.2A-25P	0.688	45.7	43.0	45.7	43.0	0.651	GW	153,469	642.3	651.0	8.7	153,469
CD-06.3A-01R	0.000	81.0	82.0	81.0	82.0	0.630	MT	186,592	607.0	630.0	4.7	186,592
CD-06.3A-01R (D/S)	0.000	84.3	68.0	84.3	68.0	0.531	MT	186,592	477.7	531.0	4.9	186,592
CD-06.3A-02N	0.562	113.7	118.0	113.7	118.0	1.093	GW	78,649	448.3	1,093.0	84.5	78,649
===>Grouped by Line:	**CD-06.2B HDR to BFP 32**										***Sorted By: Flow Order***	
CD-06.2B-01R	0.000	66.4	123.0	66.4	123.0	0.842	GW	121,025	558.6	842.0	22.3	121,025
CD-06.2B-01R (D/S)	0.000	82.1	75.0	82.1	75.0	0.696	MT	121,025	605.9	696.0	27.5	121,025
CD-06.2B-02P	0.702	64.3	51.0	64.3	51.0	0.637	GW	121,025	637.7	637.0	21.5	121,025
CD-06.2B-04T	0.688	162.0	196.0	162.0	196.0	0.964	MT	186,592	526.0	964.0	9.3	186,592
CD-06.2B-04T (BR/SE)	0.000	162.0	162.0	162.0	162.0	0.891	MT	186,592	526.0	891.0	9.3	186,592
CD-06.2B-06E	0.688	119.9	69.0	119.9	69.0	0.642	MT	186,592	568.1	642.0	6.9	186,592
CD-06.2B-07P	0.688	103.7	63.0	103.7	63.0	0.625	MT	186,592	584.3	625.0	6.0	186,592
CD-06.2B-09P	0.688	45.7	87.0	45.7	87.0	0.624	GW	153,469	642.3	624.0	8.7	153,469

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 9:10:14AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.260

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.8A HDR to FWH 33A***								***Sorted By: Average Wear Rate***		
CD-02.8A-04V	22	7.339	4.977	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-08N	30	5.871	3.982	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-02E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-05E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-07E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.7-02T (BR/SE)	14	5.137	3.484	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-03P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-06P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.7-02T	14	3.696	2.544	198.0	5.527	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.8A-01P	64	2.936	1.991	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.7-01P	64	1.341	0.923	198.0	5.515	0.0	24.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.8B HDR to FWH 33B***								***Sorted By: Average Wear Rate***		
CD-02.8B-04V	22	7.339	4.977	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-08N	30	5.871	3.982	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-02E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-05E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-07E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-03P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-06P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-01P	64	2.940	1.994	198.0	16.461	0.0	14.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.8C HDR to FWH 33C***								***Sorted By: Average Wear Rate***		
CD-02.8C-04V	22	7.339	4.977	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-08N	30	5.871	3.982	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-02E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-05E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-07E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-03P	54	4.841	3.283	198.0	17.235	0.0	14.000	7.056	0.000	79.70	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.8C HDR to FWH 33C***								***Sorted By: Average Wear Rate***		
CD-02.8C-06P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-01P	64	3.047	2.066	198.0	17.425	0.0	14.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 9:10:14AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.260

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.8A HDR to FWH 33A***									***Sorted By: Flow Order***	
CD-02.7-01P	64	1.341	0.923	198.0	5.515	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.7-02T	14	3.696	2.544	198.0	5.527	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.7-02T (BR/SE)	14	5.137	3.484	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-01P	64	2.936	1.991	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-02E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-03P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-04V	22	7.339	4.977	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-05E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-06P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-07E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8A-08N	30	5.871	3.982	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.8B HDR to FWH 33B***									***Sorted By: Flow Order***	
CD-02.8B-01P	64	2.940	1.994	198.0	16.461	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-02E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-03P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-04V	22	7.339	4.977	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-05E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-06P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-07E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8B-08N	30	5.871	3.982	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.8C HDR to FWH 33C***									***Sorted By: Flow Order***	
CD-02.8C-01P	64	3.047	2.066	198.0	17.425	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-02E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-03P	54	4.841	3.283	198.0	17.235	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-04V	22	7.339	4.977	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-05E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-06P	54	4.697	3.185	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.8C HDR to FWH 33C***									***Sorted By: Flow Order***	
CD-02.8C-07E	4	5.431	3.683	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.8C-08N	30	5.871	3.982	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 9:10:14AM

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.260

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.8A HDR to FWH 33A**					***Sorted By:Remaining Life***		
CD-02.8A-08N	0.438	0.302	0.305	0.305	-7,420	No	203,584
CD-02.8A-03P	0.438	0.353	0.305	0.305	131,801	Yes	203,584
CD-02.7-02T (BR/SE)	0.000	0.368	0.305	0.305	159,201	Yes	203,584
CD-02.8A-06P	0.438	0.373	0.305	0.305	186,809	Yes	203,584
CD-02.8A-01P	0.438	0.370	0.305	0.305	285,354	No	203,584
CD-02.8A-05E	0.438	0.444	0.305	0.305	331,869	Yes	203,584
CD-02.8A-07E	0.438	0.449	0.305	0.305	343,761	Yes	203,584
CD-02.8A-02E	0.438	0.489	0.305	0.305	438,597	Yes	203,584
CD-02.7-02T	0.688	0.653	0.523	0.523	448,860	Yes	203,584
CD-02.8A-04V	0.438	0.708	0.326	0.326	671,856	No	203,584
CD-02.7-01P	0.675	0.644	0.523	0.523	1,149,343	No	203,584
===>Grouped by Line: **CD-02.8B HDR to FWH 33B**					***Sorted By:Remaining Life***		
CD-02.8B-04V	0.438	0.267	0.326	0.326	-107,436	No	203,584
CD-02.8B-08N	0.438	0.302	0.305	0.305	-7,420	No	203,584
CD-02.8B-05E	0.438	0.312	0.305	0.305	16,318	No	203,584
CD-02.8B-07E	0.438	0.312	0.305	0.305	16,318	No	203,584
CD-02.8B-06P	0.438	0.329	0.305	0.305	65,773	No	203,584
CD-02.8B-02E	0.000	0.354	0.305	0.305	116,559	Yes	203,584
CD-02.8B-03P	0.438	0.350	0.305	0.305	123,499	Yes	203,584
CD-02.8B-01P	0.445	0.368	0.305	0.305	278,857	Yes	203,584
===>Grouped by Line: **CD-02.8C HDR to FWH 33C**					***Sorted By:Remaining Life***		
CD-02.8C-03P	0.594	0.348	0.305	0.305	116,151	Yes	203,584
CD-02.8C-06P	0.438	0.369	0.305	0.305	175,809	Yes	203,584
CD-02.8C-02E	0.000	0.396	0.305	0.305	216,455	Yes	203,584
CD-02.8C-08N	0.438	0.440	0.305	0.305	296,773	Yes	203,584
CD-02.8C-07E	0.438	0.449	0.305	0.305	343,761	Yes	203,584
CD-02.8C-05E	0.438	0.450	0.305	0.305	344,712	Yes	203,584
CD-02.8C-01P	0.629	0.558	0.305	0.305	1,073,770	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-02.8C HDR to FWH 33C**					***Sorted By:Remaining Life***		
CD-02.8C-04V	0.438	0.958	0.326	0.326	1,111,874	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.260

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.8A HDR to FWH 33A**					***Sorted By:Flow Order***		
CD-02.7-01P	0.675	0.644	0.523	0.523	1,149,343	No	203,584
CD-02.7-02T	0.688	0.653	0.523	0.523	448,860	Yes	203,584
CD-02.7-02T (BR/SE)	0.000	0.368	0.305	0.305	159,201	Yes	203,584
CD-02.8A-01P	0.438	0.370	0.305	0.305	285,354	No	203,584
CD-02.8A-02E	0.438	0.489	0.305	0.305	438,597	Yes	203,584
CD-02.8A-03P	0.438	0.353	0.305	0.305	131,801	Yes	203,584
CD-02.8A-04V	0.438	0.708	0.326	0.326	671,856	No	203,584
CD-02.8A-05E	0.438	0.444	0.305	0.305	331,869	Yes	203,584
CD-02.8A-06P	0.438	0.373	0.305	0.305	186,809	Yes	203,584
CD-02.8A-07E	0.438	0.449	0.305	0.305	343,761	Yes	203,584
CD-02.8A-08N	0.438	0.302	0.305	0.305	-7,420	No	203,584
===>Grouped by Line: **CD-02.8B HDR to FWH 33B**					***Sorted By:Flow Order***		
CD-02.8B-01P	0.445	0.368	0.305	0.305	278,857	Yes	203,584
CD-02.8B-02E	0.000	0.354	0.305	0.305	116,559	Yes	203,584
CD-02.8B-03P	0.438	0.350	0.305	0.305	123,499	Yes	203,584
CD-02.8B-04V	0.438	0.267	0.326	0.326	-107,436	No	203,584
CD-02.8B-05E	0.438	0.312	0.305	0.305	16,318	No	203,584
CD-02.8B-06P	0.438	0.329	0.305	0.305	65,773	No	203,584
CD-02.8B-07E	0.438	0.312	0.305	0.305	16,318	No	203,584
CD-02.8B-08N	0.438	0.302	0.305	0.305	-7,420	No	203,584
===>Grouped by Line: **CD-02.8C HDR to FWH 33C**					***Sorted By:Flow Order***		
CD-02.8C-01P	0.629	0.558	0.305	0.305	1,073,770	No	203,584
CD-02.8C-02E	0.000	0.396	0.305	0.305	216,455	Yes	203,584
CD-02.8C-03P	0.594	0.348	0.305	0.305	116,151	Yes	203,584
CD-02.8C-04V	0.438	0.958	0.326	0.326	1,111,874	No	203,584
CD-02.8C-05E	0.438	0.450	0.305	0.305	344,712	Yes	203,584
CD-02.8C-06P	0.438	0.369	0.305	0.305	175,809	Yes	203,584
CD-02.8C-07E	0.438	0.449	0.305	0.305	343,761	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-02.8C HDR to FWH 33C**					***Sorted By:Flow Order***		
CD-02.8C-08N	0.438	0.440	0.305	0.305	296,773	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HDR TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.260

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-02.8A HDR to FWH 33A**											***Sorted By: Flow Order***
CD-02.7-02T	0.688	81.0	41.0	81.0	41.0	0.658	MT	186,592	607.0	658.0	4.9	186,592
CD-02.7-02T (BR/SE)	0.000	112.6	84.0	112.6	84.0	0.375	MT	186,592	325.4	375.0	6.8	186,592
CD-02.8A-02E	0.438	80.5	171.0	80.5	171.0	0.535	GW	92,205	357.5	535.0	45.7	92,205
CD-02.8A-03P	0.438	91.0	91.0	91.0	91.0	0.371	GW	153,469	347.0	371.0	18.1	153,469
CD-02.8A-05E	0.438	93.7	81.0	93.7	81.0	0.477	GW	121,025	344.3	477.0	32.5	121,025
CD-02.8A-06P	0.438	81.0	73.0	81.0	73.0	0.401	GW	121,025	357.0	401.0	28.1	121,025
CD-02.8A-07E	0.438	93.7	79.0	93.7	79.0	0.482	GW	121,025	344.3	482.0	32.5	121,025
===>Grouped by Line:	**CD-02.8B HDR to FWH 33B**											***Sorted By: Flow Order***
CD-02.8B-01P	0.445	60.7	72.0	60.7	72.0	0.376	MT	170,123	384.3	376.0	7.6	170,123
CD-02.8B-02E	0.000	112.1	238.0	112.1	238.0	0.368	MT	170,123	325.9	368.0	14.1	170,123
CD-02.8B-03P	0.438	97.0	97.0	97.0	97.0	0.362	MT	170,123	341.0	362.0	12.2	170,123
===>Grouped by Line:	**CD-02.8C HDR to FWH 33C**											***Sorted By: Flow Order***
CD-02.8C-02E	0.000	112.1	166.0	112.1	166.0	0.410	MT	170,123	325.9	410.0	14.1	170,123
CD-02.8C-03P	0.594	100.0	229.0	100.0	229.0	0.361	MT	170,123	494.0	361.0	12.5	170,123
CD-02.8C-05E	0.438	119.1	125.0	119.1	125.0	0.457	MT	186,592	318.9	457.0	7.1	186,592
CD-02.8C-06P	0.438	81.0	85.0	81.0	85.0	0.397	GW	121,025	357.0	397.0	28.1	121,025
CD-02.8C-07E	0.438	93.7	81.0	93.7	81.0	0.482	GW	121,025	344.3	482.0	32.5	121,025
CD-02.8C-08N	0.438	101.3	68.0	101.3	68.0	0.475	GW	121,025	336.7	475.0	35.2	121,025

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:41:58AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1A FWH 31A to FWH 32A***								***Sorted By: Average Wear Rate***		
CD-01.1A-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
===>Grouped by Line:	***CD-01.1B FWH 31B to FWH 32B***								***Sorted By: Average Wear Rate***		
CD-01.1B-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1C FWH 31C to FWH 32C***								***Sorted By: Average Wear Rate***		
CD-01.1C-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:41:58AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1A FWH 31A to FWH 32A***									***Sorted By: Flow Order***	
CD-01.1A-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1A-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
===>Grouped by Line:	***CD-01.1B FWH 31B to FWH 32B***									***Sorted By: Flow Order***	
CD-01.1B-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1B-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-01.1C FWH 31C to FWH 32C***									***Sorted By: Flow Order***	
CD-01.1C-01N	31	4.183	2.754	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-02P	61	2.259	1.487	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-03E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-04P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-05E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-06E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-07E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-08P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-09E	2	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-10P	52	2.091	1.377	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-11E	4	3.095	2.038	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-12P	54	2.677	1.763	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD
CD-01.1C-13N	30	3.346	2.203	156.9	16.184	0.0	14.000	7.056	0.000	80.20	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:41:58AM

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1A FWH 31A to FWH 32A**					***Sorted By:Remaining Life***		
CD-01.1A-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1A-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
CD-01.1A-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1A-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1A-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
===>Grouped by Line: **CD-01.1B FWH 31B to FWH 32B**					***Sorted By:Remaining Life***		
CD-01.1B-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1B-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
CD-01.1B-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1B-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1B-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Remaining Life***		
CD-01.1C-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1C-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
CD-01.1C-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1C-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1C-10P	0.438	0.389	0.305	0.305	537,386	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HTR 31 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1A FWH 31A to FWH 32A**					***Sorted By:Flow Order***		
CD-01.1A-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1A-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1A-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1A-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1A-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1A-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1A-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
===>Grouped by Line: **CD-01.1B FWH 31B to FWH 32B**					***Sorted By:Flow Order***		
CD-01.1B-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1B-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1B-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1B-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1B-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1B-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1B-13N	0.438	0.360	0.305	0.305	219,918	No	203,584
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-01.1C FWH 31C to FWH 32C**					***Sorted By:Flow Order***		
CD-01.1C-01N	0.438	0.341	0.305	0.305	114,095	No	203,584
CD-01.1C-02P	0.438	0.386	0.305	0.305	474,676	No	203,584
CD-01.1C-03E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-04P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1C-05E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-06E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-07E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-08P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-09E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-10P	0.438	0.389	0.305	0.305	537,386	No	203,584
CD-01.1C-11E	0.438	0.366	0.305	0.305	262,819	No	203,584
CD-01.1C-12P	0.438	0.376	0.305	0.305	352,196	No	203,584
CD-01.1C-13N	0.438	0.360	0.305	0.305	219,918	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/9/2010 3:44:51PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.043

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.2 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.1B-11T (D/S)	12	4.687	3.178	198.0	16.115	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.1B-11T (BR/SE)	12	4.129	2.800	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.2-02R	18	3.188	2.162	198.0	16.013	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.1B-11T	12	3.178	2.156	198.0	8.046	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.2-02R (D/S)	18	2.708	1.836	198.0	11.071	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.2-01P	62	2.277	1.544	198.0	16.013	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.2-03P	9	1.567	1.078	198.0	16.013	0.0	20.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.3-15T	14	6.226	4.222	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-15T (D/S)	14	6.092	4.132	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.1C-12T (D/S)	12	4.643	3.149	198.0	16.610	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-04E	2	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-07E	2	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-11E	2	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-13E	4	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.1C-12T (BR/SE)	12	4.129	2.800	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.3-05E	3	3.962	2.687	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-09E	1	3.735	2.533	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.1C-12T	12	3.702	2.511	198.0	11.079	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-14P	54	3.622	2.457	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-02T (D/S)	15	3.396	2.303	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-02T	15	3.396	2.303	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-06P	53	2.830	1.919	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-08P	52	2.830	1.919	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-12P	52	2.830	1.919	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-10P	51	2.490	1.689	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-01P	62	2.276	1.544	198.0	16.740	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-03P	65	2.264	1.535	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.3-16P	9	1.575	1.084	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-15T (BR/SE)	14	0.512	0.352	198.0	1.117	0.0	18.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.4 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.4-02V	23	6.986	4.737	198.0	23.095	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.4-04E	19	5.797	3.931	198.0	24.480	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.4-04E (D/S)	19	4.519	3.065	198.0	16.477	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.4-01R (D/S)	7	4.471	3.032	198.0	23.095	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.5-02E	2	4.242	2.877	198.0	16.868	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.4-01R	7	3.877	2.629	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.4-03P	58	3.074	2.084	198.0	23.095	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.5-01P	69	2.790	1.892	198.0	16.156	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-17P	62	2.215	1.502	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.5 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.5-04T	14	6.255	4.242	198.0	16.723	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-04T (D/S)	14	4.988	3.383	198.0	11.154	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-03T (D/S)	12	4.641	3.147	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-03T	12	4.542	3.080	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-04T (BR/SE)	14	4.251	2.883	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.5-03T (BR/SE)	12	0.504	0.347	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.6 FWH 32 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-02.6-03T	14	4.968	3.369	198.0	11.083	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-03T (BR/SE)	14	4.251	2.883	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.6-03T (D/S)	14	3.061	2.107	198.0	5.533	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-01T (D/S)	15	2.709	1.837	198.0	11.081	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-01T	15	2.709	1.837	198.0	11.081	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-02P	65	1.806	1.225	198.0	11.081	0.0	24.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/9/2010 3:44:51PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.043

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.2 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.1B-11T	12	3.178	2.156	198.0	8.046	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.1B-11T (BR/SE)	12	4.129	2.800	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-11T (D/S)	12	4.687	3.178	198.0	16.115	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.2-01P	62	2.277	1.544	198.0	16.013	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.2-03P	9	1.567	1.078	198.0	16.013	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.2-02R	18	3.188	2.162	198.0	16.013	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.2-02R (D/S)	18	2.708	1.836	198.0	11.071	0.0	24.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.1C-12T (BR/SE)	12	4.129	2.800	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-12T	12	3.702	2.511	198.0	11.079	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.1C-12T (D/S)	12	4.643	3.149	198.0	16.610	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-01P	62	2.276	1.544	198.0	16.740	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-02T	15	3.396	2.303	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-02T (D/S)	15	3.396	2.303	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-03P	65	2.264	1.535	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-04E	2	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-05E	3	3.962	2.687	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-06P	53	2.830	1.919	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-07E	2	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-08P	52	2.830	1.919	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-09E	1	3.735	2.533	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-10P	51	2.490	1.689	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-16P	9	1.575	1.084	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-11E	2	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-12P	52	2.830	1.919	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-13E	4	4.188	2.840	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-14P	54	3.622	2.457	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.3 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.3-15T	14	6.226	4.222	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-15T (D/S)	14	6.092	4.132	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.3-15T (BR/SE)	14	0.512	0.352	198.0	1.117	0.0	18.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.4 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.3-17P	62	2.215	1.502	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.4-01R	7	3.877	2.629	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.4-01R (D/S)	7	4.471	3.032	198.0	23.095	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.4-02V	23	6.986	4.737	198.0	23.095	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.4-03P	58	3.074	2.084	198.0	23.095	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.4-04E	19	5.797	3.931	198.0	24.480	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.4-04E (D/S)	19	4.519	3.065	198.0	16.477	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-01P	69	2.790	1.892	198.0	16.156	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-02E	2	4.242	2.877	198.0	16.868	0.0	24.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.5 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.5-03T (BR/SE)	12	0.504	0.347	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.5-03T	12	4.542	3.080	198.0	15.968	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-03T (D/S)	12	4.641	3.147	198.0	16.599	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-04T	14	6.255	4.242	198.0	16.723	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.5-04T (BR/SE)	14	4.251	2.883	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.5-04T (D/S)	14	4.988	3.383	198.0	11.154	0.0	24.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.6 FWH 32 OUT HDR***									***Sorted By: Flow Order***	
CD-02.6-01T (D/S)	15	2.709	1.837	198.0	11.081	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-02P	65	1.806	1.225	198.0	11.081	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-03T	14	4.968	3.369	198.0	11.083	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-03T (D/S)	14	3.061	2.107	198.0	5.533	0.0	24.000	7.056	0.000	79.70	HBD
CD-02.6-03T (BR/SE)	14	4.251	2.883	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.6-01T	15	2.709	1.837	198.0	11.081	0.0	24.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/9/2010 3:44:51PM

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.043

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.2 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.1B-11T (BR/SE)	0.000	0.350	0.305	0.305	142,202	Yes	203,584
CD-02.1B-11T (D/S)	0.624	0.549	0.436	0.436	311,433	Yes	203,584
CD-02.1B-11T	0.624	0.554	0.436	0.436	481,673	Yes	203,584
CD-02.2-01P	0.594	0.549	0.436	0.436	641,177	Yes	203,584
CD-02.2-02R (D/S)	0.000	0.674	0.523	0.523	722,932	Yes	203,584
CD-02.2-03P	0.594	0.558	0.436	0.436	990,988	No	203,584
CD-02.2-02R	0.000	0.681	0.436	0.436	994,228	Yes	203,584
===>Grouped by Line: **CD-02.3 FWH 32 OUT HDR**					***Sorted By:Remaining Life***		
CD-02.3-15T	0.688	0.543	0.523	0.523	42,703	No	203,584
CD-02.3-15T (D/S)	0.000	0.546	0.523	0.523	50,209	No	203,584
CD-02.3-04E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-07E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-11E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-13E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.1C-12T (BR/SE)	0.000	0.373	0.305	0.305	213,894	Yes	203,584
CD-02.3-05E	0.688	0.596	0.523	0.523	238,644	No	203,584
CD-02.3-09E	0.688	0.601	0.523	0.523	271,301	No	203,584
CD-02.3-14P	0.688	0.604	0.523	0.523	289,160	No	203,584
CD-02.1C-12T (D/S)	0.692	0.631	0.523	0.523	301,697	Yes	203,584
CD-02.3-02T	0.688	0.609	0.523	0.523	328,450	No	203,584
CD-02.3-02T (D/S)	0.000	0.609	0.523	0.523	328,450	No	203,584
CD-02.1C-12T	0.692	0.635	0.523	0.523	393,108	Yes	203,584
CD-02.3-06P	0.688	0.622	0.523	0.523	454,180	No	203,584
CD-02.3-08P	0.688	0.622	0.523	0.523	454,180	No	203,584
CD-02.3-12P	0.688	0.622	0.523	0.523	454,180	No	203,584
CD-02.3-10P	0.688	0.630	0.523	0.523	557,049	No	203,584
CD-02.3-03P	0.688	0.635	0.523	0.523	642,773	No	203,584
CD-02.3-01P	0.736	0.669	0.523	0.523	830,699	Yes	203,584
CD-02.3-16P	0.688	0.651	0.523	0.523	1,040,080	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**CD-02.3 FWH 32 OUT HDR**				***Sorted By:Remaining Life***		
CD-02.3-15T (BR/SE)	0.000	0.488	0.392	0.392	2,387,432	No	203,584
===>Grouped by Line:	**CD-02.4 FWH 32 OUT HDR**				***Sorted By:Remaining Life***		
CD-02.4-02V	0.594	0.432	0.466	0.466	-65,588	No	203,584
CD-02.4-01R (D/S)	0.000	0.490	0.436	0.436	157,432	No	203,584
CD-02.4-01R	0.000	0.598	0.523	0.523	250,440	No	203,584
CD-02.4-03P	0.594	0.523	0.436	0.436	365,444	No	203,584
CD-02.5-02E	0.994	0.666	0.523	0.523	437,500	No	203,584
CD-02.4-04E	0.864	0.729	0.436	0.436	654,354	No	203,584
CD-02.3-17P	0.688	0.637	0.523	0.523	663,417	No	203,584
CD-02.4-04E (D/S)	0.864	0.759	0.523	0.523	675,265	No	203,584
CD-02.5-01P	0.754	0.689	0.523	0.523	770,635	No	203,584
===>Grouped by Line:	**CD-02.5 FWH 32 OUT HDR**				***Sorted By:Remaining Life***		
CD-02.5-04T (BR/SE)	0.000	0.358	0.305	0.305	162,520	Yes	203,584
CD-02.5-03T	0.688	0.610	0.523	0.523	247,351	Yes	203,584
CD-02.5-03T (D/S)	0.000	0.617	0.523	0.523	261,496	Yes	203,584
CD-02.5-04T	0.730	0.650	0.523	0.523	262,352	Yes	203,584
CD-02.5-04T (D/S)	0.730	0.639	0.523	0.523	302,242	Yes	203,584
CD-02.5-03T (BR/SE)	0.000	0.550	0.392	0.392	3,993,939	No	203,584
===>Grouped by Line:	**CD-02.6 FWH 32 OUT HDR**				***Sorted By:Remaining Life***		
CD-02.6-03T (BR/SE)	0.000	0.348	0.305	0.305	129,457	Yes	203,584
CD-02.6-03T	0.694	0.631	0.523	0.523	282,114	Yes	203,584
CD-02.6-03T (D/S)	0.694	0.635	0.523	0.523	468,793	Yes	203,584
CD-02.6-01T	0.693	0.630	0.523	0.523	513,657	Yes	203,584
CD-02.6-01T (D/S)	0.693	0.646	0.523	0.523	589,937	Yes	203,584
CD-02.6-02P	0.693	0.638	0.523	0.523	822,950	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.043

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.2 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.1B-11T	0.624	0.554	0.436	0.436	481,673	Yes	203,584
CD-02.1B-11T (BR/SE)	0.000	0.350	0.305	0.305	142,202	Yes	203,584
CD-02.1B-11T (D/S)	0.624	0.549	0.436	0.436	311,433	Yes	203,584
CD-02.2-01P	0.594	0.549	0.436	0.436	641,177	Yes	203,584
CD-02.2-03P	0.594	0.558	0.436	0.436	990,988	No	203,584
CD-02.2-02R	0.000	0.681	0.436	0.436	994,228	Yes	203,584
CD-02.2-02R (D/S)	0.000	0.674	0.523	0.523	722,932	Yes	203,584
===>Grouped by Line: **CD-02.3 FWH 32 OUT HDR**					***Sorted By:Flow Order***		
CD-02.1C-12T (BR/SE)	0.000	0.373	0.305	0.305	213,894	Yes	203,584
CD-02.1C-12T	0.692	0.635	0.523	0.523	393,108	Yes	203,584
CD-02.1C-12T (D/S)	0.692	0.631	0.523	0.523	301,697	Yes	203,584
CD-02.3-01P	0.736	0.669	0.523	0.523	830,699	Yes	203,584
CD-02.3-02T	0.688	0.609	0.523	0.523	328,450	No	203,584
CD-02.3-02T (D/S)	0.000	0.609	0.523	0.523	328,450	No	203,584
CD-02.3-03P	0.688	0.635	0.523	0.523	642,773	No	203,584
CD-02.3-04E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-05E	0.688	0.596	0.523	0.523	238,644	No	203,584
CD-02.3-06P	0.688	0.622	0.523	0.523	454,180	No	203,584
CD-02.3-07E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-08P	0.688	0.622	0.523	0.523	454,180	No	203,584
CD-02.3-09E	0.688	0.601	0.523	0.523	271,301	No	203,584
CD-02.3-10P	0.688	0.630	0.523	0.523	557,049	No	203,584
CD-02.3-16P	0.688	0.651	0.523	0.523	1,040,080	No	203,584
CD-02.3-11E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-12P	0.688	0.622	0.523	0.523	454,180	No	203,584
CD-02.3-13E	0.688	0.591	0.523	0.523	209,518	No	203,584
CD-02.3-14P	0.688	0.604	0.523	0.523	289,160	No	203,584
CD-02.3-15T	0.688	0.543	0.523	0.523	42,703	No	203,584
CD-02.3-15T (D/S)	0.000	0.546	0.523	0.523	50,209	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**CD-02.3 FWH 32 OUT HDR**				***Sorted By:Flow Order***		
CD-02.3-15T (BR/SE)	0.000	0.488	0.392	0.392	2,387,432	No	203,584
===>Grouped by Line:	**CD-02.4 FWH 32 OUT HDR**				***Sorted By:Flow Order***		
CD-02.3-17P	0.688	0.637	0.523	0.523	663,417	No	203,584
CD-02.4-01R	0.000	0.598	0.523	0.523	250,440	No	203,584
CD-02.4-01R (D/S)	0.000	0.490	0.436	0.436	157,432	No	203,584
CD-02.4-02V	0.594	0.432	0.466	0.466	-65,588	No	203,584
CD-02.4-03P	0.594	0.523	0.436	0.436	365,444	No	203,584
CD-02.4-04E	0.864	0.729	0.436	0.436	654,354	No	203,584
CD-02.4-04E (D/S)	0.864	0.759	0.523	0.523	675,265	No	203,584
CD-02.5-01P	0.754	0.689	0.523	0.523	770,635	No	203,584
CD-02.5-02E	0.994	0.666	0.523	0.523	437,500	No	203,584
===>Grouped by Line:	**CD-02.5 FWH 32 OUT HDR**				***Sorted By:Flow Order***		
CD-02.5-03T (BR/SE)	0.000	0.550	0.392	0.392	3,993,939	No	203,584
CD-02.5-03T	0.688	0.610	0.523	0.523	247,351	Yes	203,584
CD-02.5-03T (D/S)	0.000	0.617	0.523	0.523	261,496	Yes	203,584
CD-02.5-04T	0.730	0.650	0.523	0.523	262,352	Yes	203,584
CD-02.5-04T (BR/SE)	0.000	0.358	0.305	0.305	162,520	Yes	203,584
CD-02.5-04T (D/S)	0.730	0.639	0.523	0.523	302,242	Yes	203,584
===>Grouped by Line:	**CD-02.6 FWH 32 OUT HDR**				***Sorted By:Flow Order***		
CD-02.6-01T (D/S)	0.693	0.646	0.523	0.523	589,937	Yes	203,584
CD-02.6-02P	0.693	0.638	0.523	0.523	822,950	Yes	203,584
CD-02.6-03T	0.694	0.631	0.523	0.523	282,114	Yes	203,584
CD-02.6-03T (D/S)	0.694	0.635	0.523	0.523	468,793	Yes	203,584
CD-02.6-03T (BR/SE)	0.000	0.348	0.305	0.305	129,457	Yes	203,584
CD-02.6-01T	0.693	0.630	0.523	0.523	513,657	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HTR 32 TO 33 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.043

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-02.2 FWH 32 OUT HDR**										***Sorted By: Flow Order***	
CD-02.1B-11T	0.624	58.0	54.0	58.0	54.0	0.570	GW	137,201	566.0	570.0	15.9	137,201
CD-02.1B-11T (BR/SE)	0.000	75.4	95.0	75.4	95.0	0.371	GW	137,201	362.6	371.0	20.6	137,201
CD-02.1B-11T (D/S)	0.624	85.5	52.0	85.5	52.0	0.572	GW	137,201	538.5	572.0	23.4	137,201
CD-02.2-01P	0.594	41.5	53.0	41.5	53.0	0.560	GW	137,201	552.5	560.0	11.4	137,201
CD-02.2-02R	0.000	52.1	105.0	52.1	105.0	0.703	GW	107,311	541.9	703.0	22.0	107,311
CD-02.2-02R (D/S)	0.000	44.2	74.0	44.2	74.0	0.693	GW	107,311	643.8	693.0	18.7	107,311
===>Grouped by Line:	**CD-02.3 FWH 32 OUT HDR**										***Sorted By: Flow Order***	
CD-02.1C-12T (BR/SE)	0.000	85.3	64.0	85.3	64.0	0.384	MT	170,123	352.7	384.0	10.7	170,123
CD-02.1C-12T	0.692	76.5	43.0	76.5	43.0	0.645	MT	170,123	615.5	645.0	9.6	170,123
CD-02.1C-12T (D/S)	0.692	80.1	33.0	80.1	33.0	0.659	GW	121,025	611.9	659.0	27.8	121,025
CD-02.3-01P	0.736	47.0	47.0	47.0	47.0	0.675	MT	170,123	689.0	675.0	5.9	170,123
===>Grouped by Line:	**CD-02.5 FWH 32 OUT HDR**										***Sorted By: Flow Order***	
CD-02.5-03T	0.688	59.2	46.0	59.2	46.0	0.656	GW	78,649	628.8	656.0	46.3	78,649
CD-02.5-03T (D/S)	0.000	60.5	38.0	60.5	38.0	0.664	GW	78,649	627.5	664.0	47.3	78,649
CD-02.5-04T	0.730	137.1	36.0	137.1	36.0	0.658	MT	186,592	592.9	658.0	8.2	186,592
CD-02.5-04T (BR/SE)	0.000	93.2	229.0	93.2	229.0	0.364	MT	186,592	344.8	364.0	5.6	186,592
CD-02.5-04T (D/S)	0.730	109.4	59.0	109.4	59.0	0.646	MT	186,592	620.6	646.0	6.6	186,592
===>Grouped by Line:	**CD-02.6 FWH 32 OUT HDR**										***Sorted By: Flow Order***	
CD-02.6-01T (D/S)	0.693	49.4	67.0	49.4	67.0	0.660	MT	137,201	643.6	660.0	13.5	137,201
CD-02.6-02P	0.693	26.8	63.0	26.8	63.0	0.653	GW	92,205	666.2	653.0	15.2	92,205
CD-02.6-03T	0.694	85.7	58.0	85.7	58.0	0.661	GW	121,025	608.3	661.0	29.8	121,025
CD-02.6-03T (D/S)	0.694	52.6	94.0	52.6	94.0	0.654	GW	121,025	641.4	654.0	18.5	121,025
CD-02.6-03T (BR/SE)	0.000	73.3	95.0	73.3	95.0	0.373	GW	121,025	364.7	373.0	25.5	121,025
CD-02.6-01T	0.693	49.4	77.0	49.4	77.0	0.644	MT	137,201	643.6	644.0	13.5	137,201

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:42:21AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.990

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1A FWH 32A to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1A-01N	31	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-05V	22	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-03E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-06E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-07E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-09E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-11E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-08P	54	3.688	2.501	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-12P	54	3.688	2.501	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-13R	18	3.227	2.189	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-02P	61	3.112	2.110	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-04P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-10P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-13R (D/S)	18	2.198	1.491	198.0	7.994	0.0	20.000	7.056	0.000	79.70	HBD
CD-02.1A-14P	9	1.598	1.100	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.1B FWH 32B to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1B-01N	31	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-07V	22	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-03E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-05E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-06E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-09E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-02P	61	3.112	2.110	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-10P	52	3.010	2.041	198.0	17.602	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-04P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-08P	58	2.536	1.720	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***								***Sorted By: Average Wear Rate***		
CD-02.1C-01N	31	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-08V	22	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-10E	2	4.379	2.970	198.0	17.134	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-03E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-05E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-06E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-07P	54	3.688	2.501	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-02P	61	3.112	2.110	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-04P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-11P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-09P	58	2.536	1.720	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:42:21AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.990

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1A FWH 32A to HDR***									***Sorted By: Flow Order***	
CD-02.1A-01N	31	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-02P	61	3.112	2.110	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-03E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-04P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-05V	22	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-06E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-07E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-08P	54	3.688	2.501	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-09E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-10P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-11E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-12P	54	3.688	2.501	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-14P	9	1.598	1.100	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-13R	18	3.227	2.189	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1A-13R (D/S)	18	2.198	1.491	198.0	7.994	0.0	20.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.1B FWH 32B to HDR***									***Sorted By: Flow Order***	
CD-02.1B-01N	31	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-02P	61	3.112	2.110	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-03E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-04P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-05E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-06E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-07V	22	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-08P	58	2.536	1.720	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-09E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1B-10P	52	3.010	2.041	198.0	17.602	0.0	14.000	7.056	0.000	79.70	HBD
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.1C FWH 32C to HDR***									***Sorted By: Flow Order***	
CD-02.1C-01N	31	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-02P	61	3.112	2.110	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-03E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-04P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-05E	2	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-06E	4	4.265	2.892	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-07P	54	3.688	2.501	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-08V	22	5.763	3.908	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-09P	58	2.536	1.720	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-10E	2	4.379	2.970	198.0	17.134	0.0	14.000	7.056	0.000	79.70	HBD
CD-02.1C-11P	52	2.881	1.954	198.0	16.426	0.0	14.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:42:21AM

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.990

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1A FWH 32A to HDR**					***Sorted By:Remaining Life***		
CD-02.1A-05V	0.438	0.304	0.326	0.326	-50,031	No	203,584
CD-02.1A-01N	0.438	0.304	0.305	0.305	-1,918	No	203,584
CD-02.1A-06E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-07E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-09E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-11E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-03E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-08P	0.438	0.352	0.305	0.305	165,863	No	203,584
CD-02.1A-12P	0.438	0.352	0.305	0.305	165,863	No	203,584
CD-02.1A-02P	0.438	0.366	0.305	0.305	252,169	No	203,584
CD-02.1A-10P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1A-04P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1A-13R (D/S)	0.000	0.552	0.436	0.436	684,073	Yes	203,584
CD-02.1A-14P	0.438	0.401	0.305	0.305	763,933	No	203,584
CD-02.1A-13R	0.000	0.603	0.305	0.305	1,192,613	Yes	203,584
===>Grouped by Line: **CD-02.1B FWH 32B to HDR**					***Sorted By:Remaining Life***		
CD-02.1B-07V	0.438	0.304	0.326	0.326	-50,031	No	203,584
CD-02.1B-01N	0.438	0.304	0.305	0.305	-1,918	No	203,584
CD-02.1B-03E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1B-05E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1B-06E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1B-02P	0.438	0.366	0.305	0.305	252,169	No	203,584
CD-02.1B-04P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1B-08P	0.438	0.379	0.305	0.305	377,707	No	203,584
CD-02.1B-09E	0.438	0.479	0.305	0.305	527,679	Yes	203,584
CD-02.1B-10P	0.661	0.591	0.305	0.305	1,228,099	No	203,584
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Remaining Life***		
CD-02.1C-08V	0.438	0.304	0.326	0.326	-50,031	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-02.1C FWH 32C to HDR**					***Sorted By:Remaining Life***		
CD-02.1C-01N	0.438	0.304	0.305	0.305	-1,918	No	203,584
CD-02.1C-03E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1C-05E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1C-06E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1C-07P	0.438	0.352	0.305	0.305	165,863	No	203,584
CD-02.1C-02P	0.438	0.366	0.305	0.305	252,169	No	203,584
CD-02.1C-04P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1C-11P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1C-09P	0.438	0.379	0.305	0.305	377,707	No	203,584
CD-02.1C-10E	0.575	0.496	0.305	0.305	562,818	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.990

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1A FWH 32A to HDR**					***Sorted By:Flow Order***		
CD-02.1A-01N	0.438	0.304	0.305	0.305	-1,918	No	203,584
CD-02.1A-02P	0.438	0.366	0.305	0.305	252,169	No	203,584
CD-02.1A-03E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-04P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1A-05V	0.438	0.304	0.326	0.326	-50,031	No	203,584
CD-02.1A-06E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-07E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-08P	0.438	0.352	0.305	0.305	165,863	No	203,584
CD-02.1A-09E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-10P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1A-11E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1A-12P	0.438	0.352	0.305	0.305	165,863	No	203,584
CD-02.1A-14P	0.438	0.401	0.305	0.305	763,933	No	203,584
CD-02.1A-13R	0.000	0.603	0.305	0.305	1,192,613	Yes	203,584
CD-02.1A-13R (D/S)	0.000	0.552	0.436	0.436	684,073	Yes	203,584
===>Grouped by Line: **CD-02.1B FWH 32B to HDR**					***Sorted By:Flow Order***		
CD-02.1B-01N	0.438	0.304	0.305	0.305	-1,918	No	203,584
CD-02.1B-02P	0.438	0.366	0.305	0.305	252,169	No	203,584
CD-02.1B-03E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1B-04P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1B-05E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1B-06E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1B-07V	0.438	0.304	0.326	0.326	-50,031	No	203,584
CD-02.1B-08P	0.438	0.379	0.305	0.305	377,707	No	203,584
CD-02.1B-09E	0.438	0.479	0.305	0.305	527,679	Yes	203,584
CD-02.1B-10P	0.661	0.591	0.305	0.305	1,228,099	No	203,584
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Flow Order***		
CD-02.1C-01N	0.438	0.304	0.305	0.305	-1,918	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.1C FWH 32C to HDR**					***Sorted By:Flow Order***		
CD-02.1C-02P	0.438	0.366	0.305	0.305	252,169	No	203,584
CD-02.1C-03E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1C-04P	0.438	0.371	0.305	0.305	296,359	No	203,584
CD-02.1C-05E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1C-06E	0.438	0.339	0.305	0.305	102,882	No	203,584
CD-02.1C-07P	0.438	0.352	0.305	0.305	165,863	No	203,584
CD-02.1C-08V	0.438	0.304	0.326	0.326	-50,031	No	203,584
CD-02.1C-09P	0.438	0.379	0.305	0.305	377,707	No	203,584
CD-02.1C-10E	0.575	0.496	0.305	0.305	562,818	Yes	203,584
CD-02.1C-11P	0.438	0.371	0.305	0.305	296,359	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HTR 32 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.990

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-02.1A FWH 32A to HDR**										***Sorted By: Flow Order***	
CD-02.1A-13R	0.000	58.9	63.0	58.9	63.0	0.619	GW	137,201	379.1	619.0	16.1	137,201
CD-02.1A-13R (D/S)	0.000	40.1	39.0	40.1	39.0	0.563	GW	137,201	553.9	563.0	11.0	137,201
===>Grouped by Line:	**CD-02.1B FWH 32B to HDR**										***Sorted By: Flow Order***	
CD-02.1B-09E	0.438	63.2	65.0	63.2	65.0	0.515	GW	92,205	374.8	515.0	35.9	92,205
===>Grouped by Line:	**CD-02.1C FWH 32C to HDR**										***Sorted By: Flow Order***	
CD-02.1C-10E	0.575	71.5	60.0	71.5	60.0	0.526	GW	107,311	503.5	526.0	30.3	107,311

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:42:32AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.601

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1A FWH 33A to FWH 34A***								***Sorted By: Average Wear Rate***		
CD-03.1A-01N	31	5.278	3.484	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-13N	30	4.223	2.788	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-02E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-03E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-06E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-10E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-05E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-08E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-12E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-04P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-07P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-11P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-15P	51	2.323	1.533	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-09P	51	2.323	1.533	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-14P	9	1.474	0.987	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
===>Grouped by Line:	***CD-03.1B FWH 33B to FWH 34B***								***Sorted By: Average Wear Rate***		
CD-03.1B-01N	31	5.278	3.484	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-11N	30	4.223	2.788	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-06E	4	3.995	2.638	245.2	17.379	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-05E	2	3.989	2.633	245.2	17.336	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-02E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-03E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-08E	2	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-10E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-07P	54	3.404	2.247	245.2	16.966	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-04P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-09P	52	2.639	1.742	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-12P	9	1.474	0.987	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1C FWH 33C to FWH 34C***								***Sorted By: Average Wear Rate***		
CD-03.1C-01N	31	5.278	3.484	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-11N	30	4.223	2.788	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-02E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-03E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-05E	2	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-06E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-08E	2	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-10E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-04P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-07P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-09P	52	2.639	1.742	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-12P	9	1.474	0.987	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:42:32AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.601

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1A FWH 33A to FWH 34A***									***Sorted By: Flow Order***	
CD-03.1A-01N	31	5.278	3.484	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-02E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-03E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-04P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-05E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-15P	51	2.323	1.533	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-06E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-07P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-14P	9	1.474	0.987	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-08E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-09P	51	2.323	1.533	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-10E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-11P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-12E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1A-13N	30	4.223	2.788	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
===>Grouped by Line:	***CD-03.1B FWH 33B to FWH 34B***									***Sorted By: Flow Order***	
CD-03.1B-01N	31	5.278	3.484	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-02E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-03E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-04P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-05E	2	3.989	2.633	245.2	17.336	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-06E	4	3.995	2.638	245.2	17.379	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-07P	54	3.404	2.247	245.2	16.966	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-12P	9	1.474	0.987	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-08E	2	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-09P	52	2.639	1.742	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1B-10E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-03.1B FWH 33B to FWH 34B***									***Sorted By: Flow Order***	
CD-03.1B-11N	30	4.223	2.788	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
===>Grouped by Line:	***CD-03.1C FWH 33C to FWH 34C***									***Sorted By: Flow Order***	
CD-03.1C-01N	31	5.278	3.484	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-02E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-03E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-04P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-05E	2	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-06E	4	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-07P	54	3.378	2.230	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-12P	9	1.474	0.987	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-08E	2	3.906	2.578	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-09P	52	2.639	1.742	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-10E	1	3.484	2.300	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD
CD-03.1C-11N	30	4.223	2.788	245.2	16.765	0.0	14.000	7.056	0.000	78.73	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:42:32AM

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.601

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1A FWH 33A to FWH 34A**					***Sorted By:Remaining Life***		
CD-03.1A-13N	0.438	0.340	0.305	0.305	109,790	No	203,584
CD-03.1A-10E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1A-06E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1A-12E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1A-08E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1A-05E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1A-11P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1A-07P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1A-01N	0.438	0.405	0.305	0.305	252,617	Yes	203,584
CD-03.1A-04P	0.438	0.378	0.305	0.305	285,561	Yes	203,584
CD-03.1A-09P	0.438	0.384	0.305	0.305	451,944	No	203,584
CD-03.1A-15P	0.438	0.384	0.305	0.305	451,944	No	203,584
CD-03.1A-02E	0.438	0.470	0.305	0.305	561,023	Yes	203,584
CD-03.1A-03E	0.438	0.485	0.305	0.305	611,983	Yes	203,584
CD-03.1A-14P	0.438	0.404	0.305	0.305	877,345	No	203,584
===>Grouped by Line: **CD-03.1B FWH 33B to FWH 34B**					***Sorted By:Remaining Life***		
CD-03.1B-01N	0.438	0.315	0.305	0.305	26,152	No	203,584
CD-03.1B-11N	0.438	0.340	0.305	0.305	109,790	No	203,584
CD-03.1B-08E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1B-10E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1B-07P	0.477	0.369	0.305	0.305	248,524	Yes	203,584
CD-03.1B-04P	0.438	0.392	0.305	0.305	340,761	Yes	203,584
CD-03.1B-09P	0.438	0.377	0.305	0.305	360,703	No	203,584
CD-03.1B-05E	0.547	0.437	0.305	0.305	438,555	Yes	203,584
CD-03.1B-02E	0.438	0.464	0.305	0.305	539,180	Yes	203,584
CD-03.1B-03E	0.438	0.471	0.305	0.305	564,203	Yes	203,584
CD-03.1B-06E	0.555	0.482	0.305	0.305	587,731	Yes	203,584
CD-03.1B-12P	0.438	0.404	0.305	0.305	877,345	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-03.1C FWH 33C to FWH 34C**					***Sorted By:Remaining Life***		
CD-03.1C-11N	0.438	0.340	0.305	0.305	109,790	No	203,584
CD-03.1C-05E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-03E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-06E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-08E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-10E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1C-04P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1C-07P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1C-01N	0.438	0.430	0.305	0.305	313,660	Yes	203,584
CD-03.1C-09P	0.438	0.377	0.305	0.305	360,703	No	203,584
CD-03.1C-02E	0.438	0.440	0.305	0.305	459,403	Yes	203,584
CD-03.1C-12P	0.438	0.404	0.305	0.305	877,345	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.601

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1A FWH 33A to FWH 34A**					***Sorted By:Flow Order***		
CD-03.1A-01N	0.438	0.405	0.305	0.305	252,617	Yes	203,584
CD-03.1A-02E	0.438	0.470	0.305	0.305	561,023	Yes	203,584
CD-03.1A-03E	0.438	0.485	0.305	0.305	611,983	Yes	203,584
CD-03.1A-04P	0.438	0.378	0.305	0.305	285,561	Yes	203,584
CD-03.1A-05E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1A-15P	0.438	0.384	0.305	0.305	451,944	No	203,584
CD-03.1A-06E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1A-07P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1A-14P	0.438	0.404	0.305	0.305	877,345	No	203,584
CD-03.1A-08E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1A-09P	0.438	0.384	0.305	0.305	451,944	No	203,584
CD-03.1A-10E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1A-11P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1A-12E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1A-13N	0.438	0.340	0.305	0.305	109,790	No	203,584
===>Grouped by Line: **CD-03.1B FWH 33B to FWH 34B**					***Sorted By:Flow Order***		
CD-03.1B-01N	0.438	0.315	0.305	0.305	26,152	No	203,584
CD-03.1B-02E	0.438	0.464	0.305	0.305	539,180	Yes	203,584
CD-03.1B-03E	0.438	0.471	0.305	0.305	564,203	Yes	203,584
CD-03.1B-04P	0.438	0.392	0.305	0.305	340,761	Yes	203,584
CD-03.1B-05E	0.547	0.437	0.305	0.305	438,555	Yes	203,584
CD-03.1B-06E	0.555	0.482	0.305	0.305	587,731	Yes	203,584
CD-03.1B-07P	0.477	0.369	0.305	0.305	248,524	Yes	203,584
CD-03.1B-12P	0.438	0.404	0.305	0.305	877,345	No	203,584
CD-03.1B-08E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1B-09P	0.438	0.377	0.305	0.305	360,703	No	203,584
CD-03.1B-10E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1B-11N	0.438	0.340	0.305	0.305	109,790	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-03.1C FWH 33C to FWH 34C**					***Sorted By:Flow Order***		
CD-03.1C-01N	0.438	0.430	0.305	0.305	313,660	Yes	203,584
CD-03.1C-02E	0.438	0.440	0.305	0.305	459,403	Yes	203,584
CD-03.1C-03E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-04P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1C-05E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-06E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-07P	0.438	0.359	0.305	0.305	214,337	No	203,584
CD-03.1C-12P	0.438	0.404	0.305	0.305	877,345	No	203,584
CD-03.1C-08E	0.438	0.347	0.305	0.305	143,697	No	203,584
CD-03.1C-09P	0.438	0.377	0.305	0.305	360,703	No	203,584
CD-03.1C-10E	0.438	0.357	0.305	0.305	198,497	No	203,584
CD-03.1C-11N	0.438	0.340	0.305	0.305	109,790	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HTR 33 TO HTR 34
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.601

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-03.1A FWH 33A to FWH 34A**										***Sorted By: Flow Order***	
CD-03.1A-01N	0.438	97.1	108.0	97.1	108.0	0.431	GW	137,201	340.9	431.0	25.6	137,201
CD-03.1A-02E	0.438	71.8	100.0	71.8	100.0	0.489	GW	137,201	366.2	489.0	18.9	137,201
CD-03.1A-03E	0.438	71.8	70.0	71.8	70.0	0.504	GW	137,201	366.2	504.0	18.9	137,201
CD-03.1A-04P	0.438	62.1	85.0	62.1	85.0	0.394	GW	137,201	375.9	394.0	16.4	137,201
===>Grouped by Line:	**CD-03.1B FWH 33B to FWH 34B**										***Sorted By: Flow Order***	
CD-03.1B-02E	0.438	58.4	41.0	58.4	41.0	0.496	GW	92,205	379.6	496.0	32.4	92,205
CD-03.1B-03E	0.438	85.8	76.0	85.8	76.0	0.476	MT	186,592	352.2	476.0	5.0	186,592
CD-03.1B-04P	0.438	74.2	63.0	74.2	63.0	0.396	MT	186,592	363.8	396.0	4.3	186,592
CD-03.1B-05E	0.547	52.5	66.0	52.5	66.0	0.477	GW	78,649	494.5	477.0	40.2	78,649
CD-03.1B-06E	0.555	87.7	79.0	87.7	79.0	0.487	MT	186,592	467.3	487.0	5.1	186,592
CD-03.1B-07P	0.477	44.8	66.0	44.8	66.0	0.403	GW	78,649	432.2	403.0	34.3	78,649
===>Grouped by Line:	**CD-03.1C FWH 33C to FWH 34C**										***Sorted By: Flow Order***	
CD-03.1C-01N	0.438	109.4	84.0	109.4	84.0	0.443	MT	170,123	328.6	443.0	13.3	170,123
CD-03.1C-02E	0.438	80.9	83.0	80.9	83.0	0.450	MT	170,123	357.1	450.0	9.8	170,123

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 10:12:17AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.508

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1A FWH 34A to FWH 35A***								***Sorted By: Average Wear Rate***		
CD-04.1A-01N	31	5.818	3.835	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-14N	30	4.655	3.068	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-02E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-03E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-05E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-07E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-09E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-11E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-13E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-04P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-10P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-06P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-08P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-12P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-15P	9	1.637	1.095	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***								***Sorted By: Average Wear Rate***		
CD-04.1B-01N	31	5.818	3.835	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-16N	30	4.655	3.068	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-02E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-03E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-05E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-08E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-10E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-13E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-06E	3	4.073	2.684	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-12E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-15E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-04P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***								***Sorted By: Average Wear Rate***		
CD-04.1B-09P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-11P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-14P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-07P	53	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-17P	9	1.637	1.095	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
===>Grouped by Line:	***CD-04.1C FWH 34C to FWH 35C***								***Sorted By: Average Wear Rate***		
CD-04.1C-01N	31	5.818	3.835	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-13N	30	4.655	3.068	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-02E	4	4.438	2.925	298.3	18.078	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-03E	4	4.417	2.911	298.3	17.943	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-05E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-07E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-08E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-10E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-12E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-04P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-09P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-06P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-11P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-14P	9	1.637	1.095	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 10:12:17AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.508

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1A FWH 34A to FWH 35A***									***Sorted By: Flow Order***	
CD-04.1A-01N	31	5.818	3.835	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-02E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-03E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-04P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-05E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-06P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-07E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-08P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-09E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-10P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-15P	9	1.637	1.095	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-11E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-12P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-13E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1A-14N	30	4.655	3.068	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***									***Sorted By: Flow Order***	
CD-04.1B-01N	31	5.818	3.835	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-02E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-03E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-04P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-05E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-06E	3	4.073	2.684	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-07P	53	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-08E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-09P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-10E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-11P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-04.1B FWH 34B to FWH 35B***									***Sorted By: Flow Order***	
CD-04.1B-17P	9	1.637	1.095	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-12E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-13E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-14P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-15E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1B-16N	30	4.655	3.068	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
===>Grouped by Line:	***CD-04.1C FWH 34C to FWH 35C***									***Sorted By: Flow Order***	
CD-04.1C-01N	31	5.818	3.835	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-02E	4	4.438	2.925	298.3	18.078	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-03E	4	4.417	2.911	298.3	17.943	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-04P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-05E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-06P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-07E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-08E	4	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-09P	54	3.724	2.454	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-14P	9	1.637	1.095	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-10E	2	4.306	2.838	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-11P	52	2.909	1.917	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-12E	1	3.840	2.531	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD
CD-04.1C-13N	30	4.655	3.068	298.3	17.229	0.0	14.000	7.056	0.000	77.06	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 10:12:17AM

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.508

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-04.1A FWH 34A to FWH 35A**					***Sorted By:Remaining Life***		
CD-04.1A-14N	0.438	0.330	0.305	0.305	71,097	No	203,584
CD-04.1A-01N	0.438	0.344	0.305	0.305	89,158	No	203,584
CD-04.1A-05E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-07E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-09E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-11E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-13E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1A-10P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1A-04P	0.438	0.365	0.305	0.305	213,076	Yes	203,584
CD-04.1A-06P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1A-08P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1A-12P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1A-02E	0.438	0.473	0.305	0.305	518,060	Yes	203,584
CD-04.1A-03E	0.438	0.477	0.305	0.305	530,407	Yes	203,584
CD-04.1A-15P	0.438	0.400	0.305	0.305	760,271	No	203,584
===>Grouped by Line: **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Remaining Life***		
CD-04.1B-16N	0.438	0.330	0.305	0.305	71,097	No	203,584
CD-04.1B-05E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-08E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-10E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-13E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-06E	0.438	0.343	0.305	0.305	125,379	No	203,584
CD-04.1B-12E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1B-15E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1B-09P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1B-11P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1B-14P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1B-01N	0.438	0.392	0.305	0.305	198,260	Yes	203,584
CD-04.1B-07P	0.438	0.370	0.305	0.305	299,080	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Remaining Life***		
CD-04.1B-04P	0.438	0.400	0.305	0.305	338,980	Yes	203,584
CD-04.1B-03E	0.438	0.458	0.305	0.305	472,740	Yes	203,584
CD-04.1B-02E	0.438	0.480	0.305	0.305	540,651	Yes	203,584
CD-04.1B-17P	0.438	0.400	0.305	0.305	760,271	No	203,584
===>*Grouped by Line:* **CD-04.1C FWH 34C to FWH 35C**					***Sorted By:Remaining Life***		
CD-04.1C-13N	0.438	0.330	0.305	0.305	71,097	No	203,584
CD-04.1C-08E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1C-10E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1C-12E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1C-04P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1C-09P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1C-11P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1C-01N	0.438	0.458	0.305	0.305	350,465	No	203,584
CD-04.1C-03E	0.570	0.436	0.305	0.305	395,614	Yes	203,584
CD-04.1C-07E	0.438	0.438	0.305	0.305	411,274	Yes	203,584
CD-04.1C-02E	0.594	0.455	0.305	0.305	450,029	Yes	203,584
CD-04.1C-05E	0.438	0.470	0.305	0.305	510,053	Yes	203,584
CD-04.1C-06P	0.438	0.430	0.305	0.305	569,924	Yes	203,584
CD-04.1C-14P	0.438	0.400	0.305	0.305	760,271	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.508

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-04.1A FWH 34A to FWH 35A**					***Sorted By:Flow Order***		
CD-04.1A-01N	0.438	0.344	0.305	0.305	89,158	No	203,584
CD-04.1A-02E	0.438	0.473	0.305	0.305	518,060	Yes	203,584
CD-04.1A-03E	0.438	0.477	0.305	0.305	530,407	Yes	203,584
CD-04.1A-04P	0.438	0.365	0.305	0.305	213,076	Yes	203,584
CD-04.1A-05E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-06P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1A-07E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-08P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1A-09E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-10P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1A-15P	0.438	0.400	0.305	0.305	760,271	No	203,584
CD-04.1A-11E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1A-12P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1A-13E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1A-14N	0.438	0.330	0.305	0.305	71,097	No	203,584
===>Grouped by Line: **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Flow Order***		
CD-04.1B-01N	0.438	0.392	0.305	0.305	198,260	Yes	203,584
CD-04.1B-02E	0.438	0.480	0.305	0.305	540,651	Yes	203,584
CD-04.1B-03E	0.438	0.458	0.305	0.305	472,740	Yes	203,584
CD-04.1B-04P	0.438	0.400	0.305	0.305	338,980	Yes	203,584
CD-04.1B-05E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-06E	0.438	0.343	0.305	0.305	125,379	No	203,584
CD-04.1B-07P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1B-08E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-09P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1B-10E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-11P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1B-17P	0.438	0.400	0.305	0.305	760,271	No	203,584
CD-04.1B-12E	0.438	0.349	0.305	0.305	151,697	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-04.1B FWH 34B to FWH 35B**					***Sorted By:Flow Order***		
CD-04.1B-13E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1B-14P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1B-15E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1B-16N	0.438	0.330	0.305	0.305	71,097	No	203,584
===>Grouped by Line: **CD-04.1C FWH 34C to FWH 35C**					***Sorted By:Flow Order***		
CD-04.1C-01N	0.438	0.458	0.305	0.305	350,465	No	203,584
CD-04.1C-02E	0.594	0.455	0.305	0.305	450,029	Yes	203,584
CD-04.1C-03E	0.570	0.436	0.305	0.305	395,614	Yes	203,584
CD-04.1C-04P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1C-05E	0.438	0.470	0.305	0.305	510,053	Yes	203,584
CD-04.1C-06P	0.438	0.430	0.305	0.305	569,924	Yes	203,584
CD-04.1C-07E	0.438	0.438	0.305	0.305	411,274	Yes	203,584
CD-04.1C-08E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1C-09P	0.438	0.351	0.305	0.305	166,090	No	203,584
CD-04.1C-14P	0.438	0.400	0.305	0.305	760,271	No	203,584
CD-04.1C-10E	0.438	0.338	0.305	0.305	101,906	No	203,584
CD-04.1C-11P	0.438	0.370	0.305	0.305	299,080	No	203,584
CD-04.1C-12E	0.438	0.349	0.305	0.305	151,697	No	203,584
CD-04.1C-13N	0.438	0.330	0.305	0.305	71,097	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HTR 34 TO HTR 35
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.508

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-04.1A FWH 34A to FWH 35A**											***Sorted By: Flow Order***
CD-04.1A-02E	0.438	74.8	117.0	74.8	117.0	0.498	GW	121,025	363.2	498.0	25.2	121,025
CD-04.1A-03E	0.438	74.8	67.0	74.8	67.0	0.502	GW	121,025	363.2	502.0	25.2	121,025
CD-04.1A-04P	0.438	77.2	96.0	77.2	96.0	0.374	MT	170,123	360.8	374.0	9.4	170,123
===>Grouped by Line:	**CD-04.1B FWH 34B to FWH 35B**											***Sorted By: Flow Order***
CD-04.1B-01N	0.438	106.9	117.0	106.9	117.0	0.420	GW	137,201	331.1	420.0	28.3	137,201
CD-04.1B-02E	0.438	79.1	67.0	79.1	67.0	0.501	GW	137,201	358.9	501.0	20.9	137,201
CD-04.1B-03E	0.438	79.1	140.0	79.1	140.0	0.479	GW	137,201	358.9	479.0	20.9	137,201
CD-04.1B-04P	0.438	68.4	62.0	68.4	62.0	0.418	GW	137,201	369.6	418.0	18.1	137,201
===>Grouped by Line:	**CD-04.1C FWH 34C to FWH 35C**											***Sorted By: Flow Order***
CD-04.1C-02E	0.594	58.3	94.0	58.3	94.0	0.500	GW	78,649	535.7	500.0	44.8	78,649
CD-04.1C-03E	0.570	58.1	85.0	58.1	85.0	0.481	GW	78,649	511.9	481.0	44.6	78,649
CD-04.1C-05E	0.438	89.2	79.0	89.2	79.0	0.481	MT	170,123	348.8	481.0	10.8	170,123
CD-04.1C-06P	0.438	60.3	44.0	60.3	44.0	0.437	MT	170,123	377.7	437.0	7.3	170,123
CD-04.1C-07E	0.438	89.2	73.0	89.2	73.0	0.449	MT	170,123	348.8	449.0	10.8	170,123

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:42:54AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.620

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1A FWH 35A to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1A-01N	31	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-05V	22	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-02E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-03E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-07E	2	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-09E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-04P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-10P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-11R	18	3.072	1.969	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-08P	52	2.743	1.758	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-06P	58	2.414	1.547	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-11R (D/S)	18	1.551	1.009	377.3	6.095	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.2-01P	68	1.293	0.841	377.3	6.095	0.0	24.000	6.841	0.000	72.51	HBD
===>Grouped by Line:	***CD-05.1B FWH 35B to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1B-01N	31	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-05V	22	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-07E	2	4.169	2.671	377.3	18.894	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-02E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-03E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-04P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-08P	52	2.757	1.767	377.3	18.263	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-06P	58	2.414	1.547	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1C-01N	31	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-05V	22	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-02E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-03E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***								***Sorted By: Average Wear Rate***		
CD-05.1C-07E	2	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-08E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-09P	54	3.552	2.276	377.3	18.449	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-04P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-06P	58	2.414	1.547	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:42:54AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.620

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1A FWH 35A to HDR***									***Sorted By: Flow Order***	
CD-05.1A-01N	31	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-02E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-03E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-04P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-05V	22	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-06P	58	2.414	1.547	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-07E	2	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-08P	52	2.743	1.758	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-09E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-10P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-11R	18	3.072	1.969	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1A-11R (D/S)	18	1.551	1.009	377.3	6.095	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.2-01P	68	1.293	0.841	377.3	6.095	0.0	24.000	6.841	0.000	72.51	HBD
===>Grouped by Line:	***CD-05.1B FWH 35B to HDR***									***Sorted By: Flow Order***	
CD-05.1B-01N	31	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-02E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-03E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-04P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-05V	22	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-06P	58	2.414	1.547	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-07E	2	4.169	2.671	377.3	18.894	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-08P	52	2.757	1.767	377.3	18.263	0.0	14.000	6.841	0.000	72.51	HBD
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***									***Sorted By: Flow Order***	
CD-05.1C-01N	31	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-02E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-03E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-04P	54	3.511	2.250	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.1C FWH 35C to HDR***									***Sorted By: Flow Order***	
CD-05.1C-05V	22	5.486	3.516	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-06P	58	2.414	1.547	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-07E	2	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-08E	4	4.059	2.602	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-09P	54	3.552	2.276	377.3	18.449	0.0	14.000	6.841	0.000	72.51	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:42:54AM

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.620

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1A FWH 35A to HDR**					***Sorted By:Remaining Life***		
CD-05.1A-05V	0.438	0.311	0.326	0.326	-39,423	No	203,584
CD-05.1A-01N	0.438	0.311	0.305	0.305	13,912	No	203,584
CD-05.1A-07E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1A-09E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1A-10P	0.438	0.356	0.305	0.305	200,432	No	203,584
CD-05.1A-04P	0.438	0.356	0.305	0.305	200,432	No	203,584
CD-05.1A-02E	0.438	0.372	0.305	0.305	225,499	Yes	203,584
CD-05.1A-03E	0.438	0.380	0.305	0.305	252,437	Yes	203,584
CD-05.1A-11R	0.000	0.367	0.305	0.305	274,448	No	203,584
CD-05.1A-08P	0.438	0.374	0.305	0.305	345,503	No	203,584
CD-05.1A-06P	0.438	0.382	0.305	0.305	435,937	No	203,584
CD-05.1A-11R (D/S)	0.000	0.652	0.523	0.523	1,121,548	No	203,584
CD-05.2-01P	0.688	0.658	0.523	0.523	1,408,434	No	203,584
===>Grouped by Line: **CD-05.1B FWH 35B to HDR**					***Sorted By:Remaining Life***		
CD-05.1B-05V	0.438	0.311	0.326	0.326	-39,423	No	203,584
CD-05.1B-01N	0.438	0.311	0.305	0.305	13,912	No	203,584
CD-05.1B-04P	0.438	0.363	0.305	0.305	227,686	Yes	203,584
CD-05.1B-06P	0.438	0.382	0.305	0.305	435,937	No	203,584
CD-05.1B-02E	0.438	0.439	0.305	0.305	450,290	Yes	203,584
CD-05.1B-08P	0.465	0.401	0.305	0.305	475,932	Yes	203,584
CD-05.1B-07E	0.575	0.478	0.305	0.305	567,912	Yes	203,584
CD-05.1B-03E	0.438	0.497	0.305	0.305	645,591	Yes	203,584
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Remaining Life***		
CD-05.1C-05V	0.438	0.311	0.326	0.326	-39,423	No	203,584
CD-05.1C-07E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1C-03E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1C-02E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1C-04P	0.438	0.356	0.305	0.305	200,432	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD-05.1C FWH 35C to HDR**					***Sorted By:Remaining Life***		
CD-05.1C-01N	0.438	0.396	0.305	0.305	227,387	Yes	203,584
CD-05.1C-09P	0.498	0.415	0.305	0.305	425,400	No	203,584
CD-05.1C-06P	0.438	0.382	0.305	0.305	435,937	No	203,584
CD-05.1C-08E	0.438	0.444	0.305	0.305	467,558	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.620

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1A FWH 35A to HDR**					***Sorted By:Flow Order***		
CD-05.1A-01N	0.438	0.311	0.305	0.305	13,912	No	203,584
CD-05.1A-02E	0.438	0.372	0.305	0.305	225,499	Yes	203,584
CD-05.1A-03E	0.438	0.380	0.305	0.305	252,437	Yes	203,584
CD-05.1A-04P	0.438	0.356	0.305	0.305	200,432	No	203,584
CD-05.1A-05V	0.438	0.311	0.326	0.326	-39,423	No	203,584
CD-05.1A-06P	0.438	0.382	0.305	0.305	435,937	No	203,584
CD-05.1A-07E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1A-08P	0.438	0.374	0.305	0.305	345,503	No	203,584
CD-05.1A-09E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1A-10P	0.438	0.356	0.305	0.305	200,432	No	203,584
CD-05.1A-11R	0.000	0.367	0.305	0.305	274,448	No	203,584
CD-05.1A-11R (D/S)	0.000	0.652	0.523	0.523	1,121,548	No	203,584
CD-05.2-01P	0.688	0.658	0.523	0.523	1,408,434	No	203,584
===>Grouped by Line: **CD-05.1B FWH 35B to HDR**					***Sorted By:Flow Order***		
CD-05.1B-01N	0.438	0.311	0.305	0.305	13,912	No	203,584
CD-05.1B-02E	0.438	0.439	0.305	0.305	450,290	Yes	203,584
CD-05.1B-03E	0.438	0.497	0.305	0.305	645,591	Yes	203,584
CD-05.1B-04P	0.438	0.363	0.305	0.305	227,686	Yes	203,584
CD-05.1B-05V	0.438	0.311	0.326	0.326	-39,423	No	203,584
CD-05.1B-06P	0.438	0.382	0.305	0.305	435,937	No	203,584
CD-05.1B-07E	0.575	0.478	0.305	0.305	567,912	Yes	203,584
CD-05.1B-08P	0.465	0.401	0.305	0.305	475,932	Yes	203,584
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Flow Order***		
CD-05.1C-01N	0.438	0.396	0.305	0.305	227,387	Yes	203,584
CD-05.1C-02E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1C-03E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1C-04P	0.438	0.356	0.305	0.305	200,432	No	203,584
CD-05.1C-05V	0.438	0.311	0.326	0.326	-39,423	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.1C FWH 35C to HDR**					***Sorted By:Flow Order***		
CD-05.1C-06P	0.438	0.382	0.305	0.305	435,937	No	203,584
CD-05.1C-07E	0.438	0.344	0.305	0.305	130,417	No	203,584
CD-05.1C-08E	0.438	0.444	0.305	0.305	467,558	Yes	203,584
CD-05.1C-09P	0.498	0.415	0.305	0.305	425,400	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: HTR 35 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.620

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-05.1A FWH 35A to HDR**										***Sorted By: Flow Order***	
CD-05.1A-02E	0.438	67.2	54.0	67.2	54.0	0.399	GW	107,359	370.8	399.0	27.1	107,359
CD-05.1A-03E	0.438	67.2	73.0	67.2	73.0	0.407	GW	107,359	370.8	407.0	27.1	107,359
===>Grouped by Line:	**CD-05.1B FWH 35B to HDR**										***Sorted By: Flow Order***	
CD-05.1B-02E	0.438	71.0	75.0	71.0	75.0	0.462	GW	121,025	367.0	462.0	23.3	121,025
CD-05.1B-03E	0.438	71.0	78.0	71.0	78.0	0.520	GW	121,025	367.0	520.0	23.3	121,025
CD-05.1B-04P	0.438	73.0	73.0	73.0	73.0	0.372	MT	170,123	365.0	372.0	8.6	170,123
CD-05.1B-07E	0.575	55.5	94.0	55.5	94.0	0.575	ER	0	478.1	575.0	96.9	78,649
CD-05.1B-08P	0.465	36.7	35.0	36.7	35.0	0.465	ER	0	400.9	465.0	64.1	78,649
===>Grouped by Line:	**CD-05.1C FWH 35C to HDR**										***Sorted By: Flow Order***	
CD-05.1C-01N	0.438	120.7	51.0	120.7	51.0	0.403	MT	186,592	317.3	403.0	6.8	186,592
CD-05.1C-08E	0.438	61.1	60.0	61.1	60.0	0.477	GW	92,205	376.9	477.0	33.2	92,205

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:43:02AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.754

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.9 FWH HDR to SGBD HX3***								***Sorted By: Average Wear Rate***		
CD-02.10-11N	30	5.126	3.527	198.0	6.587	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.9-17T (BR/SE)	14	4.091	2.815	198.0	5.966	0.0	8.000	7.056	0.000	79.70	HBD
CD-02.10-04E	2	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-06E	2	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-08E	2	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-10E	4	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-05P	52	2.511	1.728	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-07P	52	2.511	1.728	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-09P	52	2.511	1.728	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-03P	56	2.151	1.459	198.0	14.012	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-01P	64	2.009	1.382	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.9-17T	14	1.372	0.944	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-04V	22	1.247	0.858	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-02E	4	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-06E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-08E	4	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-11E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-13E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-16E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-03P	54	0.798	0.549	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-09P	54	0.798	0.549	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-07P	52	0.624	0.429	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-12P	52	0.624	0.429	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-14P	52	0.624	0.429	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-05P	58	0.549	0.378	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-01P	63	0.499	0.343	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-10P	9	0.274	0.189	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-15P	9	0.274	0.189	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:43:02AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.754

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.9 FWH HDR to SGBD HX3***									***Sorted By: Flow Order***	
CD-02.9-01P	63	0.499	0.343	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-02E	4	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-03P	54	0.798	0.549	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-04V	22	1.247	0.858	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-05P	58	0.549	0.378	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-06E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-07P	52	0.624	0.429	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-08E	4	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-09P	54	0.798	0.549	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-10P	9	0.274	0.189	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-11E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-12P	52	0.624	0.429	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-13E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-14P	52	0.624	0.429	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-15P	9	0.274	0.189	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-16E	2	0.923	0.635	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-17T	14	1.372	0.944	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.9-17T (BR/SE)	14	4.091	2.815	198.0	5.966	0.0	8.000	7.056	0.000	79.70	HBD
CD-02.10-01P	64	2.009	1.382	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-03P	56	2.151	1.459	198.0	14.012	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-04E	2	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-05P	52	2.511	1.728	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-06E	2	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-07P	52	2.511	1.728	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-08E	2	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-09P	52	2.511	1.728	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.10-10E	4	3.716	2.557	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.9 FWH HDR to SGBD HX3***									***Sorted By: Flow Order***	
CD-02.10-11N	30	5.126	3.527	198.0	6.587	0.0	8.625	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:43:02AM

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.754

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.9 FWH HDR to SGBD HX3**					***Sorted By:Remaining Life***		
CD-02.10-06E	0.322	0.236	0.188	0.188	163,696	No	203,584
CD-02.9-17T (BR/SE)	0.000	0.227	0.174	0.174	163,947	No	203,584
CD-02.10-04E	0.322	0.271	0.188	0.188	283,326	Yes	203,584
CD-02.10-10E	0.322	0.272	0.188	0.188	288,081	Yes	203,584
CD-02.10-08E	0.322	0.290	0.188	0.188	349,742	Yes	203,584
CD-02.10-07P	0.322	0.264	0.188	0.188	384,271	No	203,584
CD-02.10-05P	0.322	0.264	0.188	0.188	384,271	No	203,584
CD-02.10-03P	0.322	0.272	0.188	0.188	505,206	No	203,584
CD-02.10-09P	0.322	0.293	0.188	0.188	534,553	Yes	203,584
CD-02.10-01P	0.322	0.275	0.188	0.188	554,297	No	203,584
CD-02.9-04V	0.562	0.533	0.420	0.420	1,158,274	No	203,584
CD-02.10-11N	0.812	0.693	0.188	0.188	1,254,200	No	203,584
CD-02.9-17T	0.562	0.530	0.392	0.392	1,281,067	No	203,584
CD-02.9-16E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-13E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-11E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-08E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-06E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-02E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-09P	0.562	0.543	0.392	0.392	2,414,465	No	203,584
CD-02.9-03P	0.562	0.543	0.392	0.392	2,414,465	No	203,584
CD-02.9-14P	0.562	0.548	0.392	0.392	3,173,348	No	203,584
CD-02.9-12P	0.562	0.548	0.392	0.392	3,173,348	No	203,584
CD-02.9-07P	0.562	0.548	0.392	0.392	3,173,348	No	203,584
CD-02.9-05P	0.562	0.549	0.392	0.392	3,646,419	No	203,584
CD-02.9-01P	0.562	0.550	0.392	0.392	4,040,644	No	203,584
CD-02.9-15P	0.562	0.556	0.392	0.392	7,588,672	No	203,584
CD-02.9-10P	0.562	0.556	0.392	0.392	7,588,672	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.754

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.9 FWH HDR to SGBD HX3**					***Sorted By:Flow Order***		
CD-02.9-01P	0.562	0.550	0.392	0.392	4,040,644	No	203,584
CD-02.9-02E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-03P	0.562	0.543	0.392	0.392	2,414,465	No	203,584
CD-02.9-04V	0.562	0.533	0.420	0.420	1,158,274	No	203,584
CD-02.9-05P	0.562	0.549	0.392	0.392	3,646,419	No	203,584
CD-02.9-06E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-07P	0.562	0.548	0.392	0.392	3,173,348	No	203,584
CD-02.9-08E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-09P	0.562	0.543	0.392	0.392	2,414,465	No	203,584
CD-02.9-10P	0.562	0.556	0.392	0.392	7,588,672	No	203,584
CD-02.9-11E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-12P	0.562	0.548	0.392	0.392	3,173,348	No	203,584
CD-02.9-13E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-14P	0.562	0.548	0.392	0.392	3,173,348	No	203,584
CD-02.9-15P	0.562	0.556	0.392	0.392	7,588,672	No	203,584
CD-02.9-16E	0.562	0.541	0.392	0.392	2,048,208	No	203,584
CD-02.9-17T	0.562	0.530	0.392	0.392	1,281,067	No	203,584
CD-02.9-17T (BR/SE)	0.000	0.227	0.174	0.174	163,947	No	203,584
CD-02.10-01P	0.322	0.275	0.188	0.188	554,297	No	203,584
CD-02.10-03P	0.322	0.272	0.188	0.188	505,206	No	203,584
CD-02.10-04E	0.322	0.271	0.188	0.188	283,326	Yes	203,584
CD-02.10-05P	0.322	0.264	0.188	0.188	384,271	No	203,584
CD-02.10-06E	0.322	0.236	0.188	0.188	163,696	No	203,584
CD-02.10-07P	0.322	0.264	0.188	0.188	384,271	No	203,584
CD-02.10-08E	0.322	0.290	0.188	0.188	349,742	Yes	203,584
CD-02.10-09P	0.322	0.293	0.188	0.188	534,553	Yes	203,584
CD-02.10-10E	0.322	0.272	0.188	0.188	288,081	Yes	203,584
CD-02.10-11N	0.812	0.693	0.188	0.188	1,254,200	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: S/G BLWDN HX IN
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.754

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-02.9 FWH HDR to SGBD HX3**											***Sorted By: Flow Order***
CD-02.10-04E	0.322	54.9	53.0	54.9	53.0	0.302	GW	92,205	267.1	302.0	31.4	92,205
CD-02.10-08E	0.322	48.3	35.0	48.3	35.0	0.328	GW	78,649	273.7	328.0	38.0	78,649
CD-02.10-09P	0.322	32.6	59.0	32.6	59.0	0.319	GW	78,649	289.4	319.0	25.7	78,649
CD-02.10-10E	0.322	48.3	50.0	48.3	50.0	0.310	GW	78,649	273.7	310.0	38.0	78,649

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 10:45:43AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.247

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.11 SGBD HX3 to FWH HDR***								***Sorted By: Average Wear Rate***		
CD-02.11-01N	31	11.864	8.164	198.0	6.587	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-13T (BR/SE)	10	8.657	5.957	198.0	5.966	0.0	8.000	7.056	0.000	79.70	HBD
CD-02.11-03E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-07E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-10E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-12E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-05E	1	6.137	4.223	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-02P	61	5.021	3.455	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-04P	52	4.649	3.199	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-08P	52	4.649	3.199	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-11P	52	4.649	3.199	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-06P	51	4.091	2.815	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-13T (D/S)	10	2.309	1.589	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-04V	22	2.309	1.589	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.11-09P	9	2.046	1.408	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.12-02E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-06E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-08E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-10E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-01P	60	1.386	0.954	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-03P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-07P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-09P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-11P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-05P	58	1.016	0.699	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 10:45:43AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.247

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-02.11 SGBD HX3 to FWH HDR***									***Sorted By: Flow Order***	
CD-02.11-01N	31	11.864	8.164	198.0	6.587	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-02P	61	5.021	3.455	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-03E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-04P	52	4.649	3.199	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-05E	1	6.137	4.223	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-06P	51	4.091	2.815	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-07E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-08P	52	4.649	3.199	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-09P	9	2.046	1.408	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-10E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-11P	52	4.649	3.199	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-12E	2	6.881	4.735	198.0	5.068	0.0	8.625	7.056	0.000	79.70	HBD
CD-02.11-13T (BR/SE)	10	8.657	5.957	198.0	5.966	0.0	8.000	7.056	0.000	79.70	HBD
CD-02.11-13T (D/S)	10	2.309	1.589	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-01P	60	1.386	0.954	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-02E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-03P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-04V	22	2.309	1.589	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-05P	58	1.016	0.699	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-06E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-07P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-08E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-09P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-10E	2	1.709	1.176	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD
CD-02.12-11P	52	1.155	0.795	198.0	1.134	0.0	18.000	7.056	0.000	79.70	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 10:45:43AM

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.247

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.11 SGBD HX3 to FWH HDR**					***Sorted By:Remaining Life***		
CD-02.11-02P	0.322	0.205	0.188	0.188	44,259	No	203,584
CD-02.11-13T (BR/SE)	0.000	0.248	0.174	0.174	108,831	No	203,584
CD-02.11-12E	0.322	0.277	0.188	0.188	165,348	No	203,584
CD-02.11-10E	0.322	0.284	0.188	0.188	178,299	Yes	203,584
CD-02.11-05E	0.322	0.276	0.188	0.188	183,012	Yes	203,584
CD-02.11-03E	0.322	0.287	0.188	0.188	183,082	Yes	203,584
CD-02.11-07E	0.322	0.293	0.188	0.188	193,938	Yes	203,584
CD-02.11-08P	0.322	0.283	0.188	0.188	259,262	Yes	203,584
CD-02.11-04P	0.322	0.289	0.188	0.188	276,380	Yes	203,584
CD-02.11-11P	0.322	0.290	0.188	0.188	278,330	Yes	203,584
CD-02.11-06P	0.322	0.291	0.188	0.188	320,177	Yes	203,584
CD-02.11-01N	0.812	0.536	0.188	0.188	373,860	No	203,584
CD-02.12-04V	0.562	0.508	0.420	0.420	489,477	No	203,584
CD-02.11-09P	0.322	0.274	0.188	0.188	538,940	No	203,584
CD-02.11-13T (D/S)	0.000	0.540	0.392	0.392	817,343	Yes	203,584
CD-02.12-08E	0.562	0.522	0.392	0.392	970,099	No	203,584
CD-02.12-10E	0.562	0.522	0.392	0.392	970,099	No	203,584
CD-02.12-02E	0.562	0.522	0.392	0.392	970,099	No	203,584
CD-02.12-01P	0.562	0.530	0.392	0.392	1,265,484	No	203,584
CD-02.12-09P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-11P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-07P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-03P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-05P	0.562	0.538	0.392	0.392	1,833,467	Yes	203,584
CD-02.12-06E	0.562	0.682	0.392	0.392	2,156,376	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.247

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-02.11 SGBD HX3 to FWH HDR**					***Sorted By:Flow Order***		
CD-02.11-01N	0.812	0.536	0.188	0.188	373,860	No	203,584
CD-02.11-02P	0.322	0.205	0.188	0.188	44,259	No	203,584
CD-02.11-03E	0.322	0.287	0.188	0.188	183,082	Yes	203,584
CD-02.11-04P	0.322	0.289	0.188	0.188	276,380	Yes	203,584
CD-02.11-05E	0.322	0.276	0.188	0.188	183,012	Yes	203,584
CD-02.11-06P	0.322	0.291	0.188	0.188	320,177	Yes	203,584
CD-02.11-07E	0.322	0.293	0.188	0.188	193,938	Yes	203,584
CD-02.11-08P	0.322	0.283	0.188	0.188	259,262	Yes	203,584
CD-02.11-09P	0.322	0.274	0.188	0.188	538,940	No	203,584
CD-02.11-10E	0.322	0.284	0.188	0.188	178,299	Yes	203,584
CD-02.11-11P	0.322	0.290	0.188	0.188	278,330	Yes	203,584
CD-02.11-12E	0.322	0.277	0.188	0.188	165,348	No	203,584
CD-02.11-13T (BR/SE)	0.000	0.248	0.174	0.174	108,831	No	203,584
CD-02.11-13T (D/S)	0.000	0.540	0.392	0.392	817,343	Yes	203,584
CD-02.12-01P	0.562	0.530	0.392	0.392	1,265,484	No	203,584
CD-02.12-02E	0.562	0.522	0.392	0.392	970,099	No	203,584
CD-02.12-03P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-04V	0.562	0.508	0.420	0.420	489,477	No	203,584
CD-02.12-05P	0.562	0.538	0.392	0.392	1,833,467	Yes	203,584
CD-02.12-06E	0.562	0.682	0.392	0.392	2,156,376	Yes	203,584
CD-02.12-07P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-08E	0.562	0.522	0.392	0.392	970,099	No	203,584
CD-02.12-09P	0.562	0.535	0.392	0.392	1,577,748	No	203,584
CD-02.12-10E	0.562	0.522	0.392	0.392	970,099	No	203,584
CD-02.12-11P	0.562	0.535	0.392	0.392	1,577,748	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD: S/G BLWDN HX OUT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.247

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-02.11 SGBD HX3 to FWH HDR**											***Sorted By: Flow Order***
CD-02.11-03E	0.322	150.7	73.5	150.7	73.5	0.296	MT	186,592	171.3	296.0	9.2	186,592
CD-02.11-04P	0.322	68.7	87.0	68.7	87.0	0.295	MT	186,592	220.2	295.0	6.2	92,205
CD-02.11-05E	0.322	90.7	62.0	90.7	62.0	0.328	GW	92,205	231.3	328.0	51.9	92,205
CD-02.11-06P	0.322	78.8	81.0	78.8	81.0	0.307	GW	152,760	243.2	307.0	16.2	152,760
CD-02.11-07E	0.322	132.6	45.0	132.6	45.0	0.320	GW	152,760	189.4	320.0	27.3	152,760
CD-02.11-08P	0.322	89.6	82.0	89.6	82.0	0.301	GW	152,760	232.4	301.0	18.5	152,760
CD-02.11-10E	0.322	125.1	64.0	125.1	64.0	0.319	GW	137,201	196.9	319.0	34.8	137,201
CD-02.11-11P	0.322	84.6	94.0	84.6	94.0	0.313	GW	137,201	237.4	313.0	23.5	137,201
CD-02.11-13T (D/S)	0.000	42.0	42.0	42.0	42.0	0.552	GW	137,201	520.0	552.0	11.7	137,201
CD-02.12-05P	0.562	15.0	44.0	15.0	44.0	0.547	GW	92,205	547.0	547.0	8.6	92,205
CD-02.12-06E	0.562	25.3	74.0	25.3	74.0	0.696	GW	92,205	536.7	696.0	14.5	92,205

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 11:10:30AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.422

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.3 FWH 35 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-05.1B-09T (BR/SE)	12	2.541	1.628	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-09T (D/S)	12	2.286	1.465	377.3	12.287	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.1B-09T	12	1.452	0.945	377.3	6.134	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.3-01P	62	1.115	0.715	377.3	12.287	0.0	24.000	6.841	0.000	72.51	HBD
===>Grouped by Line:	***CD-05.4 FWH 35 OUT HDR***								***Sorted By: Average Wear Rate***		
CD-05.1C-10T (D/S)	12	2.856	1.830	377.3	18.304	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-03T (BR/SE)	10	2.788	1.787	377.3	18.329	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-03T (D/S)	10	2.592	1.661	377.3	11.447	0.0	30.000	6.841	0.000	72.51	HBD
CD-05.4-01E	4	2.577	1.651	377.3	18.304	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.1C-10T (BR/SE)	12	2.541	1.628	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-10T	12	2.277	1.459	377.3	12.208	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-02P	54	2.237	1.434	377.3	18.414	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-05P	60	1.546	0.991	377.3	11.334	0.0	30.000	6.841	0.000	72.51	HBD
CD-05.4-04P	62	1.393	0.893	377.3	18.304	0.0	24.000	6.841	0.000	72.51	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 11:10:30AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.422

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD-05.3 FWH 35 OUT HDR***									***Sorted By: Flow Order***	
CD-05.1B-09T	12	1.452	0.945	377.3	6.134	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.1B-09T (BR/SE)	12	2.541	1.628	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1B-09T (D/S)	12	2.286	1.465	377.3	12.287	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.3-01P	62	1.115	0.715	377.3	12.287	0.0	24.000	6.841	0.000	72.51	HBD
===>Grouped by Line:	***CD-05.4 FWH 35 OUT HDR***									***Sorted By: Flow Order***	
CD-05.1C-10T (BR/SE)	12	2.541	1.628	377.3	18.113	0.0	14.000	6.841	0.000	72.51	HBD
CD-05.1C-10T	12	2.277	1.459	377.3	12.208	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.1C-10T (D/S)	12	2.856	1.830	377.3	18.304	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-04P	62	1.393	0.893	377.3	18.304	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-01E	4	2.577	1.651	377.3	18.304	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-02P	54	2.237	1.434	377.3	18.414	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-03T (BR/SE)	10	2.788	1.787	377.3	18.329	0.0	24.000	6.841	0.000	72.51	HBD
CD-05.4-03T (D/S)	10	2.592	1.661	377.3	11.447	0.0	30.000	6.841	0.000	72.51	HBD
CD-05.4-05P	60	1.546	0.991	377.3	11.334	0.0	30.000	6.841	0.000	72.51	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 11:10:30AM

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.422

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.3 FWH 35 OUT HDR**					***Sorted By:Remaining Life***		
CD-05.1B-09T (BR/SE)	0.000	0.420	0.305	0.305	617,625	Yes	203,584
CD-05.1B-09T (D/S)	0.724	0.665	0.523	0.523	848,550	Yes	203,584
CD-05.1B-09T	0.724	0.643	0.523	0.523	1,111,236	Yes	203,584
CD-05.3-01P	0.724	0.667	0.523	0.523	1,767,418	Yes	203,584
===>Grouped by Line: **CD-05.4 FWH 35 OUT HDR**					***Sorted By:Remaining Life***		
CD-05.4-03T (D/S)	0.696	0.669	0.653	0.653	79,747	Yes	203,584
CD-05.1C-10T (BR/SE)	0.000	0.407	0.305	0.305	548,318	Yes	203,584
CD-05.1C-10T (D/S)	0.000	0.660	0.523	0.523	659,252	Yes	203,584
CD-05.4-03T (BR/SE)	0.696	0.672	0.523	0.523	730,865	Yes	203,584
CD-05.4-01E	0.688	0.673	0.523	0.523	796,621	Yes	203,584
CD-05.4-02P	0.722	0.670	0.523	0.523	899,864	No	203,584
CD-05.1C-10T	0.000	0.677	0.523	0.523	927,097	Yes	203,584
CD-05.4-05P	0.625	0.670	0.561	0.561	956,905	No	203,584
CD-05.4-04P	0.688	0.655	0.523	0.523	1,299,579	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.422

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD-05.3 FWH 35 OUT HDR**					***Sorted By:Flow Order***		
CD-05.1B-09T	0.724	0.643	0.523	0.523	1,111,236	Yes	203,584
CD-05.1B-09T (BR/SE)	0.000	0.420	0.305	0.305	617,625	Yes	203,584
CD-05.1B-09T (D/S)	0.724	0.665	0.523	0.523	848,550	Yes	203,584
CD-05.3-01P	0.724	0.667	0.523	0.523	1,767,418	Yes	203,584
===>Grouped by Line: **CD-05.4 FWH 35 OUT HDR**					***Sorted By:Flow Order***		
CD-05.1C-10T (BR/SE)	0.000	0.407	0.305	0.305	548,318	Yes	203,584
CD-05.1C-10T	0.000	0.677	0.523	0.523	927,097	Yes	203,584
CD-05.1C-10T (D/S)	0.000	0.660	0.523	0.523	659,252	Yes	203,584
CD-05.4-04P	0.688	0.655	0.523	0.523	1,299,579	No	203,584
CD-05.4-01E	0.688	0.673	0.523	0.523	796,621	Yes	203,584
CD-05.4-02P	0.722	0.670	0.523	0.523	899,864	No	203,584
CD-05.4-03T (BR/SE)	0.696	0.672	0.523	0.523	730,865	Yes	203,584
CD-05.4-03T (D/S)	0.696	0.669	0.653	0.653	79,747	Yes	203,584
CD-05.4-05P	0.625	0.670	0.561	0.561	956,905	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: CD:HTR 35 TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.422

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**CD-05.3 FWH 35 OUT HDR**										***Sorted By: Flow Order***	
CD-05.1B-09T	0.724	28.4	76.0	28.4	76.0	0.648	GW	153,469	695.6	648.0	5.4	153,469
CD-05.1B-09T (BR/SE)	0.000	49.8	47.0	49.8	47.0	0.429	GW	153,469	388.2	429.0	9.3	153,469
CD-05.1B-09T (D/S)	0.724	44.8	61.0	44.8	61.0	0.673	GW	153,469	679.2	673.0	8.3	153,469
CD-05.3-01P	0.724	21.8	56.0	21.8	56.0	0.671	GW	153,469	702.2	671.0	4.1	153,469
===>Grouped by Line:	**CD-05.4 FWH 35 OUT HDR**										***Sorted By: Flow Order***	
CD-05.1C-10T (BR/SE)	0.000	55.9	59.0	55.9	59.0	0.410	MT	186,592	382.1	410.0	3.2	186,592
CD-05.1C-10T	0.000	50.1	31.0	50.1	31.0	0.680	MT	186,592	637.9	680.0	2.8	186,592
CD-05.1C-10T (D/S)	0.000	62.8	29.0	62.8	29.0	0.664	MT	186,592	625.2	664.0	3.5	186,592
CD-05.4-01E	0.688	38.8	99.0	38.8	99.0	0.694	GW	92,205	649.2	694.0	21.1	92,205
CD-05.4-03T (BR/SE)	0.696	54.6	45.0	54.6	45.0	0.682	GW	153,469	641.4	682.0	10.2	153,469
CD-05.4-03T (D/S)	0.696	39.0	36.0	39.0	36.0	0.678	GW	153,469	645.2	678.0	9.5	92,205

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:43:15AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-BFPT #31 Drain to Condenser***									***Sorted By: Average Wear Rate***	
TEMP04	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	60.17	HBD
===>Grouped by Line:	***EX-BFPT #32 Drain to Condenser***									***Sorted By: Average Wear Rate***	
TEMP05	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	60.17	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:43:15AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-BFPT #31 Drain to Condenser***									***Sorted By: Flow Order***	
TEMP04	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	60.17	HBD
===>Grouped by Line:	***EX-BFPT #32 Drain to Condenser***									***Sorted By: Flow Order***	
TEMP05	31	0.285	0.302	101.7	0.037	87.3	48.000	7.248	0.000	60.17	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:43:15AM

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-BFPT #31 Drain to Condenser**					***Sorted By:Remaining Life***		
TEMP04	0.000	0.618	0.080	0.080	15,630,105	No	203,584
===>Grouped by Line: **EX-BFPT #32 Drain to Condenser**					***Sorted By:Remaining Life***		
TEMP05	0.000	0.618	0.080	0.080	15,630,105	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: BFPT DRN TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-BFPT #31 Drain to Condenser**					***Sorted By:Flow Order***		
TEMP04	0.000	0.618	0.080	0.080	15,630,105	No	203,584
===>Grouped by Line: **EX-BFPT #32 Drain to Condenser**					***Sorted By:Flow Order***		
TEMP05	0.000	0.618	0.080	0.080	15,630,105	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:43:25AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.948

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.16 HDR 35 to FWH 35A***								***Sorted By: Average Wear Rate***		
EX-02.16-05V	22	21.837	26.162	385.2	29.945	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-08E	2	21.716	25.395	385.2	35.427	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-09N	30	19.910	23.877	385.2	29.549	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-07P	54	0.089	0.091	385.2	30.292	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-03E	2	0.086	0.088	385.2	30.943	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-06E	4	0.085	0.087	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-01R (D/S)	7	0.070	0.078	385.2	29.715	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-02P	57	0.069	0.071	385.2	29.474	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-04P	52	0.058	0.059	385.2	30.232	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-01R	7	0.056	0.062	385.2	7.029	93.8	28.000	0.000	0.000	0.00	ARD
EX-02.19-01P	64	0.026	0.029	385.2	7.029	93.8	28.000	0.000	0.000	0.00	ARD
===>Grouped by Line:	***EX-02.17 HDR 35 to FWH 35B***								***Sorted By: Average Wear Rate***		
EX-02.17-02V	22	21.837	26.162	385.2	29.945	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-05E	2	21.830	25.532	385.2	35.888	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-06N	30	19.910	23.877	385.2	29.549	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-04P	54	0.089	0.091	385.2	30.276	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-03E	4	0.085	0.087	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-01P	64	0.030	0.034	385.2	30.483	93.8	18.000	0.000	0.000	0.00	ARD
===>Grouped by Line:	***EX-02.18 HDR 35 to FWH 35C***								***Sorted By: Average Wear Rate***		
EX-02.18-02V	22	21.837	26.162	385.2	29.945	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-05E	2	20.303	23.692	385.2	29.715	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-06N	30	19.910	23.877	385.2	29.549	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-03E	4	0.078	0.087	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-04P	54	0.073	0.082	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-01P	64	0.030	0.034	385.2	30.483	93.8	18.000	0.000	0.000	0.00	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:43:25AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.948

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.16 HDR 35 to FWH 35A***									***Sorted By: Flow Order***	
EX-02.19-01P	64	0.026	0.029	385.2	7.029	93.8	28.000	0.000	0.000	0.00	ARD
EX-02.16-01R	7	0.056	0.062	385.2	7.029	93.8	28.000	0.000	0.000	0.00	ARD
EX-02.16-01R (D/S)	7	0.070	0.078	385.2	29.715	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-02P	57	0.069	0.071	385.2	29.474	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-03E	2	0.086	0.088	385.2	30.943	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-04P	52	0.058	0.059	385.2	30.232	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-05V	22	21.837	26.162	385.2	29.945	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-06E	4	0.085	0.087	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-07P	54	0.089	0.091	385.2	30.292	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-08E	2	21.716	25.395	385.2	35.427	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.16-09N	30	19.910	23.877	385.2	29.549	93.8	18.000	0.000	0.000	0.00	ARD
===>Grouped by Line:	***EX-02.17 HDR 35 to FWH 35B***									***Sorted By: Flow Order***	
EX-02.17-01P	64	0.030	0.034	385.2	30.483	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-02V	22	21.837	26.162	385.2	29.945	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-03E	4	0.085	0.087	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-04P	54	0.089	0.091	385.2	30.276	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-05E	2	21.830	25.532	385.2	35.888	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.17-06N	30	19.910	23.877	385.2	29.549	93.8	18.000	0.000	0.000	0.00	ARD
===>Grouped by Line:	***EX-02.18 HDR 35 to FWH 35C***									***Sorted By: Flow Order***	
EX-02.18-01P	64	0.030	0.034	385.2	30.483	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-02V	22	21.837	26.162	385.2	29.945	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-03E	4	0.078	0.087	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-04P	54	0.073	0.082	385.2	30.250	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-05E	2	20.303	23.692	385.2	29.715	93.8	18.000	0.000	0.000	0.00	ARD
EX-02.18-06N	30	19.910	23.877	385.2	29.549	93.8	18.000	0.000	0.000	0.00	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:43:25AM

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.948

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.16 HDR 35 to FWH 35A**					***Sorted By:Remaining Life***		
EX-02.16-05V	0.312	-0.195	0.160	0.160	-134,330	No	203,584
EX-02.16-09N	0.293	-0.170	0.149	0.149	-131,798	No	203,584
EX-02.16-08E	0.924	0.694	0.149	0.149	187,907	Yes	164,791
EX-02.16-02P	0.284	0.283	0.149	0.149	16,686,754	No	82,559
EX-02.16-06E	0.000	0.374	0.149	0.149	22,568,638	No	82,559
EX-02.16-07P	0.380	0.403	0.149	0.149	24,384,976	No	82,559
EX-02.16-04P	0.346	0.345	0.149	0.149	29,260,402	No	82,559
EX-02.16-03E	0.455	0.454	0.149	0.149	30,321,504	No	82,559
EX-02.16-01R (D/S)	0.000	0.513	0.149	0.149	40,621,468	No	124,935
EX-02.19-01P	0.375	0.375	0.232	0.232	43,147,648	No	124,935
EX-02.16-01R	0.000	0.603	0.232	0.232	52,241,988	No	124,935
===>Grouped by Line: **EX-02.17 HDR 35 to FWH 35B**					***Sorted By:Remaining Life***		
EX-02.17-02V	0.312	-0.195	0.160	0.160	-134,330	No	203,584
EX-02.17-05E	0.968	0.172	0.149	0.149	7,725	Yes	164,791
EX-02.17-06N	0.293	0.501	0.149	0.149	129,225	Yes	203,584
EX-02.17-04P	0.378	0.377	0.149	0.149	21,924,896	No	82,559
EX-02.17-03E	0.375	0.374	0.149	0.149	22,568,638	No	82,559
EX-02.17-01P	0.375	0.375	0.149	0.149	58,329,924	No	124,935
===>Grouped by Line: **EX-02.18 HDR 35 to FWH 35C**					***Sorted By:Remaining Life***		
EX-02.18-02V	0.312	-0.195	0.160	0.160	-134,330	No	203,584
EX-02.18-06N	0.293	0.483	0.149	0.149	122,419	Yes	203,584
EX-02.18-05E	0.312	0.724	0.149	0.149	212,616	Yes	164,791
EX-02.18-04P	0.375	0.383	0.149	0.149	25,058,536	No	124,935
EX-02.18-03E	0.375	0.558	0.149	0.149	40,972,864	No	124,935
EX-02.18-01P	0.375	0.375	0.149	0.149	58,329,924	No	124,935

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.948

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.16 HDR 35 to FWH 35A**					***Sorted By:Flow Order***		
EX-02.19-01P	0.375	0.375	0.232	0.232	43,147,648	No	124,935
EX-02.16-01R	0.000	0.603	0.232	0.232	52,241,988	No	124,935
EX-02.16-01R (D/S)	0.000	0.513	0.149	0.149	40,621,468	No	124,935
EX-02.16-02P	0.284	0.283	0.149	0.149	16,686,754	No	82,559
EX-02.16-03E	0.455	0.454	0.149	0.149	30,321,504	No	82,559
EX-02.16-04P	0.346	0.345	0.149	0.149	29,260,402	No	82,559
EX-02.16-05V	0.312	-0.195	0.160	0.160	-134,330	No	203,584
EX-02.16-06E	0.000	0.374	0.149	0.149	22,568,638	No	82,559
EX-02.16-07P	0.380	0.403	0.149	0.149	24,384,976	No	82,559
EX-02.16-08E	0.924	0.694	0.149	0.149	187,907	Yes	164,791
EX-02.16-09N	0.293	-0.170	0.149	0.149	-131,798	No	203,584
===>Grouped by Line: **EX-02.17 HDR 35 to FWH 35B**					***Sorted By:Flow Order***		
EX-02.17-01P	0.375	0.375	0.149	0.149	58,329,924	No	124,935
EX-02.17-02V	0.312	-0.195	0.160	0.160	-134,330	No	203,584
EX-02.17-03E	0.375	0.374	0.149	0.149	22,568,638	No	82,559
EX-02.17-04P	0.378	0.377	0.149	0.149	21,924,896	No	82,559
EX-02.17-05E	0.968	0.172	0.149	0.149	7,725	Yes	164,791
EX-02.17-06N	0.293	0.501	0.149	0.149	129,225	Yes	203,584
===>Grouped by Line: **EX-02.18 HDR 35 to FWH 35C**					***Sorted By:Flow Order***		
EX-02.18-01P	0.375	0.375	0.149	0.149	58,329,924	No	124,935
EX-02.18-02V	0.312	-0.195	0.160	0.160	-134,330	No	203,584
EX-02.18-03E	0.375	0.558	0.149	0.149	40,972,864	No	124,935
EX-02.18-04P	0.375	0.383	0.149	0.149	25,058,536	No	124,935
EX-02.18-05E	0.312	0.724	0.149	0.149	212,616	Yes	164,791
EX-02.18-06N	0.293	0.483	0.149	0.149	122,419	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: ES: HDR TO 35 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.948

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-02.16 HDR 35 to FWH 35A**											***Sorted By: Flow Order***
EX-02.16-01R	0.000	110.8	284.0	0.0	0.0	0.603	MT	186,592	374.3	603.0	0.1	0
EX-02.16-01R (D/S)	0.000	131.5	126.0	0.0	0.0	0.513	MT	186,592	311.2	513.0	0.2	0
EX-02.16-02P	0.284	162.2	102.0	0.0	0.0	0.284	ER	121,025	284.0	284.0	0.6	0
EX-02.16-03E	0.455	202.3	274.0	0.0	0.0	0.455	ER	121,025	455.0	455.0	0.8	0
EX-02.16-06E	0.000	199.6	249.0	0.0	0.0	0.375	ER	121,025	375.0	375.0	0.8	0
EX-02.16-08E	0.924	359.3	165.0	359.3	165.0	0.743	MT	186,592	564.7	743.0	49.3	186,592
===>Grouped by Line:	**EX-02.17 HDR 35 to FWH 35B**											***Sorted By: Flow Order***
EX-02.17-03E	0.375	203.2	313.0	0.0	0.0	0.375	ER	121,025	375.0	375.0	0.8	0
EX-02.17-04P	0.378	152.7	178.0	0.0	0.0	0.378	ER	121,025	378.0	378.0	0.8	0
EX-02.17-05E	0.968	147.2	247.0	147.2	247.0	0.435	MT	107,911	820.8	435.0	263.5	107,911
EX-02.17-06N	0.293	185.0	130.0	185.0	130.0	0.779	GW	92,205	108.0	779.0	277.8	92,205
===>Grouped by Line:	**EX-02.18 HDR 35 to FWH 35C**											***Sorted By: Flow Order***
EX-02.18-03E	0.375	147.8	154.0	0.0	0.0	0.558	MT	186,592	374.1	558.0	0.2	0
EX-02.18-04P	0.375	152.2	129.0	0.0	0.0	0.383	MT	186,592	374.1	383.0	0.2	0
EX-02.18-05E	0.312	336.0	188.5	336.0	188.5	0.770	MT	186,592	-24.0	770.0	46.0	186,592
EX-02.18-06N	0.293	416.4	158.0	416.4	158.0	0.529	MT	186,592	-123.4	529.0	46.3	186,592

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:57:50AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.686

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5A HP EX HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
EX-01.5A-11V	22	9.537	4.346	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-16L (D/S)	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-07L (D/S)	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-07L	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-16L	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-09E	102	0.008	0.005	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-03E	102	0.008	0.005	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-14E	4	0.006	0.004	441.8	38.106	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-15N	30	0.006	0.004	441.8	35.935	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-06P	54	0.005	0.004	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-13E	2	0.005	0.004	441.8	37.496	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-05E	4	0.005	0.004	441.8	37.401	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-01R (D/S)	7	0.005	0.003	441.8	35.727	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-02P	57	0.004	0.003	441.8	36.793	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-17P	52	0.004	0.002	441.8	36.275	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-10P	52	0.003	0.002	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-01R	7	0.003	0.002	441.8	15.740	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.5A-04P	52	0.003	0.002	441.8	53.650	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-12P	58	0.002	0.002	441.8	37.331	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-08P	62	0.002	0.001	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.7-01P	63	0.001	0.001	441.8	15.740	93.7	18.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
EX-01.5B-09V	22	9.537	4.346	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-04L (D/S)	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5B-14L (D/S)	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-04L	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5B-14L	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-12E	4	0.006	0.004	441.8	39.151	93.7	12.750	6.653	0.000	175.36	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
EX-01.5B-13N	30	0.006	0.004	441.8	35.935	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-08P	54	0.005	0.004	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-02E	2	0.005	0.004	441.8	38.209	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-11E	2	0.005	0.004	441.8	37.854	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-07E	4	0.005	0.004	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-06E	1	0.004	0.003	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-15P	52	0.004	0.002	441.8	36.954	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-03P	52	0.004	0.002	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-10P	58	0.002	0.002	441.8	37.153	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-05P	62	0.002	0.001	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-01P	64	0.002	0.001	441.8	53.069	93.7	12.750	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.5C HP EX HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
EX-01.5C-09V	22	9.537	4.346	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5C-14L (D/S)	12	0.009	0.006	441.8	36.778	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5C-14L	12	0.009	0.006	441.8	36.778	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-04L	12	0.009	0.006	441.8	36.659	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-04L (D/S)	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-12E	4	0.006	0.004	441.8	38.321	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-13N	30	0.006	0.004	441.8	35.935	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-08P	54	0.005	0.004	441.8	36.913	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-11E	2	0.005	0.004	441.8	37.800	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-02E	2	0.005	0.004	441.8	37.455	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-07E	4	0.005	0.004	441.8	37.360	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-06E	1	0.005	0.003	441.8	37.564	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-03P	52	0.004	0.002	441.8	36.831	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-15P	52	0.004	0.002	441.8	36.301	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-10P	58	0.002	0.002	441.8	36.939	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-01P	64	0.002	0.001	441.8	54.131	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-05P	62	0.002	0.001	441.8	36.778	93.7	12.750	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:57:50AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.686

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5A HP EX HDR to FWH 36A***									***Sorted By: Flow Order***	
EX-01.7-01P	63	0.001	0.001	441.8	15.740	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.5A-01R	7	0.003	0.002	441.8	15.740	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.5A-01R (D/S)	7	0.005	0.003	441.8	35.727	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-02P	57	0.004	0.003	441.8	36.793	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-03E	102	0.008	0.005	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-04P	52	0.003	0.002	441.8	53.650	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-05E	4	0.005	0.004	441.8	37.401	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-06P	54	0.005	0.004	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-16L	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-16L (D/S)	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-07L	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-07L (D/S)	12	0.009	0.006	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-08P	62	0.002	0.001	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-09E	102	0.008	0.005	441.8	36.805	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-10P	52	0.003	0.002	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-11V	22	9.537	4.346	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-12P	58	0.002	0.002	441.8	37.331	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-13E	2	0.005	0.004	441.8	37.496	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-17P	52	0.004	0.002	441.8	36.275	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-14E	4	0.006	0.004	441.8	38.106	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5A-15N	30	0.006	0.004	441.8	35.935	93.7	12.750	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***									***Sorted By: Flow Order***	
EX-01.5B-01P	64	0.002	0.001	441.8	53.069	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-02E	2	0.005	0.004	441.8	38.209	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-03P	52	0.004	0.002	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5B-14L	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5B-14L (D/S)	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.5B HP EX HDR to FWH 36B***									***Sorted By: Flow Order***	
EX-01.5B-04L	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-04L (D/S)	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-05P	62	0.002	0.001	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-06E	1	0.004	0.003	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-07E	4	0.005	0.004	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-08P	54	0.005	0.004	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-09V	22	9.537	4.346	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-10P	58	0.002	0.002	441.8	37.153	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-11E	2	0.005	0.004	441.8	37.854	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-15P	52	0.004	0.002	441.8	36.954	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-12E	4	0.006	0.004	441.8	39.151	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5B-13N	30	0.006	0.004	441.8	35.935	93.7	12.750	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.5C HP EX HDR to FWH 36C***									***Sorted By: Flow Order***	
EX-01.5C-01P	64	0.002	0.001	441.8	54.131	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-02E	2	0.005	0.004	441.8	37.455	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-03P	52	0.004	0.002	441.8	36.831	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5C-14L	12	0.009	0.006	441.8	36.778	93.7	12.750	6.653	0.000	175.36	HBD
EX.01.5C-14L (D/S)	12	0.009	0.006	441.8	36.778	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-04L	12	0.009	0.006	441.8	36.659	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-04L (D/S)	12	0.009	0.006	441.8	36.210	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-05P	62	0.002	0.001	441.8	36.778	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-06E	1	0.005	0.003	441.8	37.564	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-07E	4	0.005	0.004	441.8	37.360	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-08P	54	0.005	0.004	441.8	36.913	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-09V	22	9.537	4.346	441.8	36.567	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-10P	58	0.002	0.002	441.8	36.939	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-11E	2	0.005	0.004	441.8	37.800	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-15P	52	0.004	0.002	441.8	36.301	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-12E	4	0.006	0.004	441.8	38.321	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.5C-13N	30	0.006	0.004	441.8	35.935	93.7	12.750	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:57:50AM

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.686

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5A HP EX HDR to FWH 36A**					***Sorted By:Remaining Life***		
EX-01.5A-11V	0.330	0.108	0.202	0.202	-123,687	No	203,584
EX-01.5A-07L (D/S)	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-08P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-07L	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-16L (D/S)	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-16L	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-05E	0.419	0.419	0.195	0.195	100,000,000	No	111,379
EX-01.5A-06P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.7-01P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-01R	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-10P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5A-12P	0.387	0.387	0.195	0.195	100,000,000	No	111,379
EX-01.5A-13E	0.426	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.5A-17P	0.335	0.335	0.195	0.195	100,000,000	No	111,379
EX-01.5A-14E	0.470	0.470	0.195	0.195	100,000,000	No	111,379
EX-01.5A-15N	0.309	1.170	0.195	0.195	100,000,000	No	111,379
EX-01.5A-04P	0.411	0.411	0.195	0.195	100,000,000	No	111,379
EX-01.5A-02P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5A-03E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-09E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-01R (D/S)	0.293	0.293	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Remaining Life***		
EX-01.5B-09V	0.330	0.108	0.202	0.202	-123,687	No	203,584
EX-01.5B-01P	0.363	0.363	0.195	0.195	100,000,000	No	111,379
EX-01.5B-02E	0.477	0.477	0.195	0.195	100,000,000	No	111,379
EX-01.5B-03P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX.01.5B-14L	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX.01.5B-14L (D/S)	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-04L	0.330	0.330	0.195	0.195	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Remaining Life***		
EX-01.5B-04L (D/S)	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-07E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-08P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-10P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5B-11E	0.452	0.452	0.195	0.195	100,000,000	No	111,379
EX-01.5B-15P	0.386	0.386	0.195	0.195	100,000,000	No	111,379
EX-01.5B-12E	0.543	0.543	0.195	0.195	100,000,000	No	111,379
EX-01.5B-13N	0.309	0.377	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.5C HP EX HDR to FWH 36C**					***Sorted By:Remaining Life***		
EX-01.5C-09V	0.330	0.108	0.202	0.202	-123,687	No	203,584
EX-01.5C-01P	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.5C-02E	0.423	0.423	0.195	0.195	100,000,000	No	111,379
EX-01.5C-03P	0.377	0.377	0.195	0.195	100,000,000	No	111,379
EX.01.5C-14L	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX.01.5C-14L (D/S)	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX-01.5C-04L	0.364	0.364	0.195	0.195	100,000,000	No	111,379
EX-01.5C-04L (D/S)	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5C-05P	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX-01.5C-06E	0.431	0.431	0.195	0.195	100,000,000	No	111,379
EX-01.5C-07E	0.416	0.416	0.195	0.195	100,000,000	No	111,379
EX-01.5C-08P	0.356	0.356	0.195	0.195	100,000,000	No	111,379
EX-01.5C-10P	0.358	0.358	0.195	0.195	100,000,000	No	111,379
EX-01.5C-11E	0.448	0.448	0.195	0.195	100,000,000	No	111,379
EX-01.5C-15P	0.337	0.337	0.195	0.195	100,000,000	No	111,379
EX-01.5C-12E	0.485	0.485	0.195	0.195	100,000,000	No	111,379
EX-01.5C-13N	0.309	1.166	0.195	0.195	100,000,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.686

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5A HP EX HDR to FWH 36A**					***Sorted By:Flow Order***		
EX-01.7-01P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-01R	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.5A-01R (D/S)	0.293	0.293	0.195	0.195	100,000,000	No	111,379
EX-01.5A-02P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5A-03E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-04P	0.411	0.411	0.195	0.195	100,000,000	No	111,379
EX-01.5A-05E	0.419	0.419	0.195	0.195	100,000,000	No	111,379
EX-01.5A-06P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-16L	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-16L (D/S)	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-07L	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-07L (D/S)	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-08P	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-09E	0.000	0.375	0.195	0.195	100,000,000	No	111,379
EX-01.5A-10P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5A-11V	0.330	0.108	0.202	0.202	-123,687	No	203,584
EX-01.5A-12P	0.387	0.387	0.195	0.195	100,000,000	No	111,379
EX-01.5A-13E	0.426	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.5A-17P	0.335	0.335	0.195	0.195	100,000,000	No	111,379
EX-01.5A-14E	0.470	0.470	0.195	0.195	100,000,000	No	111,379
EX-01.5A-15N	0.309	1.170	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Flow Order***		
EX-01.5B-01P	0.363	0.363	0.195	0.195	100,000,000	No	111,379
EX-01.5B-02E	0.477	0.477	0.195	0.195	100,000,000	No	111,379
EX-01.5B-03P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX.01.5B-14L	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX.01.5B-14L (D/S)	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-04L	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-04L (D/S)	0.000	0.330	0.195	0.195	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.5B HP EX HDR to FWH 36B**					***Sorted By:Flow Order***		
EX-01.5B-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-07E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-08P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5B-09V	0.330	0.108	0.202	0.202	-123,687	No	203,584
EX-01.5B-10P	0.374	0.374	0.195	0.195	100,000,000	No	111,379
EX-01.5B-11E	0.452	0.452	0.195	0.195	100,000,000	No	111,379
EX-01.5B-15P	0.386	0.386	0.195	0.195	100,000,000	No	111,379
EX-01.5B-12E	0.543	0.543	0.195	0.195	100,000,000	No	111,379
EX-01.5B-13N	0.309	0.377	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.5C HP EX HDR to FWH 36C**					***Sorted By:Flow Order***		
EX-01.5C-01P	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.5C-02E	0.423	0.423	0.195	0.195	100,000,000	No	111,379
EX-01.5C-03P	0.377	0.377	0.195	0.195	100,000,000	No	111,379
EX.01.5C-14L	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX.01.5C-14L (D/S)	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX-01.5C-04L	0.364	0.364	0.195	0.195	100,000,000	No	111,379
EX-01.5C-04L (D/S)	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.5C-05P	0.373	0.373	0.195	0.195	100,000,000	No	111,379
EX-01.5C-06E	0.431	0.431	0.195	0.195	100,000,000	No	111,379
EX-01.5C-07E	0.416	0.416	0.195	0.195	100,000,000	No	111,379
EX-01.5C-08P	0.356	0.356	0.195	0.195	100,000,000	No	111,379
EX-01.5C-09V	0.330	0.108	0.202	0.202	-123,687	No	203,584
EX-01.5C-10P	0.358	0.358	0.195	0.195	100,000,000	No	111,379
EX-01.5C-11E	0.448	0.448	0.195	0.195	100,000,000	No	111,379
EX-01.5C-15P	0.337	0.337	0.195	0.195	100,000,000	No	111,379
EX-01.5C-12E	0.485	0.485	0.195	0.195	100,000,000	No	111,379
EX-01.5C-13N	0.309	1.166	0.195	0.195	100,000,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: ES: HDR TO 36 HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.686

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-01.5A HP EX HDR to FWH 36A**										***Sorted By: Flow Order***	
EX-01.5A-02P	0.374	87.7	57.0	0.0	0.0	0.374	ER	92,205	374.0	374.0	0.1	0
EX-01.5A-12P	0.387	51.1	166.0	0.0	0.0	0.387	ER	92,205	387.0	387.0	0.0	0
EX-01.5A-13E	0.426	108.7	106.0	0.0	0.0	0.426	ER	92,205	426.0	426.0	0.1	0
EX-01.5A-17P	0.335	72.5	90.0	0.0	0.0	0.335	ER	92,205	335.0	335.0	0.0	0
EX-01.5A-14E	0.470	118.0	170.0	0.0	0.0	0.470	ER	92,205	470.0	470.0	0.1	0
===>Grouped by Line:	**EX-01.5B HP EX HDR to FWH 36B**										***Sorted By: Flow Order***	
EX-01.5B-10P	0.374	50.9	123.0	0.0	0.0	0.374	ER	92,205	374.0	374.0	0.0	0
EX-01.5B-11E	0.452	109.3	107.0	0.0	0.0	0.452	ER	92,205	452.0	452.0	0.1	0
EX-01.5B-15P	0.386	73.2	127.0	0.0	0.0	0.386	ER	92,205	386.0	386.0	0.0	0
===>Grouped by Line:	**EX-01.5C HP EX HDR to FWH 36C**										***Sorted By: Flow Order***	
EX-01.5C-02E	0.423	108.7	53.0	0.0	0.0	0.423	ER	92,205	423.0	423.0	0.1	0
EX.01.5C-14L	0.373	191.6	67.0	0.0	0.0	0.373	ER	92,205	373.0	373.0	0.1	0
EX-01.5C-04L	0.364	191.2	109.0	0.0	0.0	0.364	ER	92,205	364.0	364.0	0.1	0
EX-01.5C-05P	0.373	35.1	84.0	0.0	0.0	0.373	ER	92,205	373.0	373.0	0.0	0
EX-01.5C-06E	0.431	93.2	146.0	0.0	0.0	0.431	ER	92,205	431.0	431.0	0.1	0
EX-01.5C-07E	0.416	108.5	104.0	0.0	0.0	0.416	ER	92,205	416.0	416.0	0.1	0
EX-01.5C-08P	0.356	110.7	101.0	0.0	0.0	0.356	ER	92,205	356.0	356.0	0.1	0
EX-01.5C-10P	0.358	50.8	70.0	0.0	0.0	0.358	ER	92,205	358.0	358.0	0.0	0
EX-01.5C-11E	0.448	109.2	107.0	0.0	0.0	0.448	ER	92,205	448.0	448.0	0.1	0
EX-01.5C-15P	0.337	72.5	74.0	0.0	0.0	0.337	ER	92,205	337.0	337.0	0.0	0

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:58:17AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.751

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.1 HP EXT to FWH 36 HDR***								***Sorted By: Average Wear Rate***		
EX-01.1-01N	31	17.803	8.092	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-06E	2	0.008	0.005	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-03P	54	0.007	0.005	441.8	55.741	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-04E	4	0.007	0.005	441.8	57.672	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-02E	4	0.007	0.005	441.8	57.590	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-05P	54	0.006	0.004	441.8	75.097	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-07P	52	0.005	0.003	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-08R	18	0.005	0.003	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-08R (D/S)	18	0.003	0.002	441.8	26.318	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.6-01P	68	0.003	0.002	441.8	25.914	93.7	18.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.2 HP EXT to FWH 36 HDR***								***Sorted By: Average Wear Rate***		
EX-01.2-01N	31	17.803	8.092	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-02E	4	0.008	0.005	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-03P	54	0.007	0.005	441.8	56.380	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-06E	4	0.007	0.005	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-04E	3	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-08E	1	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-07P	54	0.006	0.004	441.8	74.401	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-05P	53	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-09P	51	0.003	0.002	441.8	74.893	93.7	12.750	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***								***Sorted By: Average Wear Rate***		
EX-01.3-07V	25	13.644	6.198	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-08V	25	13.644	6.198	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-06V	22	12.509	5.682	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-23T	14	0.014	0.010	441.8	56.075	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.2-10L (D/S)	12	0.012	0.008	441.8	55.283	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-23T (D/S)	14	0.012	0.008	441.8	36.716	93.7	18.000	6.653	0.000	175.36	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***								***Sorted By: Average Wear Rate***		
EX-01.2-10L	12	0.008	0.006	441.8	26.618	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.2-10L (BR/SE)	12	0.008	0.006	441.8	56.495	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.3-19E	4	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-21E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-20P	54	0.007	0.005	441.8	55.224	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-13E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-02E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-15E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-09E	4	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-17T	15	0.006	0.004	441.8	55.547	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-04T	15	0.006	0.004	441.8	55.094	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-05P	65	0.005	0.004	441.8	55.038	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-10P	54	0.005	0.003	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-17T (D/S)	15	0.005	0.003	441.8	55.547	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-04T (D/S)	15	0.005	0.003	441.8	55.094	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-22P	52	0.005	0.003	441.8	55.924	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-16P	52	0.005	0.003	441.8	54.987	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-03P	52	0.005	0.003	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-14P	52	0.005	0.003	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-23T (BR/SE)	14	0.005	0.003	441.8	39.487	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.3-11T	15	0.004	0.003	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-12P	65	0.004	0.003	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-11T (D/S)	15	0.003	0.002	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-01P	62	0.002	0.002	441.8	54.933	93.7	18.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.4 HP EXT FWH 36 HEADER***								***Sorted By: Average Wear Rate***		
EX-01.4-02T	14	0.011	0.008	441.8	35.801	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.4-02T (D/S)	14	0.009	0.006	441.8	15.745	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.4-02T (BR/SE)	14	0.004	0.003	441.8	36.644	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.4-01P	63	0.002	0.001	441.8	36.616	93.7	18.000	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:58:17AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.751

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.1 HP EXT to FWH 36 HDR***									***Sorted By: Flow Order***	
EX-01.1-01N	31	17.803	8.092	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-02E	4	0.007	0.005	441.8	57.590	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-03P	54	0.007	0.005	441.8	55.741	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-04E	4	0.007	0.005	441.8	57.672	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-05P	54	0.006	0.004	441.8	75.097	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-06E	2	0.008	0.005	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-07P	52	0.005	0.003	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-08R	18	0.005	0.003	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.1-08R (D/S)	18	0.003	0.002	441.8	26.318	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.6-01P	68	0.003	0.002	441.8	25.914	93.7	18.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.2 HP EXT to FWH 36 HDR***									***Sorted By: Flow Order***	
EX-01.2-01N	31	17.803	8.092	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-02E	4	0.008	0.005	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-03P	54	0.007	0.005	441.8	56.380	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-04E	3	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-05P	53	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-06E	4	0.007	0.005	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-07P	54	0.006	0.004	441.8	74.401	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-08E	1	0.006	0.004	441.8	55.320	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-09P	51	0.003	0.002	441.8	74.893	93.7	12.750	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***									***Sorted By: Flow Order***	
EX-01.2-10L	12	0.008	0.006	441.8	26.618	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.2-10L (BR/SE)	12	0.008	0.006	441.8	56.495	93.7	12.750	6.653	0.000	175.36	HBD
EX-01.2-10L (D/S)	12	0.012	0.008	441.8	55.283	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-01P	62	0.002	0.002	441.8	54.933	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-02E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-03P	52	0.005	0.003	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-01.3 HP EXT FWH 36 HEADER***									***Sorted By: Flow Order***	
EX-01.3-04T	15	0.006	0.004	441.8	55.094	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-04T (D/S)	15	0.005	0.003	441.8	55.094	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-05P	65	0.005	0.004	441.8	55.038	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-06V	22	12.509	5.682	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-07V	25	13.644	6.198	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-08V	25	13.644	6.198	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-09E	4	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-10P	54	0.005	0.003	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-11T	15	0.004	0.003	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-11T (D/S)	15	0.003	0.002	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-12P	65	0.004	0.003	441.8	83.334	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-13E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-14P	52	0.005	0.003	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-15E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-16P	52	0.005	0.003	441.8	54.987	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-17T	15	0.006	0.004	441.8	55.547	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-17T (D/S)	15	0.005	0.003	441.8	55.547	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-19E	4	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-20P	54	0.007	0.005	441.8	55.224	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-21E	2	0.007	0.005	441.8	54.693	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-22P	52	0.005	0.003	441.8	55.924	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-23T	14	0.014	0.010	441.8	56.075	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-23T (D/S)	14	0.012	0.008	441.8	36.716	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.3-23T (BR/SE)	14	0.005	0.003	441.8	39.487	93.7	12.750	6.653	0.000	175.36	HBD
===>Grouped by Line:	***EX-01.4 HP EXT FWH 36 HEADER***									***Sorted By: Flow Order***	
EX-01.4-01P	63	0.002	0.001	441.8	36.616	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.4-02T	14	0.011	0.008	441.8	35.801	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.4-02T (D/S)	14	0.009	0.006	441.8	15.745	93.7	18.000	6.653	0.000	175.36	HBD
EX-01.4-02T (BR/SE)	14	0.004	0.003	441.8	36.644	93.7	12.750	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:58:17AM

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.751

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.1 HP EXT to FWH 36 HDR**					***Sorted By:Remaining Life***		
EX-01.1-01N	0.330	0.350	0.189	0.189	174,211	No	203,584
EX-01.1-08R (D/S)	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.6-01P	0.378	0.378	0.275	0.275	100,000,000	No	111,379
EX-01.1-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-08R	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-04E	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.1-05P	0.368	0.368	0.195	0.195	100,000,000	No	111,379
EX-01.1-02E	0.446	0.446	0.195	0.195	100,000,000	No	111,379
EX-01.1-03P	0.352	0.352	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.2 HP EXT to FWH 36 HDR**					***Sorted By:Remaining Life***		
EX-01.2-01N	0.330	-0.084	0.189	0.189	-162,862	No	203,584
EX-01.2-08E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-04E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-03P	0.385	0.385	0.195	0.195	100,000,000	No	111,379
EX-01.2-02E	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-09P	0.357	0.357	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Remaining Life***		
EX-01.3-07V	0.438	0.121	0.286	0.286	-142,225	No	203,584
EX-01.3-08V	0.438	0.121	0.286	0.286	-142,225	No	203,584
EX-01.3-06V	0.438	0.147	0.286	0.286	-133,910	No	203,584
EX-01.2-10L	0.482	0.548	0.275	0.275	100,000,000	No	111,379
EX-01.2-10L (BR/SE)	0.391	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.2-10L (D/S)	0.482	0.552	0.275	0.275	100,000,000	No	111,379
EX-01.3-01P	0.456	0.456	0.275	0.275	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Remaining Life***		
EX-01.3-02E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-03P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T	0.468	0.468	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T (D/S)	0.468	0.468	0.275	0.275	100,000,000	No	111,379
EX-01.3-05P	0.464	0.464	0.275	0.275	100,000,000	No	111,379
EX-01.3-09E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-10P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T (D/S)	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-12P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-13E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-14P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-15E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-16P	0.460	0.460	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T (D/S)	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-19E	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-20P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-21E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-22P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T (D/S)	0.539	0.539	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T (BR/SE)	0.566	0.566	0.195	0.195	100,000,000	No	111,379
EX-01.3-23T	0.539	0.539	0.275	0.275	235,210,736	No	111,379
===>Grouped by Line: **EX-01.4 HP EXT FWH 36 HEADER**					***Sorted By:Remaining Life***		
EX-01.4-02T (BR/SE)	0.363	0.363	0.195	0.195	100,000,000	No	111,379
EX-01.4-01P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T	0.439	0.439	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T (D/S)	0.439	0.439	0.275	0.275	100,000,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.751

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.1 HP EXT to FWH 36 HDR**					***Sorted By:Flow Order***		
EX-01.1-01N	0.330	0.350	0.189	0.189	174,211	No	203,584
EX-01.1-02E	0.446	0.446	0.195	0.195	100,000,000	No	111,379
EX-01.1-03P	0.352	0.352	0.195	0.195	100,000,000	No	111,379
EX-01.1-04E	0.450	0.450	0.195	0.195	100,000,000	No	111,379
EX-01.1-05P	0.368	0.368	0.195	0.195	100,000,000	No	111,379
EX-01.1-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-08R	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.1-08R (D/S)	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.6-01P	0.378	0.378	0.275	0.275	100,000,000	No	111,379
===>Grouped by Line: **EX-01.2 HP EXT to FWH 36 HDR**					***Sorted By:Flow Order***		
EX-01.2-01N	0.330	-0.084	0.189	0.189	-162,862	No	203,584
EX-01.2-02E	0.000	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-03P	0.385	0.385	0.195	0.195	100,000,000	No	111,379
EX-01.2-04E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-05P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-06E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-07P	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-08E	0.330	0.330	0.195	0.195	100,000,000	No	111,379
EX-01.2-09P	0.357	0.357	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Flow Order***		
EX-01.2-10L	0.482	0.548	0.275	0.275	100,000,000	No	111,379
EX-01.2-10L (BR/SE)	0.391	0.426	0.195	0.195	100,000,000	No	111,379
EX-01.2-10L (D/S)	0.482	0.552	0.275	0.275	100,000,000	No	111,379
EX-01.3-01P	0.456	0.456	0.275	0.275	100,000,000	No	111,379
EX-01.3-02E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-03P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-04T	0.468	0.468	0.275	0.275	100,000,000	No	111,379

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-01.3 HP EXT FWH 36 HEADER**					***Sorted By:Flow Order***		
EX-01.3-04T (D/S)	0.468	0.468	0.275	0.275	100,000,000	No	111,379
EX-01.3-05P	0.464	0.464	0.275	0.275	100,000,000	No	111,379
EX-01.3-06V	0.438	0.147	0.286	0.286	-133,910	No	203,584
EX-01.3-07V	0.438	0.121	0.286	0.286	-142,225	No	203,584
EX-01.3-08V	0.438	0.121	0.286	0.286	-142,225	No	203,584
EX-01.3-09E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-10P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-11T (D/S)	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-12P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-13E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-14P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-15E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-16P	0.460	0.460	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-17T (D/S)	0.501	0.501	0.275	0.275	100,000,000	No	111,379
EX-01.3-19E	0.000	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-20P	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-21E	0.438	0.438	0.275	0.275	100,000,000	No	111,379
EX-01.3-22P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T	0.539	0.539	0.275	0.275	235,210,736	No	111,379
EX-01.3-23T (D/S)	0.539	0.539	0.275	0.275	100,000,000	No	111,379
EX-01.3-23T (BR/SE)	0.566	0.566	0.195	0.195	100,000,000	No	111,379
===>Grouped by Line: **EX-01.4 HP EXT FWH 36 HEADER**					***Sorted By:Flow Order***		
EX-01.4-01P	0.528	0.528	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T	0.439	0.439	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T (D/S)	0.439	0.439	0.275	0.275	100,000,000	No	111,379
EX-01.4-02T (BR/SE)	0.363	0.363	0.195	0.195	100,000,000	No	111,379

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: ES: HTR 36 HEADER
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.751

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-01.1 HP EXT to FWH 36 HDR**										***Sorted By: Flow Order***	
EX-01.1-02E	0.446	148.1	133.0	0.0	0.0	0.446	ER	92,205	446.0	446.0	0.1	0
EX-01.1-04E	0.450	148.3	127.0	0.0	0.0	0.450	ER	92,205	450.0	450.0	0.1	0
EX-01.1-05P	0.368	118.4	37.0	0.0	0.0	0.368	ER	92,205	368.0	368.0	0.1	0
EX-01.1-08R	0.000	96.9	161.0	0.0	0.0	0.330	ER	92,205	330.0	330.0	0.1	0
EX-01.1-08R (D/S)	0.000	69.8	218.0	0.0	0.0	0.438	ER	92,205	438.0	438.0	0.0	0
EX-01.6-01P	0.378	52.5	99.0	0.0	0.0	0.378	ER	92,205	378.0	378.0	0.0	0
===>Grouped by Line:	**EX-01.2 HP EXT to FWH 36 HDR**										***Sorted By: Flow Order***	
EX-01.2-02E	0.000	155.7	285.0	0.0	0.0	0.330	ER	92,205	330.0	330.0	0.1	0
EX-01.2-04E	0.330	131.5	80.0	0.0	0.0	0.330	ER	92,205	330.0	330.0	0.1	0
===>Grouped by Line:	**EX-01.3 HP EXT FWH 36 HEADER**										***Sorted By: Flow Order***	
EX-01.2-10L	0.482	174.2	132.0	0.0	0.0	0.548	MT	92,205	482.0	548.0	0.1	0
EX-01.2-10L (BR/SE)	0.391	173.1	226.0	0.0	0.0	0.426	MT	92,205	391.0	426.0	0.1	0
EX-01.2-10L (D/S)	0.482	248.3	202.0	0.0	0.0	0.552	MT	92,205	482.0	552.0	0.2	0
EX-01.3-01P	0.456	45.3	152.0	0.0	0.0	0.456	ER	92,205	456.0	456.0	0.0	0
EX-01.3-04T	0.468	113.4	98.0	0.0	0.0	0.468	ER	92,205	468.0	468.0	0.1	0
EX-01.3-05P	0.464	111.8	94.0	0.0	0.0	0.464	ER	92,205	464.0	464.0	0.1	0
EX-01.3-17T	0.501	113.9	169.0	0.0	0.0	0.501	ER	92,205	501.0	501.0	0.1	0
EX-01.3-17T (D/S)	0.501	100.3	156.0	0.0	0.0	0.501	ER	92,205	501.0	501.0	0.1	0
EX-01.3-19E	0.000	149.2	277.0	0.0	0.0	0.438	ER	92,205	438.0	438.0	0.1	0
===>Grouped by Line:	**EX-01.4 HP EXT FWH 36 HEADER**										***Sorted By: Flow Order***	
EX-01.4-02T	0.439	235.0	235.0	0.0	0.0	0.439	ER	92,205	439.0	439.0	0.1	0
EX-01.4-02T (BR/SE)	0.363	89.4	82.0	0.0	0.0	0.363	ER	92,205	363.0	363.0	0.1	0

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 9:58:33AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.1A LP EXT 19 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.1A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.1B LP EXT 19 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.1B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.1C LP EXT 19 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.1C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.2A LP EXT 17 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.2A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.2B LP EXT 17 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.2B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.2C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.2C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.3A LP EXT 20 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.3A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-04E	1	3.984	3.508	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.3B LP EXT 20 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.3B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.3C LP EXT 20 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.3C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.4A LP EXT 18 to FWH 31A***								***Sorted By: Average Wear Rate***		
EX-06.4A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.4B LP EXT 18 to FWH 31B***								***Sorted By: Average Wear Rate***		
EX-06.4B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.4C LP EXT 18 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.4C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.4C LP EXT 18 to FWH 31C***								***Sorted By: Average Wear Rate***		
EX-06.4C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4C-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4C-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	33.20	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:58:33AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.1A LP EXT 19 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.1A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.1B LP EXT 19 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.1B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.1C LP EXT 19 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.1C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.1C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.2A LP EXT 17 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.2A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2A-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2A-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.2B LP EXT 17 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.2B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2B-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2B-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.2C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.2C LP EXT 17 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.2C-03E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.2C-04N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.3A LP EXT 20 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.3A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-04E	1	3.984	3.508	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.3B LP EXT 20 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.3B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.3C LP EXT 20 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.3C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-02E	4	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-03P	54	4.840	4.265	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.3C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.4A LP EXT 18 to FWH 31A***									***Sorted By: Flow Order***	
EX-06.4A-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4A-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.4B LP EXT 18 to FWH 31B***									***Sorted By: Flow Order***	
EX-06.4B-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4B-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD
===>Grouped by Line:	***EX-06.4C LP EXT 18 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.4C-01N	31	7.830	6.949	168.3	1.201	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4C-02E	3	4.225	3.720	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-06.4C LP EXT 18 to FWH 31C***									***Sorted By: Flow Order***	
EX-06.4C-03P	53	1.473	1.083	168.3	19.532	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4C-04E	2	4.650	4.095	168.3	1.121	77.1	26.000	7.112	0.000	33.20	HBD
EX-06.4C-05N	30	5.176	4.582	168.3	1.177	77.1	26.000	7.112	0.000	33.20	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 9:58:33AM

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-06.1A LP EXT 19 to FWH 31A**					***Sorted By:Remaining Life***		
EX-06.1A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.1B LP EXT 19 to FWH 31B**					***Sorted By:Remaining Life***		
EX-06.1B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.1C LP EXT 19 to FWH 31C**					***Sorted By:Remaining Life***		
EX-06.1C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2A LP EXT 17 to FWH 31A**					***Sorted By:Remaining Life***		
EX-06.2A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2B LP EXT 17 to FWH 31B**					***Sorted By:Remaining Life***		
EX-06.2B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2C LP EXT 17 to FWH 31C**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-06.2C LP EXT 17 to FWH 31C**				***Sorted By:Remaining Life***		
EX-06.2C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3A LP EXT 20 to FWH 31A**				***Sorted By:Remaining Life***		
EX-06.3A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3A-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.3A-04E	0.313	0.220	0.043	0.043	442,369	No	203,584
===>Grouped by Line:	**EX-06.3B LP EXT 20 to FWH 31B**				***Sorted By:Remaining Life***		
EX-06.3B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3B-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.3C LP EXT 20 to FWH 31C**				***Sorted By:Remaining Life***		
EX-06.3C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3C-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line:	**EX-06.4A LP EXT 18 to FWH 31A**				***Sorted By:Remaining Life***		
EX-06.4A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4A-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4A-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.4A-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
===>Grouped by Line:	**EX-06.4B LP EXT 18 to FWH 31B**				***Sorted By:Remaining Life***		
EX-06.4B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4B-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.4B-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **EX-06.4C LP EXT 18 to FWH 31C**					***Sorted By:Remaining Life***		
EX-06.4C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4C-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
EX-06.4C-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: LP TO 31 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-06.1A LP EXT 19 to FWH 31A**					***Sorted By:Flow Order***		
EX-06.1A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.1B LP EXT 19 to FWH 31B**					***Sorted By:Flow Order***		
EX-06.1B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.1C LP EXT 19 to FWH 31C**					***Sorted By:Flow Order***		
EX-06.1C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.1C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.1C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2A LP EXT 17 to FWH 31A**					***Sorted By:Flow Order***		
EX-06.2A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2A-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2B LP EXT 17 to FWH 31B**					***Sorted By:Flow Order***		
EX-06.2B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2B-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>Grouped by Line: **EX-06.2C LP EXT 17 to FWH 31C**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **EX-06.2C LP EXT 17 to FWH 31C**					***Sorted By:Flow Order***		
EX-06.2C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.2C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-03E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.2C-04N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>*Grouped by Line:* **EX-06.3A LP EXT 20 to FWH 31A**					***Sorted By:Flow Order***		
EX-06.3A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3A-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3A-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3A-04E	0.313	0.220	0.043	0.043	442,369	No	203,584
EX-06.3A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>*Grouped by Line:* **EX-06.3B LP EXT 20 to FWH 31B**					***Sorted By:Flow Order***		
EX-06.3B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3B-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>*Grouped by Line:* **EX-06.3C LP EXT 20 to FWH 31C**					***Sorted By:Flow Order***		
EX-06.3C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.3C-02E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-03P	0.313	0.201	0.058	0.058	292,434	No	203,584
EX-06.3C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.3C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>*Grouped by Line:* **EX-06.4A LP EXT 18 to FWH 31A**					***Sorted By:Flow Order***		
EX-06.4A-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4A-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4A-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
EX-06.4A-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4A-05N	0.375	0.255	0.043	0.043	404,231	No	203,584
===>*Grouped by Line:* **EX-06.4B LP EXT 18 to FWH 31B**					***Sorted By:Flow Order***		
EX-06.4B-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4B-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4B-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
EX-06.4B-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4B-05N	0.375	0.255	0.043	0.043	404,231	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: EX-06.4C LP EXT 18 to FWH 31C					Sorted By:Flow Order		
EX-06.4C-01N	0.400	0.218	0.043	0.043	220,313	No	203,584
EX-06.4C-02E	0.313	0.215	0.043	0.043	403,879	No	203,584
EX-06.4C-03P	0.313	0.279	0.058	0.058	1,784,678	No	203,584
EX-06.4C-04E	0.313	0.205	0.043	0.043	345,800	No	203,584
EX-06.4C-05N	0.375	0.255	0.043	0.043	404,231	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:											Sorted By: Flow Order	

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 1:44:22PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.332

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.1A LP EXT 16 to FWH 32A***								***Sorted By: Average Wear Rate***		
EX-05.1A-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1A-04N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1A-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1A-02P	61	1.469	1.054	206.9	36.385	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.1B LP EXT 16 to FWH 32B***								***Sorted By: Average Wear Rate***		
EX-05.1B-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1B-04N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1B-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1B-02P	61	1.469	1.054	206.9	36.385	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.1C LP EXT 16 to FWH 32C***								***Sorted By: Average Wear Rate***		
EX-05.1C-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1C-04N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1C-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1C-02P	61	1.469	1.054	206.9	36.385	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.2A LP EXT 15 to FWH 32A***								***Sorted By: Average Wear Rate***		
EX-05.2A-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-06N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-02E	4	5.277	2.812	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-05E	1	4.520	2.409	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-04P	53	4.297	2.290	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.2B LP EXT 15 to FWH 32B***								***Sorted By: Average Wear Rate***		
EX-05.2B-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-06N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-02E	4	5.277	2.812	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-05E	1	4.520	2.409	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.2B LP EXT 15 to FWH 32B***								***Sorted By: Average Wear Rate***		
EX-05.2B-04P	53	4.297	2.290	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.2C LP EXT 15 to FWH 32C***								***Sorted By: Average Wear Rate***		
EX-05.2C-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-06N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-02E	4	5.277	2.812	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-05E	1	4.520	2.409	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-04P	53	4.297	2.290	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 1:44:22PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.332

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.1A LP EXT 16 to FWH 32A***									***Sorted By: Flow Order***	
EX-05.1A-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1A-02P	61	1.469	1.054	206.9	36.385	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1A-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1A-04N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.1B LP EXT 16 to FWH 32B***									***Sorted By: Flow Order***	
EX-05.1B-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1B-02P	61	1.469	1.054	206.9	36.385	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1B-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1B-04N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.1C LP EXT 16 to FWH 32C***									***Sorted By: Flow Order***	
EX-05.1C-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1C-02P	61	1.469	1.054	206.9	36.385	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1C-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.1C-04N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.2A LP EXT 15 to FWH 32A***									***Sorted By: Flow Order***	
EX-05.2A-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-02E	4	5.277	2.812	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-04P	53	4.297	2.290	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-05E	1	4.520	2.409	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2A-06N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.2B LP EXT 15 to FWH 32B***									***Sorted By: Flow Order***	
EX-05.2B-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-02E	4	5.277	2.812	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-04P	53	4.297	2.290	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2B-05E	1	4.520	2.409	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-05.2B LP EXT 15 to FWH 32B***									***Sorted By: Flow Order***	
EX-05.2B-06N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD
===>Grouped by Line:	***EX-05.2C LP EXT 15 to FWH 32C***									***Sorted By: Flow Order***	
EX-05.2C-01N	31	8.382	4.408	206.9	8.945	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-02E	4	5.277	2.812	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-03E	3	4.793	2.555	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-04P	53	4.297	2.290	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-05E	1	4.520	2.409	206.9	8.117	75.1	22.000	7.089	0.000	29.96	HBD
EX-05.2C-06N	30	5.613	2.958	206.9	8.800	75.1	22.000	7.089	0.000	29.96	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 1:44:22PM

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.332

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.1A LP EXT 16 to FWH 32A**					***Sorted By:Remaining Life***		
EX-05.1A-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.1A-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.1A-04N	0.375	0.245	0.037	0.037	615,724	No	203,584
EX-05.1A-02P	0.250	0.216	0.037	0.037	1,488,947	No	203,584
===>Grouped by Line: **EX-05.1B LP EXT 16 to FWH 32B**					***Sorted By:Remaining Life***		
EX-05.1B-01N	0.400	0.341	0.037	0.037	604,922	No	203,584
EX-05.1B-03E	0.250	0.255	0.037	0.037	747,199	Yes	203,584
EX-05.1B-04N	0.375	0.328	0.037	0.037	863,457	Yes	203,584
EX-05.1B-02P	0.250	0.286	0.037	0.037	2,071,863	Yes	203,584
===>Grouped by Line: **EX-05.1C LP EXT 16 to FWH 32C**					***Sorted By:Remaining Life***		
EX-05.1C-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.1C-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.1C-04N	0.375	0.245	0.037	0.037	615,724	Yes	203,584
EX-05.1C-02P	0.250	0.216	0.037	0.037	1,488,947	No	203,584
===>Grouped by Line: **EX-05.2A LP EXT 15 to FWH 32A**					***Sorted By:Remaining Life***		
EX-05.2A-02E	0.250	0.127	0.037	0.037	282,627	No	203,584
EX-05.2A-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.2A-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.2A-05E	0.250	0.145	0.037	0.037	394,060	No	203,584
EX-05.2A-04P	0.250	0.150	0.037	0.037	434,169	No	203,584
EX-05.2A-06N	0.375	0.245	0.037	0.037	615,724	No	203,584
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Remaining Life***		
EX-05.2B-01N	0.400	0.285	0.037	0.037	493,629	Yes	203,584
EX-05.2B-06N	0.375	0.233	0.037	0.037	582,156	Yes	203,584
EX-05.2B-02E	0.250	0.260	0.037	0.037	695,925	Yes	203,584
EX-05.2B-03E	0.250	0.245	0.037	0.037	712,907	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Remaining Life***		
EX-05.2B-05E	0.250	0.250	0.037	0.037	777,310	Yes	203,584
EX-05.2B-04P	0.250	0.247	0.037	0.037	804,661	Yes	203,584
===>Grouped by Line: **EX-05.2C LP EXT 15 to FWH 32C**					***Sorted By:Remaining Life***		
EX-05.2C-02E	0.250	0.127	0.037	0.037	282,627	No	203,584
EX-05.2C-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.2C-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.2C-05E	0.250	0.145	0.037	0.037	394,060	No	203,584
EX-05.2C-04P	0.250	0.150	0.037	0.037	434,169	No	203,584
EX-05.2C-06N	0.375	0.245	0.037	0.037	615,724	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.332

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.1A LP EXT 16 to FWH 32A**					***Sorted By:Flow Order***		
EX-05.1A-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.1A-02P	0.250	0.216	0.037	0.037	1,488,947	No	203,584
EX-05.1A-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.1A-04N	0.375	0.245	0.037	0.037	615,724	No	203,584
===>Grouped by Line: **EX-05.1B LP EXT 16 to FWH 32B**					***Sorted By:Flow Order***		
EX-05.1B-01N	0.400	0.341	0.037	0.037	604,922	No	203,584
EX-05.1B-02P	0.250	0.286	0.037	0.037	2,071,863	Yes	203,584
EX-05.1B-03E	0.250	0.255	0.037	0.037	747,199	Yes	203,584
EX-05.1B-04N	0.375	0.328	0.037	0.037	863,457	Yes	203,584
===>Grouped by Line: **EX-05.1C LP EXT 16 to FWH 32C**					***Sorted By:Flow Order***		
EX-05.1C-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.1C-02P	0.250	0.216	0.037	0.037	1,488,947	No	203,584
EX-05.1C-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.1C-04N	0.375	0.245	0.037	0.037	615,724	Yes	203,584
===>Grouped by Line: **EX-05.2A LP EXT 15 to FWH 32A**					***Sorted By:Flow Order***		
EX-05.2A-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.2A-02E	0.250	0.127	0.037	0.037	282,627	No	203,584
EX-05.2A-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.2A-04P	0.250	0.150	0.037	0.037	434,169	No	203,584
EX-05.2A-05E	0.250	0.145	0.037	0.037	394,060	No	203,584
EX-05.2A-06N	0.375	0.245	0.037	0.037	615,724	No	203,584
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Flow Order***		
EX-05.2B-01N	0.400	0.285	0.037	0.037	493,629	Yes	203,584
EX-05.2B-02E	0.250	0.260	0.037	0.037	695,925	Yes	203,584
EX-05.2B-03E	0.250	0.245	0.037	0.037	712,907	Yes	203,584
EX-05.2B-04P	0.250	0.247	0.037	0.037	804,661	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-05.2B LP EXT 15 to FWH 32B**					***Sorted By:Flow Order***		
EX-05.2B-05E	0.250	0.250	0.037	0.037	777,310	Yes	203,584
EX-05.2B-06N	0.375	0.233	0.037	0.037	582,156	Yes	203,584
===>Grouped by Line: **EX-05.2C LP EXT 15 to FWH 32C**					***Sorted By:Flow Order***		
EX-05.2C-01N	0.400	0.205	0.037	0.037	335,045	No	203,584
EX-05.2C-02E	0.250	0.127	0.037	0.037	282,627	No	203,584
EX-05.2C-03E	0.250	0.139	0.037	0.037	349,713	No	203,584
EX-05.2C-04P	0.250	0.150	0.037	0.037	434,169	No	203,584
EX-05.2C-05E	0.250	0.145	0.037	0.037	394,060	No	203,584
EX-05.2C-06N	0.375	0.245	0.037	0.037	615,724	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: ES: LP TO 32 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.332

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-05.1B LP EXT 16 to FWH 32B**										***Sorted By: Flow Order***	
EX-05.1B-02P	0.250	28.2	70.0	28.2	70.0	0.292	GW	153,469	221.8	292.0	6.0	153,469
EX-05.1B-03E	0.250	96.9	61.0	96.9	61.0	0.269	MT	153,469	153.1	269.0	14.5	153,469
EX-05.1B-04N	0.375	113.7	72.0	113.7	72.0	0.345	GW	153,469	261.3	345.0	16.8	153,469
===>Grouped by Line:	**EX-05.1C LP EXT 16 to FWH 32C**										***Sorted By: Flow Order***	
EX-05.1C-04N	0.375	119.1	86.0	119.1	86.0	0.375	ER	0	244.6	375.0	130.4	170,123
===>Grouped by Line:	**EX-05.2B LP EXT 15 to FWH 32B**										***Sorted By: Flow Order***	
EX-05.2B-01N	0.400	169.8	104.0	169.8	104.0	0.310	GW	153,469	230.2	310.0	25.0	153,469
EX-05.2B-02E	0.250	106.7	111.0	106.7	111.0	0.276	MT	153,469	143.3	276.0	16.0	153,469
EX-05.2B-03E	0.250	96.9	93.0	96.9	93.0	0.259	MT	153,469	153.1	259.0	14.5	153,469
EX-05.2B-04P	0.250	86.9	134.0	86.9	134.0	0.260	GW	153,469	163.1	260.0	13.0	153,469
EX-05.2B-05E	0.250	91.4	163.0	91.4	163.0	0.264	GW	153,469	158.6	264.0	13.7	153,469
EX-05.2B-06N	0.375	113.7	133.0	113.7	133.0	0.250	GW	153,469	261.3	250.0	16.8	153,469

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 2:00:07PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.807

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.1 LPEX14 to FWH33A HDR***								***Sorted By: Average Wear Rate***		
EX-04.1-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-06T (BR/SE)	10	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-06T (D/S)	10	6.216	6.781	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.1-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-08X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-07P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.3-01P	60	2.256	2.461	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.11-19T	14	14.744	17.796	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.9-09T (D/S)	12	12.560	15.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-19T (D/S)	14	9.541	10.406	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-06V	25	9.195	11.098	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.9-09T	12	8.121	8.857	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-08E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-13E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-15E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.9-09T (BR/SE)	12	7.261	9.247	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.11-04V	22	6.866	8.433	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-09E	3	6.407	7.733	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-11E	3	6.407	7.733	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-02T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-17T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-12P	53	5.745	6.935	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-18P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-03P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.11-02T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-17T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-16P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-19T (BR/SE)	14	4.671	5.951	254.8	7.012	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.11-07P	58	3.372	4.071	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-10P	53	3.339	3.194	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-14P	52	2.783	2.662	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-05P	58	2.747	3.373	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-01P	62	2.300	2.777	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-20P	9	1.685	2.034	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.13 LP EXT 32 to FWH 33B***								***Sorted By: Average Wear Rate***		
EX-04.13-06N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-03E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-01R (D/S)	7	5.554	7.072	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-07T	15	5.006	6.376	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-02P	57	5.005	6.374	254.8	6.994	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-07T (D/S)	15	4.406	5.611	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-04P	52	4.127	5.246	254.8	7.164	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-01R	7	3.835	4.184	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.12-01P	64	1.995	2.176	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.14 LP EXT 32 to FWH 33B***								***Sorted By: Average Wear Rate***		
EX-04.14-03N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.14-02E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.14-01P	64	2.637	3.352	254.8	7.285	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.15 LPEX14 to FWH33C HDR***								***Sorted By: Average Wear Rate***		
EX-04.15-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-06T (BR/SE)	10	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-06T (D/S)	10	6.216	6.781	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.15-05E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-07P	52	4.172	5.313	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-08X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.17-01P	60	2.256	2.461	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.16 LPEX13 to FWH33C HDR***								***Sorted By: Average Wear Rate***		
EX-04.16-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-07E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-05E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-06P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-10X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-08P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.20-16T	14	14.639	17.717	254.8	5.676	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.16-09T (D/S)	12	12.560	15.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-16T (D/S)	14	9.805	10.690	254.8	0.304	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-06V	25	9.195	11.098	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.16-09T	12	8.121	8.857	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-02E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-04E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-06E	4	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-08E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-10E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-12E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-07P	54	7.354	8.876	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.16-09T (BR/SE)	12	7.261	9.247	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.18-04V	22	6.866	8.433	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.19-01R	7	5.900	7.122	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-02T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-14T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-15P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-03P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.19-01R (D/S)	7	5.162	6.233	254.8	14.052	90.5	24.000	7.228	0.000	61.45	HBD
EX-04.18-02T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-14T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.19-03R (D/S)	18	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-05P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-09P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-13P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.20-16T (BR/SE)	14	4.674	5.952	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.19-02V	23	4.664	5.595	254.8	14.424	90.5	24.000	7.228	0.000	61.45	HBD
EX-04.20-01P	68	3.832	4.626	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.19-03R	18	3.822	4.615	254.8	14.052	90.5	24.000	7.228	0.000	61.45	HBD
EX-04.20-03P	52	2.783	2.662	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-11P	52	2.783	2.662	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-05P	58	2.747	3.373	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-01P	62	2.300	2.777	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.2 LPEX13 to FWH33A HDR***								***Sorted By: Average Wear Rate***		
EX-04.2-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-07E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-05E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-06P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-10X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-08P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.21 LP EXT 31 to FWH 33C***								***Sorted By: Average Wear Rate***		
EX-04.21-06N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-03E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-01R (D/S)	7	5.554	7.072	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-07T	15	5.006	6.376	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-02P	57	5.000	6.372	254.8	7.050	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-07T (D/S)	15	4.406	5.611	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-04P	52	4.127	5.246	254.8	7.164	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-01R	7	3.835	4.184	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-17P	64	1.995	2.176	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.22 LP EXT 31 to FWH 33C***								***Sorted By: Average Wear Rate***		
EX-04.22-03N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.22-02E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.22-01P	64	2.639	3.356	254.8	7.260	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.4-22T	14	14.685	17.752	254.8	5.575	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***								***Sorted By: Average Wear Rate***		
EX-04.2-09T (D/S)	12	12.560	15.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-22T (D/S)	14	9.685	10.561	254.8	0.297	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-06V	25	9.195	11.098	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.2-09T	12	8.121	8.857	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-08E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-10E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-12E	4	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-14E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-16E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-18E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-13P	54	7.354	8.876	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.2-09T (BR/SE)	12	7.261	9.247	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.4-04V	22	6.866	8.433	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-02T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-20T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-21P	65	5.667	6.841	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-03P	65	5.667	6.841	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-02T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-20T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-11P	52	4.788	5.780	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-15P	52	4.788	5.780	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-19P	52	4.788	5.780	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-22T (BR/SE)	14	4.671	5.951	254.8	7.012	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.4-07P	58	3.372	4.070	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-09P	52	2.783	2.662	254.8	17.235	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-17P	52	2.783	2.662	254.8	17.235	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-05P	58	2.747	3.373	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-01P	62	2.300	2.777	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-23P	9	1.685	2.034	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.6 LP EXT to FWH 33A***								***Sorted By: Average Wear Rate***		
EX-04.6-06N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-03E	2	6.488	8.154	254.8	7.997	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-01R (D/S)	7	5.554	7.072	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-07T	15	5.002	6.375	254.8	7.025	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-02P	57	5.001	6.374	254.8	7.033	90.5	20.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.6 LP EXT to FWH 33A***								***Sorted By: Average Wear Rate***		
EX-04.6-07T (D/S)	15	4.402	5.611	254.8	7.025	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-04P	52	4.118	5.233	254.8	7.299	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-01R	7	3.835	4.184	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.5-01P	64	1.995	2.177	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.7 LP EXT to FWH 33A***								***Sorted By: Average Wear Rate***		
EX-04.7-03N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.7-02E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.7-01P	64	2.640	3.358	254.8	7.229	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.8 LPEX14 to FWH33B HDR***								***Sorted By: Average Wear Rate***		
EX-04.8-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-06T (BR/SE)	10	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-06T (D/S)	10	6.216	6.781	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.8-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-08X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-07P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.10-01P	60	2.256	2.461	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.9 LPEX13 to FWH33B HDR***								***Sorted By: Average Wear Rate***		
EX-04.9-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-07E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-05E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-06P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-10X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-08P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 2:00:07PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.807

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.1 LPEX14 to FWH33A HDR***									***Sorted By: Flow Order***	
EX-04.1-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-08X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-07P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-06T (BR/SE)	10	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.1-06T (D/S)	10	6.216	6.781	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.3-01P	60	2.256	2.461	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***									***Sorted By: Flow Order***	
EX-04.9-09T (D/S)	12	12.560	15.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-01P	62	2.300	2.777	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-02T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-02T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-03P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-04V	22	6.866	8.433	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-05P	58	2.747	3.373	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-06V	25	9.195	11.098	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-07P	58	3.372	4.071	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-08E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-09E	3	6.407	7.733	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-10P	53	3.339	3.194	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-11E	3	6.407	7.733	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-12P	53	5.745	6.935	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-13E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-14P	52	2.783	2.662	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.11 LPEX FWH 33B IN HDR***									***Sorted By: Flow Order***	
EX-04.11-15E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-16P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-17T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-17T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-18P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-20P	9	1.685	2.034	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-19T	14	14.744	17.796	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-19T (D/S)	14	9.541	10.406	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.11-19T (BR/SE)	14	4.671	5.951	254.8	7.012	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-09T	12	8.121	8.857	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.9-09T (BR/SE)	12	7.261	9.247	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.13 LP EXT 32 to FWH 33B***									***Sorted By: Flow Order***	
EX-04.12-01P	64	1.995	2.176	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.13-01R	7	3.835	4.184	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.13-01R (D/S)	7	5.554	7.072	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-02P	57	5.005	6.374	254.8	6.994	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-07T	15	5.006	6.376	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-07T (D/S)	15	4.406	5.611	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-03E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-04P	52	4.127	5.246	254.8	7.164	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.13-06N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.14 LP EXT 32 to FWH 33B***									***Sorted By: Flow Order***	
EX-04.14-01P	64	2.637	3.352	254.8	7.285	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.14-02E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.14-03N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.15 LPEX14 to FWH33C HDR***									***Sorted By: Flow Order***	
EX-04.15-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-08X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-05E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-07P	52	4.172	5.313	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-06T (BR/SE)	10	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.15-06T (D/S)	10	6.216	6.781	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.15 LPEX14 to FWH33C HDR***									***Sorted By: Flow Order***	
EX-04.17-01P	60	2.256	2.461	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.16 LPEX13 to FWH33C HDR***									***Sorted By: Flow Order***	
EX-04.16-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-10X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-05E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-06P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-07E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-08P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***									***Sorted By: Flow Order***	
EX-04.16-09T	12	8.121	8.857	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.16-09T (BR/SE)	12	7.261	9.247	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.16-09T (D/S)	12	12.560	15.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-01P	62	2.300	2.777	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-02T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-02T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-03P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-04V	22	6.866	8.433	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-05P	58	2.747	3.373	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.18-06V	25	9.195	11.098	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.19-01R	7	5.900	7.122	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.19-01R (D/S)	7	5.162	6.233	254.8	14.052	90.5	24.000	7.228	0.000	61.45	HBD
EX-04.19-02V	23	4.664	5.595	254.8	14.424	90.5	24.000	7.228	0.000	61.45	HBD
EX-04.19-03R	18	3.822	4.615	254.8	14.052	90.5	24.000	7.228	0.000	61.45	HBD
EX-04.19-03R (D/S)	18	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-01P	68	3.832	4.626	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-02E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-03P	52	2.783	2.662	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-04E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-05P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-06E	4	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-07P	54	7.354	8.876	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-08E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-09P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.18 LPEX FWH 33C IN HDR***									***Sorted By: Flow Order***	
EX-04.20-10E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-11P	52	2.783	2.662	254.8	17.234	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-12E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-13P	52	4.789	5.780	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-14T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-14T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-15P	65	5.668	6.841	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-16T	14	14.639	17.717	254.8	5.676	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-16T (D/S)	14	9.805	10.690	254.8	0.304	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.20-16T (BR/SE)	14	4.674	5.952	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.2 LPEX13 to FWH33A HDR***									***Sorted By: Flow Order***	
EX-04.2-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-10X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-05E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-06P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-07E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-08P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.21 LP EXT 31 to FWH 33C***									***Sorted By: Flow Order***	
EX-04.20-17P	64	1.995	2.176	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.21-01R	7	3.835	4.184	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.21-01R (D/S)	7	5.554	7.072	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-02P	57	5.000	6.372	254.8	7.050	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-07T	15	5.006	6.376	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-07T (D/S)	15	4.406	5.611	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-03E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-04P	52	4.127	5.246	254.8	7.164	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.21-06N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.22 LP EXT 31 to FWH 33C***									***Sorted By: Flow Order***	
EX-04.22-01P	64	2.639	3.356	254.8	7.260	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.22-02E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.22-03N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.4 LPEX FWH 33A IN HDR***									***Sorted By: Flow Order***	
EX-04.2-09T	12	8.121	8.857	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.2-09T (BR/SE)	12	7.261	9.247	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.2-09T (D/S)	12	12.560	15.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-01P	62	2.300	2.777	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-02T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-02T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-03P	65	5.667	6.841	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-04V	22	6.866	8.433	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-05P	58	2.747	3.373	254.8	12.606	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-06V	25	9.195	11.098	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-07P	58	3.372	4.070	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-08E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-09P	52	2.783	2.662	254.8	17.235	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-10E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-11P	52	4.788	5.780	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-12E	4	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-13P	54	7.354	8.876	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-14E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-15P	52	4.788	5.780	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-16E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-17P	52	2.783	2.662	254.8	17.235	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-18E	2	7.589	9.160	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-19P	52	4.788	5.780	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-20T	15	5.746	6.936	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-20T (D/S)	15	5.058	6.105	254.8	5.453	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-21P	65	5.667	6.841	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-23P	9	1.685	2.034	254.8	5.454	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-22T	14	14.685	17.752	254.8	5.575	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-22T (D/S)	14	9.685	10.561	254.8	0.297	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.4-22T (BR/SE)	14	4.671	5.951	254.8	7.012	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.6 LP EXT to FWH 33A***									***Sorted By: Flow Order***	
EX-04.5-01P	64	1.995	2.177	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.6-01R	7	3.835	4.184	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.6-01R (D/S)	7	5.554	7.072	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-02P	57	5.001	6.374	254.8	7.033	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-07T	15	5.002	6.375	254.8	7.025	90.5	20.000	7.228	0.000	61.45	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-04.6 LP EXT to FWH 33A***									***Sorted By: Flow Order***	
EX-04.6-07T (D/S)	15	4.402	5.611	254.8	7.025	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-03E	2	6.488	8.154	254.8	7.997	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-04P	52	4.118	5.233	254.8	7.299	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.6-06N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.7 LP EXT to FWH 33A***									***Sorted By: Flow Order***	
EX-04.7-01P	64	2.640	3.358	254.8	7.229	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.7-02E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.7-03N	30	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.8 LPEX14 to FWH33B HDR***									***Sorted By: Flow Order***	
EX-04.8-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-08X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-05E	2	6.612	8.420	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-07P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-06T (BR/SE)	10	6.675	8.501	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.8-06T (D/S)	10	6.216	6.781	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
EX-04.10-01P	60	2.256	2.461	254.8	0.289	90.5	28.000	7.228	0.000	61.45	HBD
===>Grouped by Line:	***EX-04.9 LPEX13 to FWH33B HDR***									***Sorted By: Flow Order***	
EX-04.9-01N	31	9.883	12.495	254.8	7.691	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-10X	6	3.973	3.800	254.8	21.028	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-02E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-03E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-04P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-05E	3	5.582	7.108	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-06P	53	5.006	6.375	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-07E	2	6.146	7.826	254.8	6.971	90.5	20.000	7.228	0.000	61.45	HBD
EX-04.9-08P	52	2.899	2.773	254.8	17.033	90.5	20.000	7.228	0.000	61.45	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 2:00:07PM

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.807

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.1 LPEX14 to FWH33A HDR**					***Sorted By:Remaining Life***		
EX-04.1-06T (BR/SE)	0.250	0.095	0.045	0.045	51,672	No	203,584
EX-04.1-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.1-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.1-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.1-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.1-06T (D/S)	0.000	0.168	0.063	0.063	136,192	No	203,584
EX-04.1-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.1-08X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.1-07P	0.250	0.183	0.033	0.033	471,745	No	203,584
EX-04.3-01P	0.313	0.261	0.063	0.063	704,575	No	203,584
===>Grouped by Line: **EX-04.11 LPEX FWH 33B IN HDR**					***Sorted By:Remaining Life***		
EX-04.9-09T (D/S)	0.000	0.021	0.063	0.063	-24,277	No	203,584
EX-04.9-09T (BR/SE)	0.250	0.081	0.045	0.045	34,597	No	203,584
EX-04.11-06V	0.313	0.099	0.050	0.050	38,588	No	203,584
EX-04.9-09T	0.313	0.124	0.063	0.063	60,969	No	203,584
EX-04.11-19T	0.313	0.203	0.063	0.063	68,986	No	203,584
EX-04.11-15E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.11-13E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.11-04V	0.313	0.153	0.050	0.050	106,999	No	203,584
EX-04.11-09E	0.313	0.164	0.047	0.047	132,532	No	203,584
EX-04.11-11E	0.313	0.164	0.047	0.047	132,532	No	203,584
EX-04.11-12P	0.313	0.179	0.063	0.063	146,996	No	203,584
EX-04.11-17T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.11-02T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.11-18P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.11-03P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.11-19T (D/S)	0.000	0.248	0.063	0.063	156,019	No	203,584
EX-04.11-19T (BR/SE)	0.259	0.159	0.045	0.045	168,194	Yes	203,584
EX-04.11-17T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **EX-04.11 LPEX FWH 33B IN HDR**					*Sorted By:Remaining Life*		
EX-04.11-02T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.11-16P	0.313	0.201	0.063	0.063	210,053	No	203,584
EX-04.11-08E	0.313	0.374	0.047	0.047	313,122	Yes	203,584
EX-04.11-07P	0.313	0.234	0.063	0.063	369,123	No	203,584
EX-04.11-10P	0.313	0.235	0.063	0.063	472,522	No	203,584
EX-04.11-05P	0.313	0.249	0.063	0.063	483,140	No	203,584
EX-04.11-14P	0.313	0.248	0.063	0.063	609,537	No	203,584
EX-04.11-01P	0.313	0.260	0.063	0.063	621,271	No	203,584
EX-04.11-20P	0.313	0.327	0.063	0.063	1,137,647	No	203,584
===>*Grouped by Line:* **EX-04.13 LP EXT 32 to FWH 33B**					*Sorted By:Remaining Life*		
EX-04.13-06N	0.250	0.095	0.033	0.033	63,455	No	203,584
EX-04.13-03E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.13-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.13-02P	0.255	0.133	0.033	0.033	137,628	Yes	203,584
EX-04.13-07T (D/S)	0.000	0.148	0.033	0.033	178,456	No	203,584
EX-04.13-04P	0.250	0.154	0.033	0.033	201,698	No	203,584
EX-04.13-07T	0.250	0.198	0.033	0.033	225,823	Yes	203,584
EX-04.13-01R (D/S)	0.000	0.238	0.033	0.033	253,905	No	203,584
EX-04.13-01R	0.000	0.368	0.047	0.047	672,701	No	203,584
EX-04.12-01P	0.313	0.266	0.063	0.063	819,181	No	203,584
===>*Grouped by Line:* **EX-04.14 LP EXT 32 to FWH 33B**					*Sorted By:Remaining Life*		
EX-04.14-03N	0.250	0.095	0.033	0.033	63,455	No	203,584
EX-04.14-02E	0.250	0.350	0.033	0.033	329,596	Yes	203,584
EX-04.14-01P	0.276	0.202	0.033	0.033	440,454	Yes	203,584
===>*Grouped by Line:* **EX-04.15 LPEX14 to FWH33C HDR**					*Sorted By:Remaining Life*		
EX-04.15-06T (BR/SE)	0.250	0.095	0.045	0.045	51,672	No	203,584
EX-04.15-05E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.15-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.15-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.15-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.15-06T (D/S)	0.000	0.168	0.063	0.063	136,192	No	203,584
EX-04.15-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.15-07P	0.250	0.153	0.033	0.033	197,445	No	203,584
EX-04.15-08X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.17-01P	0.313	0.261	0.063	0.063	704,575	No	203,584
===>*Grouped by Line:* **EX-04.16 LPEX13 to FWH33C HDR**					*Sorted By:Remaining Life*		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.16 LPEX13 to FWH33C HDR**				***Sorted By:Remaining Life***		
EX-04.16-07E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.16-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.16-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.16-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.16-05E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.16-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.16-06P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.16-10X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.16-08P	0.250	0.183	0.033	0.033	471,745	No	203,584
===>Grouped by Line:	**EX-04.18 LPEX FWH 33C IN HDR**				***Sorted By:Remaining Life***		
EX-04.16-09T (D/S)	0.000	0.021	0.063	0.063	-24,277	No	203,584
EX-04.16-09T (BR/SE)	0.250	0.081	0.045	0.045	34,597	No	203,584
EX-04.18-06V	0.313	0.099	0.050	0.050	38,588	No	203,584
EX-04.16-09T	0.313	0.124	0.063	0.063	60,969	No	203,584
EX-04.20-16T	0.384	0.187	0.063	0.063	61,273	No	203,584
EX-04.20-07P	0.313	0.142	0.063	0.063	77,945	No	203,584
EX-04.20-02E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-04E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-06E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-08E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-10E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-12E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.18-04V	0.313	0.153	0.050	0.050	106,999	No	203,584
EX-04.19-01R (D/S)	0.000	0.130	0.040	0.040	126,629	No	203,584
EX-04.18-02T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.20-14T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.18-03P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.20-15P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.20-16T (D/S)	0.384	0.248	0.063	0.063	151,825	No	203,584
EX-04.19-01R	0.000	0.175	0.047	0.047	158,376	No	203,584
EX-04.20-16T (BR/SE)	0.000	0.158	0.045	0.045	167,116	No	203,584
EX-04.18-02T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.20-14T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.20-05P	0.313	0.201	0.063	0.063	210,053	No	203,584
EX-04.20-09P	0.313	0.201	0.063	0.063	210,053	No	203,584
EX-04.20-13P	0.313	0.201	0.063	0.063	210,053	No	203,584
EX-04.19-03R (D/S)	0.000	0.195	0.047	0.047	212,881	No	203,584
EX-04.19-03R	0.000	0.161	0.040	0.040	230,109	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.18 LPEX FWH 33C IN HDR**				***Sorted By:Remaining Life***		
EX-04.19-02V	0.313	0.205	0.043	0.043	253,367	No	203,584
EX-04.20-01P	0.313	0.223	0.063	0.063	304,590	No	203,584
EX-04.18-05P	0.313	0.249	0.063	0.063	483,140	No	203,584
EX-04.20-03P	0.313	0.248	0.063	0.063	609,537	No	203,584
EX-04.20-11P	0.313	0.248	0.063	0.063	609,537	No	203,584
EX-04.18-01P	0.313	0.260	0.063	0.063	621,271	No	203,584
===>Grouped by Line:	**EX-04.2 LPEX13 to FWH33A HDR**				***Sorted By:Remaining Life***		
EX-04.2-07E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.2-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.2-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.2-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.2-05E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.2-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.2-06P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.2-10X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.2-08P	0.250	0.183	0.033	0.033	471,745	No	203,584
===>Grouped by Line:	**EX-04.21 LP EXT 31 to FWH 33C**				***Sorted By:Remaining Life***		
EX-04.21-06N	0.250	0.095	0.033	0.033	63,455	No	203,584
EX-04.21-02P	0.267	0.144	0.033	0.033	151,698	Yes	203,584
EX-04.21-07T	0.250	0.155	0.033	0.033	167,873	Yes	203,584
EX-04.21-01R (D/S)	0.000	0.184	0.033	0.033	187,020	No	203,584
EX-04.21-03E	0.250	0.234	0.033	0.033	208,851	Yes	203,584
EX-04.21-07T (D/S)	0.000	0.177	0.033	0.033	224,924	Yes	203,584
EX-04.21-04P	0.250	0.169	0.033	0.033	227,246	Yes	203,584
EX-04.21-05E	0.250	0.337	0.033	0.033	316,071	Yes	203,584
EX-04.21-01R	0.000	0.334	0.047	0.047	601,512	Yes	203,584
EX-04.20-17P	0.313	0.266	0.063	0.063	819,181	No	203,584
===>Grouped by Line:	**EX-04.22 LP EXT 31 to FWH 33C**				***Sorted By:Remaining Life***		
EX-04.22-02E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.22-03N	0.250	0.227	0.033	0.033	199,111	Yes	203,584
EX-04.22-01P	0.271	0.210	0.033	0.033	460,429	Yes	203,584
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**				***Sorted By:Remaining Life***		
EX-04.2-09T (D/S)	0.000	0.021	0.063	0.063	-24,277	No	203,584
EX-04.4-06V	0.313	0.099	0.050	0.050	38,588	No	203,584
EX-04.4-22T	0.352	0.215	0.063	0.063	75,381	No	203,584
EX-04.4-13P	0.313	0.142	0.063	0.063	78,446	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**				***Sorted By:Remaining Life***		
EX-04.4-10E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-12E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-14E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-16E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-18E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-04V	0.313	0.153	0.050	0.050	106,999	No	203,584
EX-04.4-22T (D/S)	0.352	0.239	0.063	0.063	146,374	No	203,584
EX-04.4-02T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.4-20T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.4-03P	0.313	0.181	0.063	0.063	151,969	No	203,584
EX-04.4-21P	0.313	0.181	0.063	0.063	151,969	No	203,584
EX-04.4-02T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.4-20T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.4-22T (BR/SE)	0.259	0.177	0.045	0.045	195,091	No	203,584
EX-04.4-11P	0.313	0.202	0.063	0.063	210,820	No	203,584
EX-04.4-15P	0.313	0.202	0.063	0.063	210,820	No	203,584
EX-04.4-19P	0.313	0.202	0.063	0.063	210,820	No	203,584
EX-04.2-09T (BR/SE)	0.250	0.276	0.045	0.045	218,793	Yes	203,584
EX-04.2-09T	0.313	0.333	0.063	0.063	267,590	Yes	203,584
EX-04.4-08E	0.313	0.398	0.047	0.047	336,075	Yes	203,584
EX-04.4-07P	0.313	0.235	0.063	0.063	370,209	No	203,584
EX-04.4-05P	0.313	0.249	0.063	0.063	484,438	No	203,584
EX-04.4-09P	0.313	0.248	0.063	0.063	611,145	No	203,584
EX-04.4-17P	0.313	0.248	0.063	0.063	611,145	No	203,584
EX-04.4-01P	0.313	0.260	0.063	0.063	621,271	No	203,584
EX-04.4-23P	0.313	0.274	0.063	0.063	909,899	No	203,584
===>Grouped by Line:	**EX-04.6 LP EXT to FWH 33A**				***Sorted By:Remaining Life***		
EX-04.6-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.6-07T	0.262	0.177	0.033	0.033	198,144	Yes	203,584
EX-04.6-02P	0.264	0.183	0.033	0.033	205,257	Yes	203,584
EX-04.6-03E	0.461	0.234	0.033	0.033	215,406	Yes	203,584
EX-04.6-01R (D/S)	0.000	0.218	0.033	0.033	229,133	No	203,584
EX-04.6-07T (D/S)	0.262	0.192	0.033	0.033	248,391	No	203,584
EX-04.6-04P	0.279	0.183	0.033	0.033	251,102	Yes	203,584
EX-04.6-06N	0.250	0.417	0.033	0.033	394,922	Yes	203,584
EX-04.6-01R	0.000	0.318	0.047	0.047	568,010	Yes	203,584
EX-04.5-01P	0.313	0.267	0.063	0.063	821,010	No	203,584
===>Grouped by Line:	**EX-04.7 LP EXT to FWH 33A**				***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.7 LP EXT to FWH 33A**					***Sorted By:Remaining Life***		
EX-04.7-03N	0.250	0.095	0.033	0.033	63,455	No	203,584
EX-04.7-02E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.7-01P	0.264	0.203	0.033	0.033	441,802	Yes	203,584
===>Grouped by Line: **EX-04.8 LPEX14 to FWH33B HDR**					***Sorted By:Remaining Life***		
EX-04.8-06T (BR/SE)	0.250	0.095	0.045	0.045	51,672	No	203,584
EX-04.8-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.8-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.8-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.8-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.8-06T (D/S)	0.000	0.168	0.063	0.063	136,192	No	203,584
EX-04.8-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.8-08X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.8-07P	0.250	0.183	0.033	0.033	471,745	No	203,584
EX-04.10-01P	0.313	0.261	0.063	0.063	704,575	No	203,584
===>Grouped by Line: **EX-04.9 LPEX13 to FWH33B HDR**					***Sorted By:Remaining Life***		
EX-04.9-07E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.9-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.9-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.9-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.9-05E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.9-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.9-06P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.9-10X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.9-08P	0.250	0.183	0.033	0.033	471,745	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.807

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.1 LPEX14 to FWH33A HDR**					***Sorted By:Flow Order***		
EX-04.1-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.1-08X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.1-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.1-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.1-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.1-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.1-07P	0.250	0.183	0.033	0.033	471,745	No	203,584
EX-04.1-06T (BR/SE)	0.250	0.095	0.045	0.045	51,672	No	203,584
EX-04.1-06T (D/S)	0.000	0.168	0.063	0.063	136,192	No	203,584
EX-04.3-01P	0.313	0.261	0.063	0.063	704,575	No	203,584
===>Grouped by Line: **EX-04.11 LPEX FWH 33B IN HDR**					***Sorted By:Flow Order***		
EX-04.9-09T (D/S)	0.000	0.021	0.063	0.063	-24,277	No	203,584
EX-04.11-01P	0.313	0.260	0.063	0.063	621,271	No	203,584
EX-04.11-02T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.11-02T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.11-03P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.11-04V	0.313	0.153	0.050	0.050	106,999	No	203,584
EX-04.11-05P	0.313	0.249	0.063	0.063	483,140	No	203,584
EX-04.11-06V	0.313	0.099	0.050	0.050	38,588	No	203,584
EX-04.11-07P	0.313	0.234	0.063	0.063	369,123	No	203,584
EX-04.11-08E	0.313	0.374	0.047	0.047	313,122	Yes	203,584
EX-04.11-09E	0.313	0.164	0.047	0.047	132,532	No	203,584
EX-04.11-10P	0.313	0.235	0.063	0.063	472,522	No	203,584
EX-04.11-11E	0.313	0.164	0.047	0.047	132,532	No	203,584
EX-04.11-12P	0.313	0.179	0.063	0.063	146,996	No	203,584
EX-04.11-13E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.11-14P	0.313	0.248	0.063	0.063	609,537	No	203,584
EX-04.11-15E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.11-16P	0.313	0.201	0.063	0.063	210,053	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.11 LPEX FWH 33B IN HDR**				***Sorted By:Flow Order***		
EX-04.11-17T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.11-17T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.11-18P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.11-20P	0.313	0.327	0.063	0.063	1,137,647	No	203,584
EX-04.11-19T	0.313	0.203	0.063	0.063	68,986	No	203,584
EX-04.11-19T (D/S)	0.000	0.248	0.063	0.063	156,019	No	203,584
EX-04.11-19T (BR/SE)	0.259	0.159	0.045	0.045	168,194	Yes	203,584
EX-04.9-09T	0.313	0.124	0.063	0.063	60,969	No	203,584
EX-04.9-09T (BR/SE)	0.250	0.081	0.045	0.045	34,597	No	203,584
===>Grouped by Line:	**EX-04.13 LP EXT 32 to FWH 33B**				***Sorted By:Flow Order***		
EX-04.12-01P	0.313	0.266	0.063	0.063	819,181	No	203,584
EX-04.13-01R	0.000	0.368	0.047	0.047	672,701	No	203,584
EX-04.13-01R (D/S)	0.000	0.238	0.033	0.033	253,905	No	203,584
EX-04.13-02P	0.255	0.133	0.033	0.033	137,628	Yes	203,584
EX-04.13-07T	0.250	0.198	0.033	0.033	225,823	Yes	203,584
EX-04.13-07T (D/S)	0.000	0.148	0.033	0.033	178,456	No	203,584
EX-04.13-03E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.13-04P	0.250	0.154	0.033	0.033	201,698	No	203,584
EX-04.13-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.13-06N	0.250	0.095	0.033	0.033	63,455	No	203,584
===>Grouped by Line:	**EX-04.14 LP EXT 32 to FWH 33B**				***Sorted By:Flow Order***		
EX-04.14-01P	0.276	0.202	0.033	0.033	440,454	Yes	203,584
EX-04.14-02E	0.250	0.350	0.033	0.033	329,596	Yes	203,584
EX-04.14-03N	0.250	0.095	0.033	0.033	63,455	No	203,584
===>Grouped by Line:	**EX-04.15 LPEX14 to FWH33C HDR**				***Sorted By:Flow Order***		
EX-04.15-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.15-08X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.15-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.15-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.15-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.15-05E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.15-07P	0.250	0.153	0.033	0.033	197,445	No	203,584
EX-04.15-06T (BR/SE)	0.250	0.095	0.045	0.045	51,672	No	203,584
EX-04.15-06T (D/S)	0.000	0.168	0.063	0.063	136,192	No	203,584
EX-04.17-01P	0.313	0.261	0.063	0.063	704,575	No	203,584
===>Grouped by Line:	**EX-04.16 LPEX13 to FWH33C HDR**				***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.16 LPEX13 to FWH33C HDR**					***Sorted By:Flow Order***		
EX-04.16-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.16-10X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.16-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.16-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.16-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.16-05E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.16-06P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.16-07E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.16-08P	0.250	0.183	0.033	0.033	471,745	No	203,584
===>Grouped by Line: **EX-04.18 LPEX FWH 33C IN HDR**					***Sorted By:Flow Order***		
EX-04.16-09T	0.313	0.124	0.063	0.063	60,969	No	203,584
EX-04.16-09T (BR/SE)	0.250	0.081	0.045	0.045	34,597	No	203,584
EX-04.16-09T (D/S)	0.000	0.021	0.063	0.063	-24,277	No	203,584
EX-04.18-01P	0.313	0.260	0.063	0.063	621,271	No	203,584
EX-04.18-02T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.18-02T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.18-03P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.18-04V	0.313	0.153	0.050	0.050	106,999	No	203,584
EX-04.18-05P	0.313	0.249	0.063	0.063	483,140	No	203,584
EX-04.18-06V	0.313	0.099	0.050	0.050	38,588	No	203,584
EX-04.19-01R	0.000	0.175	0.047	0.047	158,376	No	203,584
EX-04.19-01R (D/S)	0.000	0.130	0.040	0.040	126,629	No	203,584
EX-04.19-02V	0.313	0.205	0.043	0.043	253,367	No	203,584
EX-04.19-03R	0.000	0.161	0.040	0.040	230,109	No	203,584
EX-04.19-03R (D/S)	0.000	0.195	0.047	0.047	212,881	No	203,584
EX-04.20-01P	0.313	0.223	0.063	0.063	304,590	No	203,584
EX-04.20-02E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-03P	0.313	0.248	0.063	0.063	609,537	No	203,584
EX-04.20-04E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-05P	0.313	0.201	0.063	0.063	210,053	No	203,584
EX-04.20-06E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-07P	0.313	0.142	0.063	0.063	77,945	No	203,584
EX-04.20-08E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-09P	0.313	0.201	0.063	0.063	210,053	No	203,584
EX-04.20-10E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-11P	0.313	0.248	0.063	0.063	609,537	No	203,584
EX-04.20-12E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.20-13P	0.313	0.201	0.063	0.063	210,053	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-04.18 LPEX FWH 33C IN HDR**				***Sorted By:Flow Order***		
EX-04.20-14T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.20-14T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.20-15P	0.313	0.181	0.063	0.063	151,321	No	203,584
EX-04.20-16T	0.384	0.187	0.063	0.063	61,273	No	203,584
EX-04.20-16T (D/S)	0.384	0.248	0.063	0.063	151,825	No	203,584
EX-04.20-16T (BR/SE)	0.000	0.158	0.045	0.045	167,116	No	203,584
===>Grouped by Line:	**EX-04.2 LPEX13 to FWH33A HDR**				***Sorted By:Flow Order***		
EX-04.2-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.2-10X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.2-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.2-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.2-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.2-05E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.2-06P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.2-07E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.2-08P	0.250	0.183	0.033	0.033	471,745	No	203,584
===>Grouped by Line:	**EX-04.21 LP EXT 31 to FWH 33C**				***Sorted By:Flow Order***		
EX-04.20-17P	0.313	0.266	0.063	0.063	819,181	No	203,584
EX-04.21-01R	0.000	0.334	0.047	0.047	601,512	Yes	203,584
EX-04.21-01R (D/S)	0.000	0.184	0.033	0.033	187,020	No	203,584
EX-04.21-02P	0.267	0.144	0.033	0.033	151,698	Yes	203,584
EX-04.21-07T	0.250	0.155	0.033	0.033	167,873	Yes	203,584
EX-04.21-07T (D/S)	0.000	0.177	0.033	0.033	224,924	Yes	203,584
EX-04.21-03E	0.250	0.234	0.033	0.033	208,851	Yes	203,584
EX-04.21-04P	0.250	0.169	0.033	0.033	227,246	Yes	203,584
EX-04.21-05E	0.250	0.337	0.033	0.033	316,071	Yes	203,584
EX-04.21-06N	0.250	0.095	0.033	0.033	63,455	No	203,584
===>Grouped by Line:	**EX-04.22 LP EXT 31 to FWH 33C**				***Sorted By:Flow Order***		
EX-04.22-01P	0.271	0.210	0.033	0.033	460,429	Yes	203,584
EX-04.22-02E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.22-03N	0.250	0.227	0.033	0.033	199,111	Yes	203,584
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**				***Sorted By:Flow Order***		
EX-04.2-09T	0.313	0.333	0.063	0.063	267,590	Yes	203,584
EX-04.2-09T (BR/SE)	0.250	0.276	0.045	0.045	218,793	Yes	203,584
EX-04.2-09T (D/S)	0.000	0.021	0.063	0.063	-24,277	No	203,584
EX-04.4-01P	0.313	0.260	0.063	0.063	621,271	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.4 LPEX FWH 33A IN HDR**					***Sorted By:Flow Order***		
EX-04.4-02T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.4-02T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.4-03P	0.313	0.181	0.063	0.063	151,969	No	203,584
EX-04.4-04V	0.313	0.153	0.050	0.050	106,999	No	203,584
EX-04.4-05P	0.313	0.249	0.063	0.063	484,438	No	203,584
EX-04.4-06V	0.313	0.099	0.050	0.050	38,588	No	203,584
EX-04.4-07P	0.313	0.235	0.063	0.063	370,209	No	203,584
EX-04.4-08E	0.313	0.398	0.047	0.047	336,075	Yes	203,584
EX-04.4-09P	0.313	0.248	0.063	0.063	611,145	No	203,584
EX-04.4-10E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-11P	0.313	0.202	0.063	0.063	210,820	No	203,584
EX-04.4-12E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-13P	0.313	0.142	0.063	0.063	78,446	No	203,584
EX-04.4-14E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-15P	0.313	0.202	0.063	0.063	210,820	No	203,584
EX-04.4-16E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-17P	0.313	0.248	0.063	0.063	611,145	No	203,584
EX-04.4-18E	0.313	0.136	0.047	0.047	85,630	No	203,584
EX-04.4-19P	0.313	0.202	0.063	0.063	210,820	No	203,584
EX-04.4-20T	0.313	0.179	0.063	0.063	147,574	No	203,584
EX-04.4-20T (D/S)	0.000	0.195	0.063	0.063	189,912	No	203,584
EX-04.4-21P	0.313	0.181	0.063	0.063	151,969	No	203,584
EX-04.4-23P	0.313	0.274	0.063	0.063	909,899	No	203,584
EX-04.4-22T	0.352	0.215	0.063	0.063	75,381	No	203,584
EX-04.4-22T (D/S)	0.352	0.239	0.063	0.063	146,374	No	203,584
EX-04.4-22T (BR/SE)	0.259	0.177	0.045	0.045	195,091	No	203,584
===>Grouped by Line: **EX-04.6 LP EXT to FWH 33A**					***Sorted By:Flow Order***		
EX-04.5-01P	0.313	0.267	0.063	0.063	821,010	No	203,584
EX-04.6-01R	0.000	0.318	0.047	0.047	568,010	Yes	203,584
EX-04.6-01R (D/S)	0.000	0.218	0.033	0.033	229,133	No	203,584
EX-04.6-02P	0.264	0.183	0.033	0.033	205,257	Yes	203,584
EX-04.6-07T	0.262	0.177	0.033	0.033	198,144	Yes	203,584
EX-04.6-07T (D/S)	0.262	0.192	0.033	0.033	248,391	No	203,584
EX-04.6-03E	0.461	0.234	0.033	0.033	215,406	Yes	203,584
EX-04.6-04P	0.279	0.183	0.033	0.033	251,102	Yes	203,584
EX-04.6-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.6-06N	0.250	0.417	0.033	0.033	394,922	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-04.7 LP EXT to FWH 33A**					***Sorted By:Flow Order***		
EX-04.7-01P	0.264	0.203	0.033	0.033	441,802	Yes	203,584
EX-04.7-02E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.7-03N	0.250	0.095	0.033	0.033	63,455	No	203,584
===>Grouped by Line: **EX-04.8 LPEX14 to FWH33B HDR**					***Sorted By:Flow Order***		
EX-04.8-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.8-08X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.8-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.8-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.8-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.8-05E	0.250	0.096	0.033	0.033	65,607	No	203,584
EX-04.8-07P	0.250	0.183	0.033	0.033	471,745	No	203,584
EX-04.8-06T (BR/SE)	0.250	0.095	0.045	0.045	51,672	No	203,584
EX-04.8-06T (D/S)	0.000	0.168	0.063	0.063	136,192	No	203,584
EX-04.10-01P	0.313	0.261	0.063	0.063	704,575	No	203,584
===>Grouped by Line: **EX-04.9 LPEX13 to FWH33B HDR**					***Sorted By:Flow Order***		
EX-04.9-01N	0.400	0.170	0.033	0.033	96,073	No	203,584
EX-04.9-10X	0.000	0.158	0.033	0.033	286,699	No	203,584
EX-04.9-02E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.9-03E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.9-04P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.9-05E	0.250	0.120	0.033	0.033	107,203	No	203,584
EX-04.9-06P	0.250	0.134	0.033	0.033	137,936	No	203,584
EX-04.9-07E	0.250	0.107	0.033	0.033	82,702	No	203,584
EX-04.9-08P	0.250	0.183	0.033	0.033	471,745	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

6

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: ES: LP TO 33 HEATERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.807

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-04.11 LPEX FWH 33B IN HDR**										***Sorted By: Flow Order***	
EX-04.11-08E	0.313	141.4	87.0	141.4	87.0	0.409	MT	170,123	171.1	409.0	35.0	170,123
EX-04.11-19T (BR/SE)	0.259	58.5	47.0	58.5	47.0	0.209	GW	121,025	200.5	209.0	50.0	121,025
===>Grouped by Line:	**EX-04.13 LP EXT 32 to FWH 33B**										***Sorted By: Flow Order***	
EX-04.13-02P	0.255	62.7	76.0	62.7	76.0	0.187	GW	121,025	192.3	187.0	53.6	121,025
EX-04.13-07T	0.250	92.0	36.0	92.0	36.0	0.222	MT	170,123	158.0	222.0	24.4	170,123
===>Grouped by Line:	**EX-04.14 LP EXT 32 to FWH 33B**										***Sorted By: Flow Order***	
EX-04.14-01P	0.276	33.1	46.0	33.1	46.0	0.230	GW	121,025	242.9	230.0	28.2	121,025
EX-04.14-02E	0.250	70.7	73.0	70.7	73.0	0.433	GW	92,205	179.3	433.0	82.9	92,205
===>Grouped by Line:	**EX-04.21 LP EXT 31 to FWH 33C**										***Sorted By: Flow Order***	
EX-04.21-01R	0.000	81.0	82.0	81.0	82.0	0.342	MT	186,592	231.5	342.0	8.1	186,592
EX-04.21-02P	0.267	103.8	110.0	103.8	110.0	0.156	MT	186,592	163.2	156.0	12.4	186,592
EX-04.21-07T	0.250	58.8	73.0	58.8	73.0	0.213	GW	107,407	191.2	213.0	57.5	107,407
EX-04.21-07T (D/S)	0.000	51.8	37.0	51.8	37.0	0.228	GW	107,407	198.2	228.0	50.6	107,407
EX-04.21-03E	0.250	77.7	118.0	77.7	118.0	0.310	GW	107,407	172.3	310.0	76.0	107,407
EX-04.21-04P	0.250	65.3	50.0	65.3	50.0	0.200	GW	152,050	184.7	200.0	30.6	152,050
EX-04.21-05E	0.250	70.7	70.0	70.7	70.0	0.420	GW	92,205	179.3	420.0	82.9	92,205
===>Grouped by Line:	**EX-04.22 LP EXT 31 to FWH 33C**										***Sorted By: Flow Order***	
EX-04.22-01P	0.271	25.0	37.0	25.0	37.0	0.271	ER	0	209.7	271.0	61.3	78,649
EX-04.22-03N	0.250	138.6	219.0	138.6	219.0	0.243	MT	186,592	111.4	243.0	16.5	186,592
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**										***Sorted By: Flow Order***	
EX-04.2-09T	0.313	154.9	50.0	154.9	50.0	0.367	MT	170,123	158.1	367.0	33.8	170,123
EX-04.2-09T (BR/SE)	0.250	133.4	75.0	133.4	75.0	0.311	MT	170,123	116.6	311.0	35.3	170,123

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-04.4 LPEX FWH 33A IN HDR**										***Sorted By: Flow Order***	
EX-04.4-08E	0.313	141.4	94.0	141.4	94.0	0.433	MT	170,123	171.1	433.0	35.0	170,123
===>Grouped by Line:	**EX-04.6 LP EXT to FWH 33A**										***Sorted By: Flow Order***	
EX-04.6-01R	0.000	81.0	95.0	81.0	95.0	0.326	MT	186,592	231.5	326.0	8.1	186,592
EX-04.6-02P	0.264	103.9	70.0	103.9	70.0	0.195	MT	186,592	160.1	195.0	12.4	186,592
EX-04.6-07T	0.262	47.3	36.0	47.3	36.0	0.235	GW	107,383	203.3	235.0	57.5	78,649
EX-04.6-03E	0.461	76.6	152.0	76.6	152.0	0.308	GW	107,383	384.4	308.0	74.2	107,383
EX-04.6-04P	0.279	39.0	39.0	39.0	39.0	0.279	ER	0	183.3	279.0	95.7	78,649
EX-04.6-06N	0.250	122.7	77.0	122.7	77.0	0.449	MT	170,123	127.3	449.0	32.5	170,123
===>Grouped by Line:	**EX-04.7 LP EXT to FWH 33A**										***Sorted By: Flow Order***	
EX-04.7-01P	0.264	25.0	42.0	25.0	42.0	0.264	ER	0	202.6	264.0	61.4	78,649

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 3:09:20PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.061

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.1 PSEP 2A 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.1-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-02P	61	0.015	0.015	385.2	23.337	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-06T (D/S)	10	0.014	0.014	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.1-06T (BR/SE)	10	0.014	0.014	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-05O	6	0.014	0.014	385.2	45.863	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-04P	54	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-03E	4	0.013	0.013	385.2	23.905	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.5-01P	60	0.002	0.002	385.2	17.778	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.11 PSEP1B 14" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.11-06O	6	0.019	0.019	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-04P	54	0.017	0.018	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-03E	4	0.017	0.017	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-02P	64	0.006	0.006	385.2	73.301	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-07P	56	0.005	0.005	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.12 PSEP 1B&2B to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.9-10T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.9-10T	12	0.019	0.019	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.9-10T (BR/SE)	12	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.12-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.13-06R	18	0.038	0.042	385.2	47.982	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-06R (D/S)	18	0.029	0.031	385.2	15.155	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.11-05T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.11-05T	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.11-05T (BR/SE)	12	0.020	0.020	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.13-03E	4	0.017	0.017	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-04E	3	0.015	0.015	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.13-02B	1	0.013	0.013	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-05P	53	0.013	0.013	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-03P	54	0.012	0.012	385.2	75.933	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***								***Sorted By: Average Wear Rate***		
EX-02.14-10V	22	17.892	19.523	385.2	54.705	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-11V	25	16.299	17.619	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-13V	25	16.299	17.619	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-06E	2	13.517	13.517	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-08E	2	13.517	13.517	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-16E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-24E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-18E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-25E	4	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-20E	4	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-27E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-21P	54	13.038	14.093	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-26P	54	12.981	14.015	385.2	38.039	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-02E	2	12.271	13.517	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-14E	3	11.357	12.277	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-04T	15	10.187	11.012	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-32T	15	10.187	11.012	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-05P	65	10.049	10.862	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-04T (D/S)	15	8.965	9.691	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-32T (D/S)	15	8.965	9.691	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-03P	52	8.489	9.176	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-19P	52	8.489	9.176	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-09P	52	8.489	9.176	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-07P	52	8.452	9.125	385.2	38.039	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-17P	52	6.088	5.451	385.2	76.600	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-12P	58	5.977	6.461	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-31P	58	5.977	6.461	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-01P	62	4.076	4.407	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-29T	14	0.090	0.100	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-29T (D/S)	14	0.077	0.085	385.2	23.240	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.7-02T (D/S)	12	0.077	0.085	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***								***Sorted By: Average Wear Rate***		
EX-02.7-02T	12	0.062	0.068	385.2	15.155	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.7-02T (BR/SE)	12	0.060	0.066	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.14-22T	15	0.035	0.039	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-23P	65	0.035	0.038	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-29T (BR/SE)	14	0.032	0.036	385.2	29.715	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.14-22T (D/S)	15	0.031	0.034	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-28P	52	0.029	0.032	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-33P	9	0.017	0.019	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.15 FWH 35 HEADER***								***Sorted By: Average Wear Rate***		
EX-02.15-02T	14	0.078	0.086	385.2	24.551	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.15-02T (D/S)	14	0.076	0.083	385.2	7.714	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.15-02T (BR/SE)	14	0.032	0.036	385.2	29.715	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.15-01P	64	0.016	0.018	385.2	24.405	93.8	28.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.2 PSEP 1A 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.2-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-02P	61	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-03E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-05E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-08O	6	0.010	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-06P	52	0.009	0.009	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-04P	52	0.006	0.006	385.2	38.302	93.8	10.750	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.4 PSEP2A 14" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.4-06O	6	0.019	0.019	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-04P	54	0.017	0.018	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-03E	4	0.017	0.017	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-02P	64	0.006	0.006	385.2	73.301	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-07P	56	0.005	0.005	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.6 PSEP 1A&2A to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.2-07T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.2-07T	12	0.019	0.019	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.2-07T (BR/SE)	12	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.6-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.7 PSEP 1A&2A to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.4-05T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.4-05T	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.7 PSEP 1A&2A to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.4-05T (BR/SE)	12	0.020	0.020	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.7-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.8 PSEP 2B 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.8-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-08T (D/S)	10	0.014	0.014	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.8-08T (BR/SE)	10	0.014	0.014	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-07O	6	0.014	0.014	385.2	45.863	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-02E	3	0.012	0.012	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-06E	3	0.012	0.012	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-04E	1	0.011	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-09P	53	0.010	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-05P	51	0.008	0.008	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-03P	53	0.007	0.007	385.2	38.302	93.8	10.750	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.9 PSEP 1B 10" to 35 HDR***								***Sorted By: Average Wear Rate***		
EX-02.9-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-02P	61	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-08P	54	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-10P	54	0.013	0.013	385.2	23.379	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-03E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-05E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-07E	4	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-09E	4	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-11O	6	0.010	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-06P	52	0.009	0.009	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-04P	52	0.006	0.006	385.2	38.302	93.8	10.750	6.817	0.000	36.60	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 3:09:20PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.061

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.1 PSEP 2A 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.1-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-02P	61	0.015	0.015	385.2	23.337	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-03E	4	0.013	0.013	385.2	23.905	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-04P	54	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-05O	6	0.014	0.014	385.2	45.863	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-06T (BR/SE)	10	0.014	0.014	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.1-06T (D/S)	10	0.014	0.014	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.5-01P	60	0.002	0.002	385.2	17.778	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.11 PSEP1B 14" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.11-02P	64	0.006	0.006	385.2	73.301	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-03E	4	0.017	0.017	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-04P	54	0.017	0.018	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-06O	6	0.019	0.019	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-07P	56	0.005	0.005	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.12 PSEP 1B&2B to 35 HDR***									***Sorted By: Flow Order***	
EX-02.9-10T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.12-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.9-10T (BR/SE)	12	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-10T	12	0.019	0.019	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***									***Sorted By: Flow Order***	
EX-02.11-05T (BR/SE)	12	0.020	0.020	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.11-05T	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.11-05T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-02B	1	0.013	0.013	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-03E	4	0.017	0.017	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-03P	54	0.012	0.012	385.2	75.933	93.8	18.000	6.817	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.13 PSEP 1B&2B to 35 HDR***									***Sorted By: Flow Order***	
EX-02.13-04E	3	0.015	0.015	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-05P	53	0.013	0.013	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-06R	18	0.038	0.042	385.2	47.982	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.13-06R (D/S)	18	0.029	0.031	385.2	15.155	93.8	28.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***									***Sorted By: Flow Order***	
EX-02.7-02T	12	0.062	0.068	385.2	15.155	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.7-02T (D/S)	12	0.077	0.085	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-01P	62	4.076	4.407	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-02E	2	12.271	13.517	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-03P	52	8.489	9.176	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-04T	15	10.187	11.012	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-04T (D/S)	15	8.965	9.691	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-05P	65	10.049	10.862	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-06E	2	13.517	13.517	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-07P	52	8.452	9.125	385.2	38.039	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-08E	2	13.517	13.517	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-09P	52	8.489	9.176	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-10V	22	17.892	19.523	385.2	54.705	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-11V	25	16.299	17.619	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-12P	58	5.977	6.461	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-13V	25	16.299	17.619	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-31P	58	5.977	6.461	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-14E	3	11.357	12.277	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-32T	15	10.187	11.012	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-32T (D/S)	15	8.965	9.691	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-16E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-17P	52	6.088	5.451	385.2	76.600	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-18E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-19P	52	8.489	9.176	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-20E	4	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-21P	54	13.038	14.093	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-33P	9	0.017	0.019	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-22T	15	0.035	0.039	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-22T (D/S)	15	0.031	0.034	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-23P	65	0.035	0.038	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-24E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.14 FWH 35 HEADER***									***Sorted By: Flow Order***	
EX-02.14-25E	4	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-26P	54	12.981	14.015	385.2	38.039	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-27E	2	13.453	14.542	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-28P	52	0.029	0.032	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-29T	14	0.090	0.100	385.2	37.760	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-29T (D/S)	14	0.077	0.085	385.2	23.240	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.14-29T (BR/SE)	14	0.032	0.036	385.2	29.715	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.7-02T (BR/SE)	12	0.060	0.066	385.2	48.757	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.15 FWH 35 HEADER***									***Sorted By: Flow Order***	
EX-02.15-01P	64	0.016	0.018	385.2	24.405	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.15-02T	14	0.078	0.086	385.2	24.551	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.15-02T (D/S)	14	0.076	0.083	385.2	7.714	93.8	28.000	6.817	0.000	36.60	ARD
EX-02.15-02T (BR/SE)	14	0.032	0.036	385.2	29.715	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.2 PSEP 1A 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.2-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-02P	61	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-03E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-04P	52	0.006	0.006	385.2	38.302	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-05E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-06P	52	0.009	0.009	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-08O	6	0.010	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.4 PSEP2A 14" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.4-02P	64	0.006	0.006	385.2	73.301	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-03E	4	0.017	0.017	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-04P	54	0.017	0.018	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-06O	6	0.019	0.019	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-07P	56	0.005	0.005	385.2	95.761	93.8	14.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.6 PSEP 1A&2A to 35 HDR***									***Sorted By: Flow Order***	
EX-02.2-07T	12	0.019	0.019	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.2-07T (BR/SE)	12	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.2-07T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.6-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.7 PSEP 1A&2A to 35 HDR***									***Sorted By: Flow Order***	
EX-02.4-05T (BR/SE)	12	0.020	0.020	385.2	52.877	93.8	14.000	6.817	0.000	36.60	ARD
EX-02.4-05T	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD
EX-02.4-05T (D/S)	12	0.028	0.028	385.2	50.345	93.8	18.000	6.817	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***EX-02.7 PSEP 1A&2A to 35 HDR***									***Sorted By: Flow Order***	
EX-02.7-01P	62	0.004	0.004	385.2	75.930	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.8 PSEP 2B 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.8-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-02E	3	0.012	0.012	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-03P	53	0.007	0.007	385.2	38.302	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-04E	1	0.011	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-05P	51	0.008	0.008	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-07O	6	0.014	0.014	385.2	45.863	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-06E	3	0.012	0.012	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-09P	53	0.010	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-08T (BR/SE)	10	0.014	0.014	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.8-08T (D/S)	10	0.014	0.014	385.2	3.409	93.8	18.000	6.817	0.000	36.60	ARD
===>Grouped by Line:	***EX-02.9 PSEP 1B 10" to 35 HDR***									***Sorted By: Flow Order***	
EX-02.9-01N	31	0.019	0.021	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-02P	61	0.015	0.015	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-03E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-04P	52	0.006	0.006	385.2	38.302	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-05E	2	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-06P	52	0.009	0.009	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-11O	6	0.010	0.011	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-07E	4	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-08P	54	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-09E	4	0.013	0.013	385.2	23.182	93.8	10.750	6.817	0.000	36.60	ARD
EX-02.9-10P	54	0.013	0.013	385.2	23.379	93.8	10.750	6.817	0.000	36.60	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 3:09:20PM

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.061

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.1 PSEP 2A 10" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.5-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.1-01N	0.365	0.365	0.072	0.072	122,057,848	No	154,778
EX-02.1-02P	0.378	0.378	0.091	0.091	165,902,544	No	50,115
EX-02.1-06T (BR/SE)	0.365	0.365	0.091	0.091	171,379,856	No	50,115
EX-02.1-05O	0.365	0.365	0.091	0.091	171,454,880	No	50,115
EX-02.1-04P	0.365	0.365	0.091	0.091	178,549,072	No	50,115
EX-02.1-06T (D/S)	0.500	0.500	0.152	0.152	214,857,104	No	50,115
EX-02.1-03E	0.425	0.425	0.091	0.091	224,608,000	No	50,115
===>Grouped by Line: **EX-02.11 PSEP1B 14" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.11-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-06O	0.375	0.375	0.118	0.118	118,035,056	No	50,115
EX-02.11-04P	0.375	0.375	0.118	0.118	128,446,144	No	50,115
EX-02.11-03E	0.375	0.375	0.118	0.118	133,920,704	No	50,115
===>Grouped by Line: **EX-02.12 PSEP 1B&2B to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.12-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.9-10T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.9-10T (BR/SE)	0.365	0.365	0.091	0.091	157,544,672	No	50,115
EX-02.9-10T	0.500	0.500	0.152	0.152	163,879,824	No	50,115
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.13-06R	0.000	0.311	0.149	0.149	34,185,664	No	154,778
EX-02.13-06R (D/S)	0.000	0.374	0.232	0.232	40,787,704	No	154,778
EX-02.13-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.11-05T	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.11-05T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.11-05T (BR/SE)	0.375	0.375	0.118	0.118	113,333,576	No	50,115
EX-02.13-03E	0.375	0.375	0.152	0.152	117,087,520	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.13-04E	0.375	0.375	0.152	0.152	129,173,992	No	50,115
EX-02.13-05P	0.375	0.375	0.152	0.152	154,663,216	No	50,115
EX-02.13-02B	0.500	0.500	0.152	0.152	225,910,960	No	50,115
EX-02.13-03P	0.000	0.500	0.152	0.152	251,572,032	No	50,115
===>Grouped by Line: **EX-02.14 FWH 35 HEADER**					***Sorted By:Remaining Life***		
EX-02.14-05P	0.375	0.141	0.311	0.311	-150,472	No	203,584
EX-02.14-10V	0.375	-0.041	0.248	0.248	-143,853	No	203,584
EX-02.14-03P	0.375	0.178	0.311	0.311	-140,320	No	203,584
EX-02.14-09P	0.375	0.178	0.311	0.311	-140,320	No	203,584
EX-02.14-11V	0.375	-0.004	0.248	0.248	-138,502	No	203,584
EX-02.14-13V	0.375	-0.004	0.248	0.248	-138,502	No	203,584
EX-02.14-16E	0.375	0.226	0.232	0.232	-3,228	Yes	203,584
EX-02.14-19P	0.375	0.321	0.311	0.311	10,008	No	203,584
EX-02.14-04T	0.375	0.325	0.311	0.311	11,407	No	203,584
EX-02.14-32T	0.375	0.326	0.311	0.311	12,209	No	203,584
EX-02.14-32T (D/S)	0.000	0.327	0.311	0.311	14,930	No	203,584
EX-02.14-27E	0.000	0.269	0.232	0.232	22,291	Yes	203,584
EX-02.14-25E	0.375	0.271	0.232	0.232	23,496	Yes	203,584
EX-02.14-07P	0.375	0.346	0.311	0.311	33,894	Yes	203,584
EX-02.14-21P	0.375	0.371	0.311	0.311	37,189	Yes	203,584
EX-02.14-12P	0.375	0.339	0.311	0.311	38,171	Yes	203,584
EX-02.14-18E	0.375	0.297	0.232	0.232	39,276	Yes	203,584
EX-02.14-26P	0.375	0.379	0.311	0.311	42,491	No	203,584
EX-02.14-24E	0.375	0.311	0.232	0.232	47,592	Yes	203,584
EX-02.14-04T (D/S)	0.375	0.368	0.311	0.311	51,407	No	203,584
EX-02.14-02E	0.375	0.331	0.232	0.232	64,535	No	154,778
EX-02.14-06E	0.000	0.349	0.232	0.232	75,820	No	16,992
EX-02.14-08E	0.000	0.349	0.232	0.232	75,820	No	16,992
EX-02.14-20E	0.375	0.370	0.232	0.232	83,134	Yes	203,584
EX-02.14-31P	0.375	0.390	0.311	0.311	107,960	Yes	203,584
EX-02.14-17P	0.375	0.411	0.311	0.311	161,654	Yes	203,584
EX-02.14-14E	0.375	0.466	0.232	0.232	167,385	Yes	203,584
EX-02.14-01P	0.375	0.397	0.311	0.311	172,172	No	203,584
EX-02.14-29T	0.375	0.374	0.232	0.232	12,441,740	No	124,935
EX-02.7-02T (D/S)	0.375	0.374	0.232	0.232	14,624,473	No	124,935
EX-02.14-29T (D/S)	0.000	0.374	0.232	0.232	14,702,163	No	124,935
EX-02.7-02T	0.375	0.374	0.232	0.232	18,259,320	No	124,935
EX-02.7-02T (BR/SE)	0.375	0.374	0.149	0.149	29,695,196	No	124,935

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-02.14 FWH 35 HEADER**				***Sorted By:Remaining Life***		
EX-02.14-22T	0.375	0.375	0.232	0.232	32,102,414	No	124,935
EX-02.14-23P	0.375	0.375	0.232	0.232	32,546,350	No	124,935
EX-02.14-22T (D/S)	0.000	0.375	0.232	0.232	36,491,288	No	124,935
EX-02.14-28P	0.375	0.375	0.232	0.232	38,545,376	No	124,935
EX-02.14-29T (BR/SE)	0.312	0.312	0.149	0.149	39,896,708	No	124,935
EX-02.14-33P	0.375	0.375	0.232	0.232	66,723,792	No	124,935
===>Grouped by Line:	**EX-02.15 FWH 35 HEADER**				***Sorted By:Remaining Life***		
EX-02.15-02T (BR/SE)	0.312	0.312	0.149	0.149	39,896,708	No	124,935
EX-02.15-02T	0.656	0.655	0.232	0.232	43,066,940	No	124,935
EX-02.15-02T (D/S)	0.656	0.655	0.232	0.232	44,400,936	No	124,935
EX-02.15-01P	0.625	0.625	0.232	0.232	192,787,552	No	124,935
===>Grouped by Line:	**EX-02.2 PSEP 1A 10" to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.2-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-02P	0.365	0.365	0.091	0.091	158,733,968	No	50,115
EX-02.2-03E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.2-05E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.2-01N	0.365	0.526	0.072	0.072	189,233,648	No	154,778
EX-02.2-08O	0.365	0.365	0.091	0.091	228,388,464	No	50,115
===>Grouped by Line:	**EX-02.4 PSEP2A 14" to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.4-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-06O	0.375	0.375	0.118	0.118	118,035,056	No	50,115
EX-02.4-04P	0.375	0.375	0.118	0.118	128,446,144	No	50,115
EX-02.4-03E	0.375	0.375	0.118	0.118	133,920,704	No	50,115
===>Grouped by Line:	**EX-02.6 PSEP 1A&2A to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.6-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.2-07T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.2-07T (BR/SE)	0.365	0.365	0.091	0.091	157,544,672	No	50,115
EX-02.2-07T	0.500	0.500	0.152	0.152	163,879,824	No	50,115
===>Grouped by Line:	**EX-02.7 PSEP 1A&2A to 35 HDR**				***Sorted By:Remaining Life***		
EX-02.7-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.4-05T	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.4-05T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.4-05T (BR/SE)	0.375	0.375	0.118	0.118	113,333,576	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **EX-02.8 PSEP 2B 10" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.8-03P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-05P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-01N	0.365	0.365	0.072	0.072	122,057,848	No	154,778
EX-02.8-08T (BR/SE)	0.365	0.365	0.091	0.091	171,379,856	No	50,115
EX-02.8-07O	0.365	0.365	0.091	0.091	171,454,880	No	50,115
EX-02.8-02E	0.365	0.365	0.091	0.091	204,962,752	No	50,115
EX-02.8-06E	0.365	0.365	0.091	0.091	204,962,752	No	50,115
EX-02.8-08T (D/S)	0.500	0.500	0.152	0.152	214,857,104	No	50,115
EX-02.8-04E	0.365	0.365	0.091	0.091	217,387,760	No	50,115
EX-02.8-09P	0.000	0.365	0.091	0.091	228,556,800	No	50,115
===>*Grouped by Line:* **EX-02.9 PSEP 1B 10" to 35 HDR**					***Sorted By:Remaining Life***		
EX-02.9-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-01N	0.365	0.365	0.072	0.072	122,057,848	No	154,778
EX-02.9-02P	0.365	0.365	0.091	0.091	158,733,968	No	50,115
EX-02.9-08P	0.365	0.365	0.091	0.091	178,549,072	No	50,115
EX-02.9-10P	0.000	0.365	0.091	0.091	179,697,616	No	50,115
EX-02.9-03E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-05E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-07E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-09E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-11O	0.365	0.365	0.091	0.091	228,388,464	No	50,115

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.061

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.1 PSEP 2A 10" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.1-01N	0.365	0.365	0.072	0.072	122,057,848	No	154,778
EX-02.1-02P	0.378	0.378	0.091	0.091	165,902,544	No	50,115
EX-02.1-03E	0.425	0.425	0.091	0.091	224,608,000	No	50,115
EX-02.1-04P	0.365	0.365	0.091	0.091	178,549,072	No	50,115
EX-02.1-05O	0.365	0.365	0.091	0.091	171,454,880	No	50,115
EX-02.1-06T (BR/SE)	0.365	0.365	0.091	0.091	171,379,856	No	50,115
EX-02.1-06T (D/S)	0.500	0.500	0.152	0.152	214,857,104	No	50,115
EX-02.5-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
===>Grouped by Line: **EX-02.11 PSEP1B 14" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.11-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.11-03E	0.375	0.375	0.118	0.118	133,920,704	No	50,115
EX-02.11-04P	0.375	0.375	0.118	0.118	128,446,144	No	50,115
EX-02.11-06O	0.375	0.375	0.118	0.118	118,035,056	No	50,115
EX-02.11-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
===>Grouped by Line: **EX-02.12 PSEP 1B&2B to 35 HDR**					***Sorted By:Flow Order***		
EX-02.9-10T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.12-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.9-10T (BR/SE)	0.365	0.365	0.091	0.091	157,544,672	No	50,115
EX-02.9-10T	0.500	0.500	0.152	0.152	163,879,824	No	50,115
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Flow Order***		
EX-02.11-05T (BR/SE)	0.375	0.375	0.118	0.118	113,333,576	No	50,115
EX-02.11-05T	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.11-05T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.13-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
EX-02.13-02B	0.500	0.500	0.152	0.152	225,910,960	No	50,115
EX-02.13-03E	0.375	0.375	0.152	0.152	117,087,520	No	50,115
EX-02.13-03P	0.000	0.500	0.152	0.152	251,572,032	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.13 PSEP 1B&2B to 35 HDR**					***Sorted By:Flow Order***		
EX-02.13-04E	0.375	0.375	0.152	0.152	129,173,992	No	50,115
EX-02.13-05P	0.375	0.375	0.152	0.152	154,663,216	No	50,115
EX-02.13-06R	0.000	0.311	0.149	0.149	34,185,664	No	154,778
EX-02.13-06R (D/S)	0.000	0.374	0.232	0.232	40,787,704	No	154,778
===>Grouped by Line: **EX-02.14 FWH 35 HEADER**					***Sorted By:Flow Order***		
EX-02.7-02T	0.375	0.374	0.232	0.232	18,259,320	No	124,935
EX-02.7-02T (D/S)	0.375	0.374	0.232	0.232	14,624,473	No	124,935
EX-02.14-01P	0.375	0.397	0.311	0.311	172,172	No	203,584
EX-02.14-02E	0.375	0.331	0.232	0.232	64,535	No	154,778
EX-02.14-03P	0.375	0.178	0.311	0.311	-140,320	No	203,584
EX-02.14-04T	0.375	0.325	0.311	0.311	11,407	No	203,584
EX-02.14-04T (D/S)	0.375	0.368	0.311	0.311	51,407	No	203,584
EX-02.14-05P	0.375	0.141	0.311	0.311	-150,472	No	203,584
EX-02.14-06E	0.000	0.349	0.232	0.232	75,820	No	16,992
EX-02.14-07P	0.375	0.346	0.311	0.311	33,894	Yes	203,584
EX-02.14-08E	0.000	0.349	0.232	0.232	75,820	No	16,992
EX-02.14-09P	0.375	0.178	0.311	0.311	-140,320	No	203,584
EX-02.14-10V	0.375	-0.041	0.248	0.248	-143,853	No	203,584
EX-02.14-11V	0.375	-0.004	0.248	0.248	-138,502	No	203,584
EX-02.14-12P	0.375	0.339	0.311	0.311	38,171	Yes	203,584
EX-02.14-13V	0.375	-0.004	0.248	0.248	-138,502	No	203,584
EX-02.14-31P	0.375	0.390	0.311	0.311	107,960	Yes	203,584
EX-02.14-14E	0.375	0.466	0.232	0.232	167,385	Yes	203,584
EX-02.14-32T	0.375	0.326	0.311	0.311	12,209	No	203,584
EX-02.14-32T (D/S)	0.000	0.327	0.311	0.311	14,930	No	203,584
EX-02.14-16E	0.375	0.226	0.232	0.232	-3,228	Yes	203,584
EX-02.14-17P	0.375	0.411	0.311	0.311	161,654	Yes	203,584
EX-02.14-18E	0.375	0.297	0.232	0.232	39,276	Yes	203,584
EX-02.14-19P	0.375	0.321	0.311	0.311	10,008	No	203,584
EX-02.14-20E	0.375	0.370	0.232	0.232	83,134	Yes	203,584
EX-02.14-21P	0.375	0.371	0.311	0.311	37,189	Yes	203,584
EX-02.14-33P	0.375	0.375	0.232	0.232	66,723,792	No	124,935
EX-02.14-22T	0.375	0.375	0.232	0.232	32,102,414	No	124,935
EX-02.14-22T (D/S)	0.000	0.375	0.232	0.232	36,491,288	No	124,935
EX-02.14-23P	0.375	0.375	0.232	0.232	32,546,350	No	124,935
EX-02.14-24E	0.375	0.311	0.232	0.232	47,592	Yes	203,584
EX-02.14-25E	0.375	0.271	0.232	0.232	23,496	Yes	203,584
EX-02.14-26P	0.375	0.379	0.311	0.311	42,491	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**EX-02.14 FWH 35 HEADER**				***Sorted By:Flow Order***		
EX-02.14-27E	0.000	0.269	0.232	0.232	22,291	Yes	203,584
EX-02.14-28P	0.375	0.375	0.232	0.232	38,545,376	No	124,935
EX-02.14-29T	0.375	0.374	0.232	0.232	12,441,740	No	124,935
EX-02.14-29T (D/S)	0.000	0.374	0.232	0.232	14,702,163	No	124,935
EX-02.14-29T (BR/SE)	0.312	0.312	0.149	0.149	39,896,708	No	124,935
EX-02.7-02T (BR/SE)	0.375	0.374	0.149	0.149	29,695,196	No	124,935
===>Grouped by Line:	**EX-02.15 FWH 35 HEADER**				***Sorted By:Flow Order***		
EX-02.15-01P	0.625	0.625	0.232	0.232	192,787,552	No	124,935
EX-02.15-02T	0.656	0.655	0.232	0.232	43,066,940	No	124,935
EX-02.15-02T (D/S)	0.656	0.655	0.232	0.232	44,400,936	No	124,935
EX-02.15-02T (BR/SE)	0.312	0.312	0.149	0.149	39,896,708	No	124,935
===>Grouped by Line:	**EX-02.2 PSEP 1A 10" to 35 HDR**				***Sorted By:Flow Order***		
EX-02.2-01N	0.365	0.526	0.072	0.072	189,233,648	No	154,778
EX-02.2-02P	0.365	0.365	0.091	0.091	158,733,968	No	50,115
EX-02.2-03E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.2-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-05E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.2-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.2-08O	0.365	0.365	0.091	0.091	228,388,464	No	50,115
===>Grouped by Line:	**EX-02.4 PSEP2A 14" to 35 HDR**				***Sorted By:Flow Order***		
EX-02.4-02P	0.375	0.375	0.118	0.118	100,000,000	No	50,115
EX-02.4-03E	0.375	0.375	0.118	0.118	133,920,704	No	50,115
EX-02.4-04P	0.375	0.375	0.118	0.118	128,446,144	No	50,115
EX-02.4-06O	0.375	0.375	0.118	0.118	118,035,056	No	50,115
EX-02.4-07P	0.000	0.375	0.118	0.118	100,000,000	No	50,115
===>Grouped by Line:	**EX-02.6 PSEP 1A&2A to 35 HDR**				***Sorted By:Flow Order***		
EX-02.2-07T	0.500	0.500	0.152	0.152	163,879,824	No	50,115
EX-02.2-07T (BR/SE)	0.365	0.365	0.091	0.091	157,544,672	No	50,115
EX-02.2-07T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.6-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115
===>Grouped by Line:	**EX-02.7 PSEP 1A&2A to 35 HDR**				***Sorted By:Flow Order***		
EX-02.4-05T (BR/SE)	0.375	0.375	0.118	0.118	113,333,576	No	50,115
EX-02.4-05T	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.4-05T (D/S)	0.500	0.500	0.152	0.152	108,609,200	No	50,115
EX-02.7-01P	0.500	0.500	0.152	0.152	100,000,000	No	50,115

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **EX-02.8 PSEP 2B 10" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.8-01N	0.365	0.365	0.072	0.072	122,057,848	No	154,778
EX-02.8-02E	0.365	0.365	0.091	0.091	204,962,752	No	50,115
EX-02.8-03P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-04E	0.365	0.365	0.091	0.091	217,387,760	No	50,115
EX-02.8-05P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.8-07O	0.365	0.365	0.091	0.091	171,454,880	No	50,115
EX-02.8-06E	0.365	0.365	0.091	0.091	204,962,752	No	50,115
EX-02.8-09P	0.000	0.365	0.091	0.091	228,556,800	No	50,115
EX-02.8-08T (BR/SE)	0.365	0.365	0.091	0.091	171,379,856	No	50,115
EX-02.8-08T (D/S)	0.500	0.500	0.152	0.152	214,857,104	No	50,115
===>Grouped by Line: **EX-02.9 PSEP 1B 10" to 35 HDR**					***Sorted By:Flow Order***		
EX-02.9-01N	0.365	0.365	0.072	0.072	122,057,848	No	154,778
EX-02.9-02P	0.365	0.365	0.091	0.091	158,733,968	No	50,115
EX-02.9-03E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-04P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-05E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-06P	0.365	0.365	0.091	0.091	100,000,000	No	50,115
EX-02.9-11O	0.365	0.365	0.091	0.091	228,388,464	No	50,115
EX-02.9-07E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-08P	0.365	0.365	0.091	0.091	178,549,072	No	50,115
EX-02.9-09E	0.365	0.365	0.091	0.091	186,155,056	No	50,115
EX-02.9-10P	0.000	0.365	0.091	0.091	179,697,616	No	50,115

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: ES: PRESEP TO 35 HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.061

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-02.1 PSEP 2A 10" to 35 HDR**											***Sorted By: Flow Order***
EX-02.1-02P	0.378	50.7	67.0	0.0	0.0	0.378	ER	153,469	378.0	378.0	0.1	0
EX-02.1-03E	0.425	112.5	164.0	0.0	0.0	0.425	ER	153,469	425.0	425.0	0.1	0
EX-02.1-06T (BR/SE)	0.365	121.1	94.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.1-06T (D/S)	0.500	127.6	204.0	0.0	0.0	0.500	ER	153,469	500.0	500.0	0.1	0
===>Grouped by Line:	**EX-02.13 PSEP 1B&2B to 35 HDR**											***Sorted By: Flow Order***
EX-02.13-02B	0.500	115.8	127.0	0.0	0.0	0.500	ER	153,469	500.0	500.0	0.1	0
EX-02.13-03E	0.375	143.3	156.0	0.0	0.0	0.375	ER	153,469	375.0	375.0	0.1	0
EX-02.13-03P	0.000	110.9	71.0	0.0	0.0	0.500	ER	153,469	500.0	500.0	0.1	0
EX-02.13-04E	0.375	129.9	120.0	0.0	0.0	0.375	ER	153,469	375.0	375.0	0.1	0
EX-02.13-05P	0.375	108.5	62.0	0.0	0.0	0.375	ER	153,469	375.0	375.0	0.1	0
===>Grouped by Line:	**EX-02.14 FWH 35 HEADER**											***Sorted By: Flow Order***
EX-02.14-07P	0.375	161.6	33.0	161.6	33.0	0.381	MT	170,123	213.4	381.0	34.9	170,123
EX-02.14-12P	0.375	64.9	185.0	64.9	185.0	0.413	GW	92,205	310.1	413.0	74.0	92,205
EX-02.14-31P	0.375	126.4	30.0	126.4	30.0	0.403	MT	186,592	248.6	403.0	12.5	186,592
EX-02.14-14E	0.375	123.3	153.0	123.3	153.0	0.607	GW	92,205	251.7	607.0	140.6	92,205
EX-02.14-16E	0.375	146.1	157.0	146.1	157.0	0.393	GW	92,205	228.9	393.0	166.6	92,205
EX-02.14-17P	0.375	130.9	56.0	130.9	56.0	0.422	MT	186,592	244.1	422.0	10.6	186,592
EX-02.14-18E	0.375	200.6	146.0	200.6	146.0	0.409	MT	137,201	174.4	409.0	112.0	137,201
EX-02.14-20E	0.375	200.6	186.5	200.6	186.5	0.398	MT	186,592	90.6	398.0	28.2	137,201
EX-02.14-21P	0.375	275.7	26.0	275.7	26.0	0.398	MT	186,592	99.3	398.0	27.3	186,592
EX-02.14-24E	0.375	284.4	197.0	284.4	197.0	0.339	MT	186,592	90.6	339.0	28.2	186,592
EX-02.14-25E	0.375	284.4	242.0	284.4	242.0	0.299	MT	186,592	90.6	299.0	28.2	186,592
EX-02.14-27E	0.000	284.4	271.0	284.4	271.0	0.297	MT	186,592	90.6	297.0	28.2	186,592
===>Grouped by Line:	**EX-02.15 FWH 35 HEADER**											***Sorted By: Flow Order***
EX-02.15-02T	0.656	219.9	389.0	0.0	0.0	0.656	ER	78,649	656.0	656.0	1.1	0

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**EX-02.2 PSEP 1A 10" to 35 HDR**										***Sorted By: Flow Order***	
EX-02.2-03E	0.365	94.5	202.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.2-04P	0.365	47.2	127.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.0	0
===>Grouped by Line:	**EX-02.6 PSEP 1A&2A to 35 HDR**										***Sorted By: Flow Order***	
EX-02.2-07T	0.500	167.3	162.0	0.0	0.0	0.500	ER	153,469	500.0	500.0	0.1	0
EX-02.2-07T (D/S)	0.500	240.8	166.0	0.0	0.0	0.500	ER	153,469	500.0	500.0	0.2	0
===>Grouped by Line:	**EX-02.9 PSEP 1B 10" to 35 HDR**										***Sorted By: Flow Order***	
EX-02.9-03E	0.365	111.5	253.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.9-05E	0.365	111.5	115.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.9-07E	0.365	111.5	191.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.9-08P	0.365	75.7	83.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.9-09E	0.365	111.5	190.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0
EX-02.9-10P	0.000	115.7	33.0	0.0	0.0	0.365	ER	153,469	365.0	365.0	0.1	0

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:01:10AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.590

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1A FWH 36A to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1A-05V	22	16.207	10.049	430.4	29.883	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-01N	31	11.470	7.112	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-02E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-04E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-07E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-09E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-11E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-03P	54	7.341	4.552	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-13R	18	6.423	3.983	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-08P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-10P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-12P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-06P	58	5.047	3.129	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-13R (D/S)	18	3.265	2.055	430.4	5.938	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.1B FWH 36B to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1B-05V	22	16.207	10.049	430.4	29.883	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-01N	31	11.470	7.112	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-02E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-04E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-07E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-09E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-03P	54	7.341	4.552	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-10P	52	5.759	3.571	430.4	17.364	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-08P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-06P	58	5.047	3.129	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1C-05V	22	16.207	10.049	430.4	29.883	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***								***Sorted By: Average Wear Rate***		
FW-02.1C-01N	31	11.470	7.112	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-02E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-04E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-07E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-09E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-03P	54	7.341	4.552	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-10P	52	5.789	3.590	430.4	17.508	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-08P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-06P	58	5.047	3.129	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:01:10AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.590

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1A FWH 36A to SG HDR***									***Sorted By: Flow Order***	
FW-02.1A-01N	31	11.470	7.112	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-02E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-03P	54	7.341	4.552	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-04E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-05V	22	16.207	10.049	430.4	29.883	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-06P	58	5.047	3.129	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-07E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-08P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-09E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-10P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-11E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-12P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-13R	18	6.423	3.983	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1A-13R (D/S)	18	3.265	2.055	430.4	5.938	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.1B FWH 36B to SG HDR***									***Sorted By: Flow Order***	
FW-02.1B-01N	31	11.470	7.112	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-02E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-03P	54	7.341	4.552	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-04E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-05V	22	16.207	10.049	430.4	29.883	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-06P	58	5.047	3.129	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-07E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-08P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-09E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-10P	52	5.759	3.571	430.4	17.364	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***									***Sorted By: Flow Order***	
FW-02.1C-01N	31	11.470	7.112	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.1C FWH 36C to SG HDR***									***Sorted By: Flow Order***	
FW-02.1C-02E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-03P	54	7.341	4.552	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-04E	4	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-05V	22	16.207	10.049	430.4	29.883	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-06P	58	5.047	3.129	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-07E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-08P	52	5.735	3.556	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-09E	2	8.488	5.263	430.4	17.248	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-10P	52	5.789	3.590	430.4	17.508	0.0	18.000	6.621	0.000	61.01	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:01:10AM

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.590

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1A FWH 36A to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1A-05V	0.938	0.561	0.889	0.889	-190,022	No	203,584
FW-02.1A-01N	0.938	0.671	0.717	0.717	-57,280	No	203,584
FW-02.1A-07E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1A-08P	0.938	0.805	0.717	0.717	216,140	No	203,584
FW-02.1A-09E	0.938	0.848	0.717	0.717	217,732	Yes	203,584
FW-02.1A-11E	0.938	0.883	0.717	0.717	275,985	Yes	203,584
FW-02.1A-06P	0.938	0.821	0.717	0.717	290,384	No	203,584
FW-02.1A-13R	0.000	0.871	0.717	0.717	338,457	Yes	203,584
FW-02.1A-03P	0.938	0.899	0.717	0.717	349,556	Yes	203,584
FW-02.1A-04E	0.938	0.948	0.717	0.717	384,345	Yes	203,584
FW-02.1A-10P	0.938	0.878	0.717	0.717	396,908	Yes	203,584
FW-02.1A-02E	0.938	0.987	0.717	0.717	449,256	Yes	203,584
FW-02.1A-12P	0.938	0.906	0.717	0.717	465,880	Yes	203,584
FW-02.1A-13R (D/S)	0.000	1.338	1.195	1.195	611,539	Yes	203,584
===>Grouped by Line: **FW-02.1B FWH 36B to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1B-05V	0.938	0.561	0.889	0.889	-190,022	No	203,584
FW-02.1B-07E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1B-09E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1B-08P	0.938	0.805	0.717	0.717	216,140	No	203,584
FW-02.1B-03P	0.938	0.892	0.717	0.717	336,306	Yes	203,584
FW-02.1B-10P	0.965	0.860	0.717	0.717	351,012	Yes	203,584
FW-02.1B-04E	0.938	0.953	0.717	0.717	392,055	Yes	203,584
FW-02.1B-02E	0.938	0.964	0.717	0.717	410,364	Yes	203,584
FW-02.1B-06P	0.938	0.864	0.717	0.717	411,908	Yes	203,584
FW-02.1B-01N	0.938	2.442	0.717	0.717	2,124,637	No	203,584
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1C-05V	0.938	0.561	0.889	0.889	-190,022	No	203,584
FW-02.1C-04E	0.938	0.741	0.717	0.717	39,560	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Remaining Life***		
FW-02.1C-07E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1C-09E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1C-08P	0.938	0.805	0.717	0.717	216,140	No	203,584
FW-02.1C-02E	0.938	0.873	0.717	0.717	259,787	Yes	203,584
FW-02.1C-06P	0.938	0.821	0.717	0.717	290,384	No	203,584
FW-02.1C-03P	0.938	0.889	0.717	0.717	331,258	Yes	203,584
FW-02.1C-10P	0.998	0.863	0.717	0.717	357,463	Yes	203,584
FW-02.1C-01N	0.938	1.141	0.717	0.717	521,683	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.590

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1A FWH 36A to SG HDR**					***Sorted By:Flow Order***		
FW-02.1A-01N	0.938	0.671	0.717	0.717	-57,280	No	203,584
FW-02.1A-02E	0.938	0.987	0.717	0.717	449,256	Yes	203,584
FW-02.1A-03P	0.938	0.899	0.717	0.717	349,556	Yes	203,584
FW-02.1A-04E	0.938	0.948	0.717	0.717	384,345	Yes	203,584
FW-02.1A-05V	0.938	0.561	0.889	0.889	-190,022	No	203,584
FW-02.1A-06P	0.938	0.821	0.717	0.717	290,384	No	203,584
FW-02.1A-07E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1A-08P	0.938	0.805	0.717	0.717	216,140	No	203,584
FW-02.1A-09E	0.938	0.848	0.717	0.717	217,732	Yes	203,584
FW-02.1A-10P	0.938	0.878	0.717	0.717	396,908	Yes	203,584
FW-02.1A-11E	0.938	0.883	0.717	0.717	275,985	Yes	203,584
FW-02.1A-12P	0.938	0.906	0.717	0.717	465,880	Yes	203,584
FW-02.1A-13R	0.000	0.871	0.717	0.717	338,457	Yes	203,584
FW-02.1A-13R (D/S)	0.000	1.338	1.195	1.195	611,539	Yes	203,584
===>Grouped by Line: **FW-02.1B FWH 36B to SG HDR**					***Sorted By:Flow Order***		
FW-02.1B-01N	0.938	2.442	0.717	0.717	2,124,637	No	203,584
FW-02.1B-02E	0.938	0.964	0.717	0.717	410,364	Yes	203,584
FW-02.1B-03P	0.938	0.892	0.717	0.717	336,306	Yes	203,584
FW-02.1B-04E	0.938	0.953	0.717	0.717	392,055	Yes	203,584
FW-02.1B-05V	0.938	0.561	0.889	0.889	-190,022	No	203,584
FW-02.1B-06P	0.938	0.864	0.717	0.717	411,908	Yes	203,584
FW-02.1B-07E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1B-08P	0.938	0.805	0.717	0.717	216,140	No	203,584
FW-02.1B-09E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1B-10P	0.965	0.860	0.717	0.717	351,012	Yes	203,584
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Flow Order***		
FW-02.1C-01N	0.938	1.141	0.717	0.717	521,683	Yes	203,584
FW-02.1C-02E	0.938	0.873	0.717	0.717	259,787	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.1C FWH 36C to SG HDR**					***Sorted By:Flow Order***		
FW-02.1C-03P	0.938	0.889	0.717	0.717	331,258	Yes	203,584
FW-02.1C-04E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1C-05V	0.938	0.561	0.889	0.889	-190,022	No	203,584
FW-02.1C-06P	0.938	0.821	0.717	0.717	290,384	No	203,584
FW-02.1C-07E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1C-08P	0.938	0.805	0.717	0.717	216,140	No	203,584
FW-02.1C-09E	0.938	0.741	0.717	0.717	39,560	No	203,584
FW-02.1C-10P	0.998	0.863	0.717	0.717	357,463	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: FW: 36 HTR TO SG HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.590

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**FW-02.1A FWH 36A to SG HDR**											***Sorted By: Flow Order***
FW-02.1A-02E	0.938	177.2	115.0	177.2	115.0	1.007	MT	170,123	760.8	1,007.0	20.1	170,123
FW-02.1A-03P	0.938	153.2	64.0	153.2	64.0	0.916	MT	170,123	784.8	916.0	17.4	170,123
FW-02.1A-04E	0.938	177.2	183.0	177.2	183.0	0.968	MT	170,123	760.8	968.0	20.1	170,123
FW-02.1A-09E	0.938	187.0	189.0	187.0	189.0	0.858	MT	186,592	751.0	858.0	10.2	186,592
FW-02.1A-10P	0.938	126.4	203.0	126.4	203.0	0.885	MT	186,592	811.6	885.0	6.9	186,592
FW-02.1A-11E	0.938	187.0	122.0	187.0	122.0	0.893	MT	186,592	751.0	893.0	10.2	186,592
FW-02.1A-12P	0.938	126.4	46.0	126.4	46.0	0.913	MT	186,592	811.6	913.0	6.9	186,592
FW-02.1A-13R	0.000	109.1	108.0	109.1	108.0	0.911	MT	107,911	828.9	911.0	40.1	107,911
FW-02.1A-13R (D/S)	0.000	55.3	152.0	55.3	152.0	1.359	GW	107,911	1,204.7	1,359.0	20.6	107,911
===>Grouped by Line:	**FW-02.1B FWH 36B to SG HDR**											***Sorted By: Flow Order***
FW-02.1B-02E	0.938	158.8	283.0	158.8	283.0	1.002	GW	137,201	779.2	1,002.0	38.5	137,201
FW-02.1B-03P	0.938	137.3	61.0	137.3	61.0	0.925	GW	137,201	800.7	925.0	33.3	137,201
FW-02.1B-04E	0.938	158.8	249.0	158.8	249.0	0.991	GW	137,201	779.2	991.0	38.5	137,201
FW-02.1B-06P	0.938	94.4	112.0	94.4	112.0	0.887	GW	137,201	843.6	887.0	22.9	137,201
FW-02.1B-10P	0.965	126.9	122.0	126.9	122.0	0.867	MT	186,592	838.1	867.0	6.9	186,592
===>Grouped by Line:	**FW-02.1C FWH 36C to SG HDR**											***Sorted By: Flow Order***
FW-02.1C-01N	0.938	226.1	156.0	226.1	156.0	1.181	GW	153,469	711.9	1,181.0	40.5	153,469
FW-02.1C-02E	0.938	167.3	280.0	167.3	280.0	0.903	GW	153,469	770.7	903.0	29.9	153,469
FW-02.1C-03P	0.938	144.7	50.0	144.7	50.0	0.915	GW	153,469	793.3	915.0	25.9	153,469
FW-02.1C-10P	0.998	80.8	91.0	80.8	91.0	0.998	ER	0	863.5	998.0	134.5	78,649

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 3:41:04PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.893

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.1A BFP 31 to RCIRC T***								***Sorted By: Average Wear Rate***		
FW-01.2A-03T (BR/SE)	15	37.217	22.108	378.8	539.374	0.0	6.625	6.855	0.000	61.01	ARD
FW-01.1A-03R	18	6.398	3.801	378.8	33.910	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1A-02P	61	6.147	3.652	378.8	33.715	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.2A-01E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-02P	54	5.271	3.131	378.8	20.153	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.1A-03R (D/S)	18	4.978	2.957	378.8	20.389	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-03T (D/S)	15	4.939	2.934	378.8	20.135	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-03T	15	4.939	2.934	378.8	20.135	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.1A-01N	31	0.021	0.012	378.8	33.290	0.0	16.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.1B BFP 32 to RCIRC T***								***Sorted By: Average Wear Rate***		
FW-01.2B-05T (BR/SE)	15	37.217	22.108	378.8	539.374	0.0	6.625	6.855	0.000	61.01	ARD
FW-01.1B-03R	18	6.398	3.801	378.8	33.910	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1B-02P	61	6.262	3.720	378.8	34.720	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.2B-01E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-03E	1	5.599	3.326	378.8	21.122	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-02P	54	5.262	3.126	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.1B-03R (D/S)	18	4.978	2.957	378.8	20.389	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-05T (D/S)	15	4.937	2.933	378.8	20.121	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-05T	15	4.937	2.933	378.8	20.121	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-04P	51	3.618	2.149	378.8	20.103	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.1B-01N	31	0.021	0.012	378.8	33.290	0.0	16.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2A-06V	22	11.488	6.825	378.8	34.207	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-05V	25	9.222	5.478	378.8	24.119	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-10E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-07E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-12E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2A-14E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-16E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-18E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-20E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-22E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-08T (D/S)	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-08T	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-23P	52	4.124	2.450	378.8	20.198	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-11P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-13P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-15P_1	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-17P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-19P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-21P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-04P	65	3.293	1.956	378.8	20.135	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-09P	65	3.289	1.954	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-15P_2	9	2.417	1.461	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2B-08V	22	11.488	6.825	378.8	34.207	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-07V	25	9.222	5.478	378.8	24.119	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-13E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-15E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-09E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B.17E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-19E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-21E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-23E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-25E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-10P	54	5.262	3.126	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-11T (D/S)	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-11T	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-27R	18	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-14P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-16P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-18P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-20P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***								***Sorted By: Average Wear Rate***		
FW-01.2B-22P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-24P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-26P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-06P	65	3.301	1.961	378.8	20.216	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-12P	65	3.289	1.954	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-27R (D/S)	18	2.885	1.714	378.8	8.564	0.0	30.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.3 BFP DISCHARGE HDR***								***Sorted By: Average Wear Rate***		
FW-01.4-01T	14	7.857	4.667	378.8	17.358	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.4-01T (D/S)	14	6.265	3.722	378.8	11.577	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-01T (D/S)	12	5.870	3.487	378.8	17.419	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-01T (BR/SE)	12	5.600	3.327	378.8	20.148	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.3-04E	4	5.429	3.225	378.8	18.111	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-03E	4	5.366	3.188	378.8	17.780	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.4-01T (BR/SE)	14	5.311	3.155	378.8	16.905	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.3-06E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-08E	4	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-10E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-12E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-14E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-15E	4	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-05P	54	4.533	2.693	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-09P	54	4.533	2.693	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-16P	54	4.533	2.693	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-17T (D/S)	15	4.250	2.525	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-17T	15	4.250	2.525	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-01T	12	3.984	2.367	378.8	8.709	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-07P	52	3.542	2.104	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-11P	52	3.542	2.104	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-13P	52	3.542	2.104	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-02P	62	2.862	1.700	378.8	17.409	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-18P	65	2.856	1.697	378.8	17.350	0.0	30.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.4 BFP DISCHARGE HDR***								***Sorted By: Average Wear Rate***		
FW-01.5-01T	14	6.285	3.734	378.8	11.635	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.5-01T (BR/SE)	14	5.308	3.153	378.8	16.888	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.5-01T (D/S)	14	3.920	2.369	378.8	5.809	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.4-02P	63	2.276	1.352	378.8	11.561	0.0	30.000	6.855	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.6A BFP HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
FW-01.6A-07V	22	10.585	6.288	378.8	28.703	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-12N	30	5.993	3.560	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-03E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-05E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-08E	4	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-10E	3	5.244	3.115	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-01R (D/S)	7	4.795	2.848	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-09P	54	4.795	2.848	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-02P	57	3.788	2.250	378.8	16.863	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-04P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-06P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-11P	53	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-01R	7	2.452	1.482	378.8	5.704	0.0	30.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.6B BFP HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
FW-01.6B-05V	22	10.585	6.288	378.8	28.703	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-10N	30	5.993	3.560	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-03E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-06E	4	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-08E	3	5.244	3.115	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-07P	54	4.795	2.848	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-04P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-02P	64	2.993	1.778	378.8	16.534	0.0	18.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.6C BFP HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
FW-01.6C-05V	22	10.585	6.288	378.8	28.703	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-10N	30	5.993	3.560	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-03E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-06E	4	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-08E	3	5.244	3.115	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-04P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-02P	64	2.997	1.780	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 3:41:04PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.893

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.1A BFP 31 to RCIRC T***									***Sorted By: Flow Order***	
FW-01.1A-01N	31	0.021	0.012	378.8	33.290	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1A-02P	61	6.147	3.652	378.8	33.715	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1A-03R	18	6.398	3.801	378.8	33.910	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1A-03R (D/S)	18	4.978	2.957	378.8	20.389	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-01E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-02P	54	5.271	3.131	378.8	20.153	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-03T	15	4.939	2.934	378.8	20.135	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-03T (D/S)	15	4.939	2.934	378.8	20.135	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-03T (BR/SE)	15	37.217	22.108	378.8	539.374	0.0	6.625	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.1B BFP 32 to RCIRC T***									***Sorted By: Flow Order***	
FW-01.1B-01N	31	0.021	0.012	378.8	33.290	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1B-02P	61	6.262	3.720	378.8	34.720	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1B-03R	18	6.398	3.801	378.8	33.910	0.0	16.000	6.855	0.000	61.01	ARD
FW-01.1B-03R (D/S)	18	4.978	2.957	378.8	20.389	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-01E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-02P	54	5.262	3.126	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-03E	1	5.599	3.326	378.8	21.122	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-04P	51	3.618	2.149	378.8	20.103	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-05T	15	4.937	2.933	378.8	20.121	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-05T (D/S)	15	4.937	2.933	378.8	20.121	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-05T (BR/SE)	15	37.217	22.108	378.8	539.374	0.0	6.625	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2A-04P	65	3.293	1.956	378.8	20.135	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-05V	25	9.222	5.478	378.8	24.119	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-06V	22	11.488	6.825	378.8	34.207	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-07E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-08T	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2A BFP31 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2A-08T (D/S)	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-09P	65	3.289	1.954	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-10E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-11P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-12E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-13P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-14E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-15P_1	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-15P_2	9	2.417	1.461	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-16E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-17P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-18E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-19P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-20E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-21P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-22E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2A-23P	52	4.124	2.450	378.8	20.198	0.0	20.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2B-06P	65	3.301	1.961	378.8	20.216	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-07V	25	9.222	5.478	378.8	24.119	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-08V	22	11.488	6.825	378.8	34.207	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-09E	4	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-10P	54	5.262	3.126	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-11T	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-11T (D/S)	15	4.933	2.931	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-12P	65	3.289	1.954	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-13E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-14P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-15E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-16P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B.17E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-18P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-19E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-20P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-21E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-22P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.2B BFP32 RCIRC T to HDR***									***Sorted By: Flow Order***	
FW-01.2B-23E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-24P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-25E	2	6.085	3.614	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-26P	52	4.111	2.442	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-27R	18	4.605	2.735	378.8	20.099	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.2B-27R (D/S)	18	2.885	1.714	378.8	8.564	0.0	30.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.3 BFP DISCHARGE HDR***									***Sorted By: Flow Order***	
FW-01.3-01T (BR/SE)	12	5.600	3.327	378.8	20.148	0.0	20.000	6.855	0.000	61.01	ARD
FW-01.3-01T	12	3.984	2.367	378.8	8.709	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-01T (D/S)	12	5.870	3.487	378.8	17.419	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-02P	62	2.862	1.700	378.8	17.409	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-03E	4	5.366	3.188	378.8	17.780	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-04E	4	5.429	3.225	378.8	18.111	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-05P	54	4.533	2.693	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-06E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-07P	52	3.542	2.104	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-08E	4	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-09P	54	4.533	2.693	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-10E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-11P	52	3.542	2.104	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-12E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-13P	52	3.542	2.104	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-14E	2	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-15E	4	5.242	3.114	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-16P	54	4.533	2.693	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-17T	15	4.250	2.525	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-17T (D/S)	15	4.250	2.525	378.8	17.128	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.3-18P	65	2.856	1.697	378.8	17.350	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.4-01T	14	7.857	4.667	378.8	17.358	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.4-01T (D/S)	14	6.265	3.722	378.8	11.577	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.4-01T (BR/SE)	14	5.311	3.155	378.8	16.905	0.0	18.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.4 BFP DISCHARGE HDR***									***Sorted By: Flow Order***	
FW-01.4-02P	63	2.276	1.352	378.8	11.561	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.5-01T	14	6.285	3.734	378.8	11.635	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.5-01T (D/S)	14	3.920	2.369	378.8	5.809	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.5-01T (BR/SE)	14	5.308	3.153	378.8	16.888	0.0	18.000	6.855	0.000	61.01	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-01.6A BFP HDR to FWH 36A***									***Sorted By: Flow Order***	
FW-01.6A-01R	7	2.452	1.482	378.8	5.704	0.0	30.000	6.855	0.000	61.01	ARD
FW-01.6A-01R (D/S)	7	4.795	2.848	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-02P	57	3.788	2.250	378.8	16.863	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-03E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-04P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-05E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-06P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-07V	22	10.585	6.288	378.8	28.703	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-08E	4	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-09P	54	4.795	2.848	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-10E	3	5.244	3.115	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-11P	53	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6A-12N	30	5.993	3.560	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.6B BFP HDR to FWH 36B***									***Sorted By: Flow Order***	
FW-01.6B-02P	64	2.993	1.778	378.8	16.534	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-03E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-04P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-05V	22	10.585	6.288	378.8	28.703	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-06E	4	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-07P	54	4.795	2.848	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-08E	3	5.244	3.115	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6B-10N	30	5.993	3.560	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
===>Grouped by Line:	***FW-01.6C BFP HDR to FWH 36C***									***Sorted By: Flow Order***	
FW-01.6C-02P	64	2.997	1.780	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-03E	2	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-04P	52	3.746	2.225	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-05V	22	10.585	6.288	378.8	28.703	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-06E	4	5.544	3.293	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-08E	3	5.244	3.115	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD
FW-01.6C-10N	30	5.993	3.560	378.8	16.567	0.0	18.000	6.855	0.000	61.01	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 3:41:04PM

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.893

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.1A BFP 31 to RCIRC T**					***Sorted By:Remaining Life***		
FW-01.1A-03R (D/S)	1.095	0.961	0.924	0.924	108,649	Yes	203,584
FW-01.2A-03T (BR/SE)	0.000	0.847	0.264	0.264	230,930	No	4,072
FW-01.2A-03T	1.039	0.924	0.797	0.797	380,924	No	203,584
FW-01.2A-03T (D/S)	1.039	0.924	0.797	0.797	380,924	No	203,584
FW-01.2A-01E	1.031	0.976	0.797	0.797	434,679	Yes	203,584
FW-01.2A-02P	1.043	0.974	0.797	0.797	497,559	Yes	203,584
FW-01.1A-02P	1.075	0.969	0.740	0.740	550,826	Yes	203,584
FW-01.1A-03R	1.095	1.043	0.740	0.740	700,125	Yes	203,584
FW-01.1A-01N	1.031	1.001	0.620	0.620	269,662,272	No	203,584
===>Grouped by Line: **FW-01.1B BFP 32 to RCIRC T**					***Sorted By:Remaining Life***		
FW-01.2B-05T (BR/SE)	0.000	0.847	0.264	0.264	230,930	No	4,072
FW-01.2B-01E	1.031	0.912	0.797	0.797	278,860	Yes	203,584
FW-01.1B-03R (D/S)	1.095	1.027	0.924	0.924	304,420	Yes	203,584
FW-01.2B-02P	1.031	0.909	0.797	0.797	314,040	No	203,584
FW-01.2B-05T	1.036	0.978	0.797	0.797	540,820	No	203,584
FW-01.1B-02P	1.176	0.988	0.740	0.740	584,941	No	203,584
FW-01.2B-05T (D/S)	1.036	0.993	0.797	0.797	585,625	No	203,584
FW-01.1B-03R	1.095	1.013	0.740	0.740	629,256	Yes	203,584
FW-01.2B-03E	1.251	1.039	0.797	0.797	637,144	Yes	203,584
FW-01.2B-04P	1.032	0.985	0.797	0.797	766,982	Yes	203,584
FW-01.1B-01N	1.031	0.990	0.620	0.620	261,780,624	No	203,584
===>Grouped by Line: **FW-01.2A BFP31 RCIRC T to HDR**					***Sorted By:Remaining Life***		
FW-01.2A-06V	1.031	0.764	0.988	0.988	-186,154	No	203,584
FW-01.2A-05V	1.031	0.817	0.988	0.988	-182,142	No	203,584
FW-01.2A-07E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-10E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-12E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-14E	1.031	0.890	0.797	0.797	225,290	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-01.2A BFP31 RCIRC T to HDR**				***Sorted By:Remaining Life***		
FW-01.2A-16E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-18E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-20E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-22E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-08T	1.031	0.916	0.797	0.797	357,824	No	203,584
FW-01.2A-08T (D/S)	0.000	0.916	0.797	0.797	357,824	No	203,584
FW-01.2A-11P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-13P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-15P_1	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-17P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-19P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-21P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-23P	1.053	0.957	0.797	0.797	574,007	Yes	203,584
FW-01.2A-09P	1.031	0.955	0.797	0.797	708,092	No	203,584
FW-01.2A-04P	1.039	0.998	0.797	0.797	902,755	Yes	203,584
FW-01.2A-15P_2	1.031	0.975	0.797	0.797	1,068,561	No	203,584
===>Grouped by Line:	**FW-01.2B BFP32 RCIRC T to HDR**				***Sorted By:Remaining Life***		
FW-01.2B-08V	1.031	0.764	0.988	0.988	-186,154	No	203,584
FW-01.2B-07V	1.031	0.817	0.988	0.988	-182,142	No	203,584
FW-01.2B-09E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-13E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-15E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B.17E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-19E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-21E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-23E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-25E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-10P	1.031	0.909	0.797	0.797	314,040	No	203,584
FW-01.2B-11T	1.031	0.916	0.797	0.797	357,824	No	203,584
FW-01.2B-11T (D/S)	0.000	0.916	0.797	0.797	357,824	No	203,584
FW-01.2B-27R (D/S)	0.000	1.283	1.195	1.195	449,543	Yes	203,584
FW-01.2B-14P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-16P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-18P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-20P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-22P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-24P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-26P	1.031	0.935	0.797	0.797	497,931	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-01.2B BFP32 RCIRC T to HDR**				***Sorted By:Remaining Life***		
FW-01.2B-27R	0.000	0.985	0.797	0.797	603,589	Yes	203,584
FW-01.2B-12P	1.031	0.955	0.797	0.797	708,092	No	203,584
FW-01.2B-06P	1.057	0.980	0.797	0.797	820,412	No	203,584
===>Grouped by Line:	**FW-01.3 BFP DISCHARGE HDR**				***Sorted By:Remaining Life***		
FW-01.4-01T	1.351	1.342	1.195	1.195	275,881	No	203,584
FW-01.3-12E	1.260	1.301	1.195	1.195	299,144	Yes	203,584
FW-01.3-01T	1.375	1.282	1.195	1.195	323,639	No	203,584
FW-01.4-01T (BR/SE)	1.019	0.839	0.717	0.717	338,485	Yes	203,584
FW-01.3-10E	1.260	1.318	1.195	1.195	345,824	Yes	203,584
FW-01.4-01T (D/S)	1.351	1.344	1.195	1.195	350,285	No	203,584
FW-01.3-15E	1.260	1.320	1.195	1.195	350,871	Yes	203,584
FW-01.3-16P	1.260	1.309	1.195	1.195	369,353	Yes	203,584
FW-01.3-01T (D/S)	1.375	1.349	1.195	1.195	387,393	Yes	203,584
FW-01.3-01T (BR/SE)	1.042	0.955	0.797	0.797	416,656	Yes	203,584
FW-01.3-06E	1.260	1.353	1.195	1.195	444,521	Yes	203,584
FW-01.3-03E	1.514	1.359	1.195	1.195	450,303	Yes	203,584
FW-01.3-17T (D/S)	1.260	1.331	1.195	1.195	470,787	Yes	203,584
FW-01.3-14E	1.260	1.363	1.195	1.195	473,066	Yes	203,584
FW-01.3-17T	1.260	1.337	1.195	1.195	491,605	Yes	203,584
FW-01.3-08E	1.260	1.376	1.195	1.195	509,228	Yes	203,584
FW-01.3-04E	1.638	1.389	1.195	1.195	526,393	Yes	203,584
FW-01.3-09P	1.260	1.359	1.195	1.195	532,897	Yes	203,584
FW-01.3-05P	1.260	1.360	1.195	1.195	536,150	Yes	203,584
FW-01.3-07P	1.260	1.341	1.195	1.195	609,498	Yes	203,584
FW-01.3-11P	1.260	1.343	1.195	1.195	617,991	No	203,584
FW-01.3-13P	1.260	1.363	1.195	1.195	699,544	No	203,584
FW-01.3-18P	1.348	1.341	1.195	1.195	755,788	Yes	203,584
FW-01.3-02P	1.371	1.363	1.195	1.195	865,929	Yes	203,584
===>Grouped by Line:	**FW-01.4 BFP DISCHARGE HDR**				***Sorted By:Remaining Life***		
FW-01.5-01T	1.385	1.337	1.195	1.195	332,710	Yes	203,584
FW-01.5-01T (BR/SE)	1.015	0.843	0.717	0.717	349,822	Yes	203,584
FW-01.5-01T (D/S)	1.385	1.346	1.195	1.195	559,990	Yes	203,584
FW-01.4-02P	1.341	1.288	1.195	1.195	603,443	No	203,584
===>Grouped by Line:	**FW-01.6A BFP HDR to FWH 36A**				***Sorted By:Remaining Life***		
FW-01.6A-07V	0.938	0.692	0.889	0.889	-182,416	No	203,584
FW-01.6A-03E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6A-05E	0.938	0.809	0.717	0.717	245,232	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-01.6A BFP HDR to FWH 36A**				***Sorted By:Remaining Life***		
FW-01.6A-08E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6A-10E	0.938	0.816	0.717	0.717	278,829	No	203,584
FW-01.6A-09P	0.938	0.827	0.717	0.717	337,099	No	203,584
FW-01.6A-04P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6A-06P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6A-11P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6A-02P	1.009	0.878	0.717	0.717	625,102	Yes	203,584
FW-01.6A-01R	0.000	1.304	1.195	1.195	642,092	No	203,584
FW-01.6A-01R (D/S)	0.000	1.436	0.717	0.717	2,211,782	No	203,584
FW-01.6A-12N	0.938	2.604	0.717	0.717	4,644,126	Yes	203,584
===>Grouped by Line:	**FW-01.6B BFP HDR to FWH 36B**				***Sorted By:Remaining Life***		
FW-01.6B-05V	0.938	0.692	0.889	0.889	-182,416	No	203,584
FW-01.6B-03E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6B-07P	0.938	0.832	0.717	0.717	353,329	Yes	203,584
FW-01.6B-04P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6B-08E	0.938	0.963	0.717	0.717	691,473	Yes	203,584
FW-01.6B-02P	0.930	0.879	0.717	0.717	797,490	Yes	203,584
FW-01.6B-06E	0.938	1.056	0.717	0.717	900,626	Yes	203,584
FW-01.6B-10N	0.938	2.715	0.717	0.717	4,915,186	Yes	203,584
===>Grouped by Line:	**FW-01.6C BFP HDR to FWH 36C**				***Sorted By:Remaining Life***		
FW-01.6C-05V	0.938	0.692	0.889	0.889	-182,416	No	203,584
FW-01.6C-03E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6C-06E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6C-08E	0.938	0.816	0.717	0.717	278,829	No	203,584
FW-01.6C-04P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6C-02P	0.938	0.881	0.717	0.717	804,968	Yes	203,584
FW-01.6C-10N	0.938	2.777	0.717	0.717	5,069,802	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.893

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.1A BFP 31 to RCIRC T**					***Sorted By:Flow Order***		
FW-01.1A-01N	1.031	1.001	0.620	0.620	269,662,272	No	203,584
FW-01.1A-02P	1.075	0.969	0.740	0.740	550,826	Yes	203,584
FW-01.1A-03R	1.095	1.043	0.740	0.740	700,125	Yes	203,584
FW-01.1A-03R (D/S)	1.095	0.961	0.924	0.924	108,649	Yes	203,584
FW-01.2A-01E	1.031	0.976	0.797	0.797	434,679	Yes	203,584
FW-01.2A-02P	1.043	0.974	0.797	0.797	497,559	Yes	203,584
FW-01.2A-03T	1.039	0.924	0.797	0.797	380,924	No	203,584
FW-01.2A-03T (D/S)	1.039	0.924	0.797	0.797	380,924	No	203,584
FW-01.2A-03T (BR/SE)	0.000	0.847	0.264	0.264	230,930	No	4,072
===>Grouped by Line: **FW-01.1B BFP 32 to RCIRC T**					***Sorted By:Flow Order***		
FW-01.1B-01N	1.031	0.990	0.620	0.620	261,780,624	No	203,584
FW-01.1B-02P	1.176	0.988	0.740	0.740	584,941	No	203,584
FW-01.1B-03R	1.095	1.013	0.740	0.740	629,256	Yes	203,584
FW-01.1B-03R (D/S)	1.095	1.027	0.924	0.924	304,420	Yes	203,584
FW-01.2B-01E	1.031	0.912	0.797	0.797	278,860	Yes	203,584
FW-01.2B-02P	1.031	0.909	0.797	0.797	314,040	No	203,584
FW-01.2B-03E	1.251	1.039	0.797	0.797	637,144	Yes	203,584
FW-01.2B-04P	1.032	0.985	0.797	0.797	766,982	Yes	203,584
FW-01.2B-05T	1.036	0.978	0.797	0.797	540,820	No	203,584
FW-01.2B-05T (D/S)	1.036	0.993	0.797	0.797	585,625	No	203,584
FW-01.2B-05T (BR/SE)	0.000	0.847	0.264	0.264	230,930	No	4,072
===>Grouped by Line: **FW-01.2A BFP31 RCIRC T to HDR**					***Sorted By:Flow Order***		
FW-01.2A-04P	1.039	0.998	0.797	0.797	902,755	Yes	203,584
FW-01.2A-05V	1.031	0.817	0.988	0.988	-182,142	No	203,584
FW-01.2A-06V	1.031	0.764	0.988	0.988	-186,154	No	203,584
FW-01.2A-07E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-08T	1.031	0.916	0.797	0.797	357,824	No	203,584
FW-01.2A-08T (D/S)	0.000	0.916	0.797	0.797	357,824	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.2A BFP31 RCIRC T to HDR**					***Sorted By:Flow Order***		
FW-01.2A-09P	1.031	0.955	0.797	0.797	708,092	No	203,584
FW-01.2A-10E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-11P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-12E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-13P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-14E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-15P_1	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-15P_2	1.031	0.975	0.797	0.797	1,068,561	No	203,584
FW-01.2A-16E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-17P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-18E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-19P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-20E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-21P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2A-22E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2A-23P	1.053	0.957	0.797	0.797	574,007	Yes	203,584
===>Grouped by Line: **FW-01.2B BFP32 RCIRC T to HDR**					***Sorted By:Flow Order***		
FW-01.2B-06P	1.057	0.980	0.797	0.797	820,412	No	203,584
FW-01.2B-07V	1.031	0.817	0.988	0.988	-182,142	No	203,584
FW-01.2B-08V	1.031	0.764	0.988	0.988	-186,154	No	203,584
FW-01.2B-09E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-10P	1.031	0.909	0.797	0.797	314,040	No	203,584
FW-01.2B-11T	1.031	0.916	0.797	0.797	357,824	No	203,584
FW-01.2B-11T (D/S)	0.000	0.916	0.797	0.797	357,824	No	203,584
FW-01.2B-12P	1.031	0.955	0.797	0.797	708,092	No	203,584
FW-01.2B-13E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-14P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-15E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-16P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B.17E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-18P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-19E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-20P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-21E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-22P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-23E	1.031	0.890	0.797	0.797	225,290	No	203,584
FW-01.2B-24P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-25E	1.031	0.890	0.797	0.797	225,290	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-01.2B BFP32 RCIRC T to HDR**				***Sorted By:Flow Order***		
FW-01.2B-26P	1.031	0.935	0.797	0.797	497,931	No	203,584
FW-01.2B-27R	0.000	0.985	0.797	0.797	603,589	Yes	203,584
FW-01.2B-27R (D/S)	0.000	1.283	1.195	1.195	449,543	Yes	203,584
===>Grouped by Line:	**FW-01.3 BFP DISCHARGE HDR**				***Sorted By:Flow Order***		
FW-01.3-01T (BR/SE)	1.042	0.955	0.797	0.797	416,656	Yes	203,584
FW-01.3-01T	1.375	1.282	1.195	1.195	323,639	No	203,584
FW-01.3-01T (D/S)	1.375	1.349	1.195	1.195	387,393	Yes	203,584
FW-01.3-02P	1.371	1.363	1.195	1.195	865,929	Yes	203,584
FW-01.3-03E	1.514	1.359	1.195	1.195	450,303	Yes	203,584
FW-01.3-04E	1.638	1.389	1.195	1.195	526,393	Yes	203,584
FW-01.3-05P	1.260	1.360	1.195	1.195	536,150	Yes	203,584
FW-01.3-06E	1.260	1.353	1.195	1.195	444,521	Yes	203,584
FW-01.3-07P	1.260	1.341	1.195	1.195	609,498	Yes	203,584
FW-01.3-08E	1.260	1.376	1.195	1.195	509,228	Yes	203,584
FW-01.3-09P	1.260	1.359	1.195	1.195	532,897	Yes	203,584
FW-01.3-10E	1.260	1.318	1.195	1.195	345,824	Yes	203,584
FW-01.3-11P	1.260	1.343	1.195	1.195	617,991	No	203,584
FW-01.3-12E	1.260	1.301	1.195	1.195	299,144	Yes	203,584
FW-01.3-13P	1.260	1.363	1.195	1.195	699,544	No	203,584
FW-01.3-14E	1.260	1.363	1.195	1.195	473,066	Yes	203,584
FW-01.3-15E	1.260	1.320	1.195	1.195	350,871	Yes	203,584
FW-01.3-16P	1.260	1.309	1.195	1.195	369,353	Yes	203,584
FW-01.3-17T	1.260	1.337	1.195	1.195	491,605	Yes	203,584
FW-01.3-17T (D/S)	1.260	1.331	1.195	1.195	470,787	Yes	203,584
FW-01.3-18P	1.348	1.341	1.195	1.195	755,788	Yes	203,584
FW-01.4-01T	1.351	1.342	1.195	1.195	275,881	No	203,584
FW-01.4-01T (D/S)	1.351	1.344	1.195	1.195	350,285	No	203,584
FW-01.4-01T (BR/SE)	1.019	0.839	0.717	0.717	338,485	Yes	203,584
===>Grouped by Line:	**FW-01.4 BFP DISCHARGE HDR**				***Sorted By:Flow Order***		
FW-01.4-02P	1.341	1.288	1.195	1.195	603,443	No	203,584
FW-01.5-01T	1.385	1.337	1.195	1.195	332,710	Yes	203,584
FW-01.5-01T (D/S)	1.385	1.346	1.195	1.195	559,990	Yes	203,584
FW-01.5-01T (BR/SE)	1.015	0.843	0.717	0.717	349,822	Yes	203,584
===>Grouped by Line:	**FW-01.6A BFP HDR to FWH 36A**				***Sorted By:Flow Order***		
FW-01.6A-01R	0.000	1.304	1.195	1.195	642,092	No	203,584
FW-01.6A-01R (D/S)	0.000	1.436	0.717	0.717	2,211,782	No	203,584
FW-01.6A-02P	1.009	0.878	0.717	0.717	625,102	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-01.6A BFP HDR to FWH 36A**					***Sorted By:Flow Order***		
FW-01.6A-03E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6A-04P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6A-05E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6A-06P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6A-07V	0.938	0.692	0.889	0.889	-182,416	No	203,584
FW-01.6A-08E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6A-09P	0.938	0.827	0.717	0.717	337,099	No	203,584
FW-01.6A-10E	0.938	0.816	0.717	0.717	278,829	No	203,584
FW-01.6A-11P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6A-12N	0.938	2.604	0.717	0.717	4,644,126	Yes	203,584
===>Grouped by Line: **FW-01.6B BFP HDR to FWH 36B**					***Sorted By:Flow Order***		
FW-01.6B-02P	0.930	0.879	0.717	0.717	797,490	Yes	203,584
FW-01.6B-03E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6B-04P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6B-05V	0.938	0.692	0.889	0.889	-182,416	No	203,584
FW-01.6B-06E	0.938	1.056	0.717	0.717	900,626	Yes	203,584
FW-01.6B-07P	0.938	0.832	0.717	0.717	353,329	Yes	203,584
FW-01.6B-08E	0.938	0.963	0.717	0.717	691,473	Yes	203,584
FW-01.6B-10N	0.938	2.715	0.717	0.717	4,915,186	Yes	203,584
===>Grouped by Line: **FW-01.6C BFP HDR to FWH 36C**					***Sorted By:Flow Order***		
FW-01.6C-02P	0.938	0.881	0.717	0.717	804,968	Yes	203,584
FW-01.6C-03E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6C-04P	0.938	0.851	0.717	0.717	527,446	No	203,584
FW-01.6C-05V	0.938	0.692	0.889	0.889	-182,416	No	203,584
FW-01.6C-06E	0.938	0.809	0.717	0.717	245,232	No	203,584
FW-01.6C-08E	0.938	0.816	0.717	0.717	278,829	No	203,584
FW-01.6C-10N	0.938	2.777	0.717	0.717	5,069,802	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: FW: BFP TO 36 HTR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.893

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**FW-01.1A BFP 31 to RCIRC T**										***Sorted By: Flow Order***	
FW-01.1A-02P	1.075	122.1	85.0	122.1	85.0	0.990	GW	153,469	952.9	990.0	20.8	153,469
FW-01.1A-03R	1.095	127.1	86.0	127.1	86.0	1.065	GW	153,469	967.9	1,065.0	21.6	153,469
FW-01.1A-03R (D/S)	1.095	98.9	65.0	98.9	65.0	0.978	GW	153,469	996.1	978.0	16.8	153,469
FW-01.2A-01E	1.031	134.4	283.0	134.4	283.0	0.983	MT	186,592	896.6	983.0	7.0	186,592
FW-01.2A-02P	1.043	72.0	58.0	72.0	58.0	1.025	GW	78,649	971.0	1,025.0	50.5	78,649
===>Grouped by Line:	**FW-01.1B BFP 32 to RCIRC T**										***Sorted By: Flow Order***	
FW-01.1B-03R	1.095	114.1	92.0	114.1	92.0	1.020	MT	186,592	953.7	1,020.0	7.4	121,025
FW-01.1B-03R (D/S)	1.095	88.8	94.0	88.8	94.0	1.033	MT	186,592	985.0	1,033.0	5.7	121,025
FW-01.2B-01E	1.031	83.1	208.0	83.1	208.0	0.970	GW	78,649	947.9	970.0	58.3	78,649
FW-01.2B-03E	1.251	123.7	148.0	123.7	148.0	1.045	MT	186,592	1,127.3	1,045.0	6.5	186,592
FW-01.2B-04P	1.032	79.9	65.0	79.9	65.0	0.989	MT	186,592	952.1	989.0	4.2	186,592
===>Grouped by Line:	**FW-01.2A BFP31 RCIRC T to HDR**										***Sorted By: Flow Order***	
FW-01.2A-04P	1.039	72.7	44.0	72.7	44.0	1.002	MT	186,592	966.3	1,002.0	3.8	186,592
FW-01.2A-23P	1.053	56.3	78.0	56.3	78.0	1.053	ER	0	957.2	1,053.0	95.8	78,649
===>Grouped by Line:	**FW-01.2B BFP32 RCIRC T to HDR**										***Sorted By: Flow Order***	
FW-01.2B-27R	0.000	78.1	100.0	78.1	100.0	1.014	MT	107,911	952.9	1,014.0	28.9	107,911
FW-01.2B-27R (D/S)	0.000	48.9	113.0	48.9	113.0	1.301	GW	107,911	1,211.1	1,301.0	18.1	107,911
===>Grouped by Line:	**FW-01.3 BFP DISCHARGE HDR**										***Sorted By: Flow Order***	
FW-01.3-01T (BR/SE)	1.042	95.0	95.0	95.0	95.0	0.990	GW	107,911	947.0	990.0	35.1	107,911
FW-01.3-01T (D/S)	1.375	80.2	69.0	80.2	69.0	1.386	GW	107,911	1,275.4	1,386.0	36.8	78,649
FW-01.3-02P	1.371	39.1	61.0	39.1	61.0	1.381	GW	107,911	1,322.4	1,381.0	18.0	78,649
FW-01.3-03E	1.514	118.5	238.0	118.5	238.0	1.365	MT	186,592	1,395.5	1,365.0	6.2	186,592
FW-01.3-04E	1.638	119.9	230.0	119.9	230.0	1.395	MT	186,592	1,518.1	1,395.0	6.3	186,592
FW-01.3-05P	1.260	100.1	43.0	100.1	43.0	1.365	MT	186,592	1,159.9	1,365.0	5.2	186,592

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**FW-01.3 BFP DISCHARGE HDR**										***Sorted By: Flow Order***	
FW-01.3-06E	1.260	115.8	213.5	115.8	213.5	1.359	MT	186,592	1,144.2	1,359.0	6.0	186,592
FW-01.3-07P	1.260	54.6	68.0	54.6	68.0	1.369	GW	92,205	1,205.4	1,369.0	27.7	92,205
FW-01.3-08E	1.260	115.8	189.0	115.8	189.0	1.382	MT	186,592	1,144.2	1,382.0	6.0	186,592
FW-01.3-09P	1.260	100.1	58.0	100.1	58.0	1.364	MT	186,592	1,159.9	1,364.0	5.2	186,592
FW-01.3-10E	1.260	98.7	210.0	98.7	210.0	1.341	MT	137,201	1,161.3	1,341.0	23.1	137,201
FW-01.3-12E	1.260	104.1	227.0	104.1	227.0	1.319	GW	153,469	1,155.9	1,319.0	17.7	153,469
FW-01.3-14E	1.260	109.9	196.0	109.9	196.0	1.375	MT	170,123	1,150.1	1,375.0	11.9	170,123
FW-01.3-15E	1.260	93.5	216.0	93.5	216.0	1.348	GW	121,025	1,166.5	1,348.0	28.3	121,025
FW-01.3-16P	1.260	80.9	64.0	80.9	64.0	1.333	GW	121,025	1,179.1	1,333.0	24.5	121,025
FW-01.3-17T	1.260	84.4	44.0	84.4	44.0	1.351	GW	153,469	1,175.6	1,351.0	14.4	153,469
FW-01.3-17T (D/S)	1.260	84.4	47.0	84.4	47.0	1.345	GW	153,469	1,175.6	1,345.0	14.4	153,469
FW-01.3-18P	1.348	56.7	30.0	56.7	30.0	1.351	GW	153,469	1,291.3	1,351.0	9.7	153,469
FW-01.4-01T (BR/SE)	1.019	117.3	204.0	117.3	204.0	0.845	MT	186,592	901.7	845.0	6.1	186,592
===>Grouped by Line:	**FW-01.4 BFP DISCHARGE HDR**										***Sorted By: Flow Order***	
FW-01.5-01T	1.385	138.8	55.0	138.8	55.0	1.344	MT	186,592	1,246.2	1,344.0	7.2	186,592
FW-01.5-01T (D/S)	1.385	86.5	49.0	86.5	49.0	1.351	MT	186,592	1,298.5	1,351.0	4.6	186,592
FW-01.5-01T (BR/SE)	1.015	117.2	167.0	117.2	167.0	0.849	MT	186,592	897.8	849.0	6.1	186,592
===>Grouped by Line:	**FW-01.6A BFP HDR to FWH 36A**										***Sorted By: Flow Order***	
FW-01.6A-02P	1.009	67.6	59.0	67.6	59.0	0.898	GW	121,025	941.4	898.0	20.5	121,025
FW-01.6A-12N	0.938	125.7	101.0	125.7	101.0	2.618	MT	170,123	812.3	2,618.0	13.6	170,123
===>Grouped by Line:	**FW-01.6B BFP HDR to FWH 36B**										***Sorted By: Flow Order***	
FW-01.6B-02P	0.930	53.4	75.0	53.4	75.0	0.895	GW	121,025	876.6	895.0	16.2	121,025
FW-01.6B-06E	0.938	104.4	155.0	104.4	155.0	1.080	GW	137,201	833.6	1,080.0	24.5	137,201
FW-01.6B-07P	0.938	90.3	85.0	90.3	85.0	0.853	GW	137,201	847.7	853.0	21.1	137,201
FW-01.6B-08E	0.938	98.7	100.0	98.7	100.0	0.986	GW	137,201	839.3	986.0	23.1	137,201
FW-01.6B-10N	0.938	112.8	87.0	112.8	87.0	2.741	MT	137,201	825.2	2,741.0	26.4	137,201
===>Grouped by Line:	**FW-01.6C BFP HDR to FWH 36C**										***Sorted By: Flow Order***	
FW-01.6C-02P	0.938	66.2	54.0	66.2	54.0	0.884	MT	186,592	871.8	884.0	3.5	186,592
FW-01.6C-10N	0.938	125.7	51.0	125.7	51.0	2.791	MT	170,123	812.3	2,791.0	13.6	170,123

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:02:07AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 0.020

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***								***Sorted By: Average Wear Rate***		
FW-05.1A-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2A-07P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-09P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-22B	2	0.412	0.198	378.8	1,500.508	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-08B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-10B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-12B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-14B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-16B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-18B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-20B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-04E	3	0.357	0.172	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-06E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-24R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-23P	52	0.265	0.128	378.8	1,388.613	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-21P	52	0.260	0.125	378.8	1,345.944	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-05P	53	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-09P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-11P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-13P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-15P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-17P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-19P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.1A-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-01E	4	0.227	0.109	378.8	581.324	0.0	6.625	6.927	2.820	98.41	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***								***Sorted By: Average Wear Rate***		
FW-04.2A-07P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.1A-03E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2A-02P	67	0.210	0.101	378.8	1,361.711	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.1A-09P	54	0.191	0.092	378.8	553.754	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-02P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2A-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-24R (D/S)	18	0.176	0.084	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.2A-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD
FW-04.1A-04P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2A-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-02P	58	0.130	0.063	378.8	549.199	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***								***Sorted By: Average Wear Rate***		
FW-05.1B-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-08P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-10P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-09B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-11B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-13B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-15B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-17B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-19B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-21B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-05E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-07E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-23R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-22P	52	0.264	0.127	378.8	1,374.167	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-04P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***								***Sorted By: Average Wear Rate***		
FW-04.2B-10P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-12P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-14P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-16P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-18P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-20P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.1B-03E	4	0.244	0.117	378.8	650.542	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-01E	4	0.230	0.111	378.8	593.847	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-06P	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-08P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.1B-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-02P	67	0.204	0.098	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.1B-02P	54	0.192	0.092	378.8	561.160	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-04P_1	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-09P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-23R (D/S)	18	0.185	0.089	378.8	585.288	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-05.1B-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.2B-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD
FW-04.1B-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-02P	58	0.129	0.062	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:02:07AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 0.020

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***									***Sorted By: Flow Order***	
FW-04.1A-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-01E	4	0.227	0.109	378.8	581.324	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-02P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-03E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-04P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1A-09P	54	0.191	0.092	378.8	553.754	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2A-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2A-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-02P	67	0.210	0.101	378.8	1,361.711	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-04E	3	0.357	0.172	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-05P	53	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-06E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-07P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-07P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-08B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-09P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-09P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-10B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-11P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-12B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-13P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1A BFP 31 RECIRC***									***Sorted By: Flow Order***	
FW-04.2A-14B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-15P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-16B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-17P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-18B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-19P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-20B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-21P	52	0.260	0.125	378.8	1,345.944	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-22B	2	0.412	0.198	378.8	1,500.508	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-23P	52	0.265	0.128	378.8	1,388.613	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-24R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2A-24R (D/S)	18	0.176	0.084	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-02P	58	0.130	0.063	378.8	549.199	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1A-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD
FW-05.2A-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***									***Sorted By: Flow Order***	
FW-04.1B-10P	64	0.117	0.056	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-01E	4	0.230	0.111	378.8	593.847	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-02P	54	0.192	0.092	378.8	561.160	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-03E	4	0.244	0.117	378.8	650.542	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-04P_1	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-04P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-05E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-06P_1	52	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-06P_2	9	0.232	0.113	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-07E	2	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-08E	4	0.217	0.104	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.1B-09P	54	0.187	0.090	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-01R	17	0.146	0.070	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-04.2B-01R (D/S)	17	0.183	0.088	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-02P	67	0.204	0.098	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-03B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-04P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-04.1B BFP 32 RECIRC***									***Sorted By: Flow Order***	
FW-04.2B-05E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-06P	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-07E	1	0.336	0.162	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-08P_1	51	0.224	0.108	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-08P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-09B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-10P_1	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-10P_2	9	0.525	0.257	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-11B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-12P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-13B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-14P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-15B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-16P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-17B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-18P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-19B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-20P	52	0.255	0.123	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-21B	2	0.377	0.181	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-22P	52	0.264	0.127	378.8	1,374.167	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-23R	18	0.285	0.137	378.8	1,301.901	0.0	4.500	6.927	2.820	98.41	ARD
FW-04.2B-23R (D/S)	18	0.185	0.089	378.8	585.288	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-01V	24	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-02P	58	0.129	0.062	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-03V	22	0.598	0.288	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-04R	18	0.164	0.079	378.8	539.374	0.0	6.625	6.927	2.820	98.41	ARD
FW-05.1B-04R (D/S)	18	0.115	0.055	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD
FW-05.2B-01N	30	0.153	0.074	378.8	273.656	0.0	8.625	6.927	2.820	98.41	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:02:07AM

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 0.020

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Remaining Life***		
FW-04.2A-07P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2A-09P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-05.1A-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1A-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-04.2A-22B	0.782	0.610	0.208	0.208	17,753,386	No	4,072
FW-04.2A-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-08B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-10B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-12B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-14B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-16B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-18B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-20B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-04E	0.674	0.674	0.176	0.176	25,402,160	No	4,072
FW-04.2A-06E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2A-24R	0.000	0.674	0.176	0.176	31,754,816	No	4,072
FW-04.2A-05P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-09P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-11P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-13P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-15P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-17P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-19P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-21P	0.700	0.700	0.208	0.208	34,430,984	No	4,072
FW-04.2A-23P	0.724	0.724	0.208	0.208	35,408,852	No	4,072
FW-04.2A-07P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.1A-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1A-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.2A-02P	0.709	0.709	0.208	0.208	43,508,388	No	4,072
FW-04.2A-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Remaining Life***		
FW-04.1A-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-03E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-02P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1A-01E	0.954	0.954	0.260	0.260	55,684,788	No	4,072
FW-04.1A-09P	0.896	0.896	0.306	0.306	56,378,512	No	4,072
FW-05.2A-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072
FW-05.1A-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-04.2A-24R (D/S)	0.000	0.864	0.260	0.260	62,661,624	No	4,072
FW-04.1A-04P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1A-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-05.1A-02P	0.886	0.811	0.306	0.306	70,561,824	No	4,072
FW-04.2A-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-05.1A-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-04.1A-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072
===>Grouped by Line: **FW-04.1B BFP 32 RECIRC**					***Sorted By:Remaining Life***		
FW-04.2B-08P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2B-10P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-05.1B-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1B-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-04.2B-09B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-11B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-13B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-15B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-17B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-19B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-21B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-05E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-07E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-10P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-12P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-14P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-16P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-18P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-20P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-04P	0.674	0.674	0.208	0.208	33,300,792	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **FW-04.1B BFP 32 RECIRC**					***Sorted By:Remaining Life***		
FW-04.2B-22P	0.716	0.716	0.208	0.208	35,089,844	No	4,072
FW-04.2B-08P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2B-06P	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2B-23R	0.000	0.778	0.176	0.176	38,397,696	No	4,072
FW-04.1B-01E	0.979	0.753	0.260	0.260	39,042,808	No	4,072
FW-04.1B-03E	1.083	0.800	0.260	0.260	40,379,756	No	4,072
FW-04.2B-02P	0.674	0.674	0.208	0.208	41,628,108	No	4,072
FW-04.1B-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1B-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.2B-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.1B-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-04P_1	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1B-09P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-05.2B-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072
FW-04.2B-23R (D/S)	0.962	0.839	0.260	0.260	57,065,636	No	4,072
FW-04.1B-02P	0.912	0.912	0.306	0.306	57,426,280	No	4,072
FW-05.1B-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-04.1B-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.2B-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-05.1B-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-05.1B-02P	0.864	0.864	0.306	0.306	78,853,112	No	4,072
FW-04.1B-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: FW: FW RECIRC
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 0.020

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Flow Order***		
FW-04.1A-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072
FW-04.1A-01E	0.954	0.954	0.260	0.260	55,684,788	No	4,072
FW-04.1A-02P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1A-03E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-04P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1A-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1A-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1A-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1A-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1A-09P	0.896	0.896	0.306	0.306	56,378,512	No	4,072
FW-04.2A-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-04.2A-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.2A-02P	0.709	0.709	0.208	0.208	43,508,388	No	4,072
FW-04.2A-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-04E	0.674	0.674	0.176	0.176	25,402,160	No	4,072
FW-04.2A-05P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-06E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2A-07P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2A-07P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2A-08B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-09P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-09P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2A-10B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-11P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-12B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-13P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-14B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-15P	0.674	0.674	0.208	0.208	33,300,792	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1A BFP 31 RECIRC**					***Sorted By:Flow Order***		
FW-04.2A-16B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-17P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-18B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-19P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2A-20B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2A-21P	0.700	0.700	0.208	0.208	34,430,984	No	4,072
FW-04.2A-22B	0.782	0.610	0.208	0.208	17,753,386	No	4,072
FW-04.2A-23P	0.724	0.724	0.208	0.208	35,408,852	No	4,072
FW-04.2A-24R	0.000	0.674	0.176	0.176	31,754,816	No	4,072
FW-04.2A-24R (D/S)	0.000	0.864	0.260	0.260	62,661,624	No	4,072
FW-05.1A-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1A-02P	0.886	0.811	0.306	0.306	70,561,824	No	4,072
FW-05.1A-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1A-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-05.1A-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-05.2A-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072
===>Grouped by Line: **FW-04.1B BFP 32 RECIRC**					***Sorted By:Flow Order***		
FW-04.1B-10P	0.864	0.864	0.306	0.306	86,739,272	No	4,072
FW-04.1B-01E	0.979	0.753	0.260	0.260	39,042,808	No	4,072
FW-04.1B-02P	0.912	0.912	0.306	0.306	57,426,280	No	4,072
FW-04.1B-03E	1.083	0.800	0.260	0.260	40,379,756	No	4,072
FW-04.1B-04P_1	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.1B-04P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1B-05E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-06P_1	0.864	0.864	0.306	0.306	69,389,728	No	4,072
FW-04.1B-06P_2	0.864	0.864	0.306	0.306	43,092,176	No	4,072
FW-04.1B-07E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-08E	0.864	0.864	0.260	0.260	50,805,116	No	4,072
FW-04.1B-09P	0.864	0.864	0.306	0.306	54,208,868	No	4,072
FW-04.2B-01R	0.000	0.864	0.260	0.260	75,195,640	No	4,072
FW-04.2B-01R (D/S)	0.000	0.674	0.176	0.176	49,401,084	No	4,072
FW-04.2B-02P	0.674	0.674	0.208	0.208	41,628,108	No	4,072
FW-04.2B-03B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-04P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-05E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-06P	0.674	0.674	0.208	0.208	37,842,964	No	4,072
FW-04.2B-07E	0.674	0.674	0.176	0.176	26,942,196	No	4,072
FW-04.2B-08P_1	0.674	0.674	0.208	0.208	37,842,964	No	4,072

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-04.1B BFP 32 RECIRC**					***Sorted By:Flow Order***		
FW-04.2B-08P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2B-09B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-10P_1	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-10P_2	0.674	0.674	0.208	0.208	15,859,241	No	4,072
FW-04.2B-11B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-12P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-13B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-14P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-15B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-16P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-17B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-18P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-19B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-20P	0.674	0.674	0.208	0.208	33,300,792	No	4,072
FW-04.2B-21B	0.674	0.674	0.208	0.208	22,497,790	No	4,072
FW-04.2B-22P	0.716	0.716	0.208	0.208	35,089,844	No	4,072
FW-04.2B-23R	0.000	0.778	0.176	0.176	38,397,696	No	4,072
FW-04.2B-23R (D/S)	0.962	0.839	0.260	0.260	57,065,636	No	4,072
FW-05.1B-01V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1B-02P	0.864	0.864	0.306	0.306	78,853,112	No	4,072
FW-05.1B-03V	0.864	0.864	0.327	0.327	16,342,799	No	4,072
FW-05.1B-04R	0.000	0.864	0.306	0.306	61,954,204	No	4,072
FW-05.1B-04R (D/S)	0.000	0.875	0.399	0.399	75,668,952	No	4,072
FW-05.2B-01N	0.875	0.875	0.399	0.399	56,749,592	No	4,072

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 4:05:56PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.423

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.3 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.1B-11T (BR/SE)	12	7.480	4.638	430.4	17.403	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-11T (D/S)	12	6.849	4.247	430.4	12.137	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.1B-11T	12	4.336	2.729	430.4	6.059	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.3-01P	62	3.335	2.068	430.4	12.105	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.4-19T	14	11.490	7.125	430.4	18.116	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-19T (D/S)	14	9.783	6.066	430.4	13.587	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.1C-11T (D/S)	12	8.571	5.315	430.4	18.135	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-04E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-05E	4	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-07E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-09E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-11E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-13E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-15E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-17E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.1C-11T (BR/SE)	12	7.481	4.639	430.4	17.408	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-11T	12	6.834	4.238	430.4	12.096	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-06P	54	6.619	4.104	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-19T (BR/SE)	14	6.560	4.068	430.4	13.066	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.4-02T (D/S)	15	6.205	3.848	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-02T	15	6.205	3.848	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-18P	52	5.221	3.238	430.4	18.108	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-08P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-10P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-12P_1	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-14P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-16P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.4-03P	65	4.137	2.565	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-12P_2	9	2.939	1.850	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.5 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.5-04T	14	9.783	6.066	430.4	13.587	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-04T (D/S)	14	7.799	4.836	430.4	9.058	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-04T (BR/SE)	14	6.589	4.086	430.4	13.157	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.5-01T (D/S)	15	5.338	3.310	430.4	13.595	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-01T	15	5.338	3.310	430.4	13.595	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-03T (D/S)	15	5.283	3.276	430.4	13.374	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-03T	15	5.283	3.276	430.4	13.374	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-06P	65	3.556	2.205	430.4	13.581	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-02P	65	3.522	2.184	430.4	13.374	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.6 SG INLET HEADER***								***Sorted By: Average Wear Rate***		
FW-02.6-03T	14	7.794	4.833	430.4	9.049	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.6-03T (BR/SE)	14	6.593	4.088	430.4	13.170	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.6-03T (D/S)	14	4.523	2.847	430.4	4.524	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.6-01P	63	2.834	1.757	430.4	9.049	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***								***Sorted By: Average Wear Rate***		
FW-02.8A-05V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8A-19V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-04V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-18V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-12F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-26R	18	8.383	5.198	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8A-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-10E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-06E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-16E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-22E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-23E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-08B	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-05B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-14E	1	6.150	3.814	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-20P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***								***Sorted By: Average Wear Rate***		
FW-03.1A-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-11P_1	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-07P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-25R (D/S)	7	5.941	5.941	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8A-24P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-08T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-03T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-03T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-26R (D/S)	18	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-08T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-21T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-21T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-17P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-06P_1	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-15P	51	4.100	2.542	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-25R	7	4.045	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-01P	64	3.745	2.322	430.4	13.046	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-09P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-11P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-06P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-13P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-09N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***								***Sorted By: Average Wear Rate***		
FW-02.8B-06V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8B-20V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-05V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-19V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-25R (D/S)	7	10.707	6.639	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8B-13F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-11E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-07E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-17E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-23E	4	6.881	4.267	430.4	12.904	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***								***Sorted By: Average Wear Rate***		
FW-03.1B-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-08E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-25R	7	6.523	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-05B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-11E	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-15E	1	6.150	3.814	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-21P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-12P_1	54	6.020	3.733	430.4	13.144	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-10E	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-08P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-24P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-09T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-04T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-04T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-09T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-22T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-22T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-26R	18	5.198	5.198	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8B-03P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-18P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-06P	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-09P	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-16P	51	4.100	2.542	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-01P	64	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-10P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-26R (D/S)	18	3.467	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-12P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-14P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-12N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***								***Sorted By: Average Wear Rate***		
FW-02.8C-06V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8C-19V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***								***Sorted By: Average Wear Rate***		
FW-02.8C-05V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-18V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-13F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-24R (D/S)	7	9.580	5.941	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8C-25R	18	8.383	5.198	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8C-11E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-07E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-16E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-22E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-05B	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-10E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-24R	7	6.523	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-15E	1	6.150	3.814	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-20P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-12E	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-14E	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-12P_1	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-08P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-23P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-11P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-04T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-09T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-04T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-25R (D/S)	18	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-09T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-21T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-21T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-03P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-17P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-06P_1	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-16P_1	51	3.983	2.470	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***								***Sorted By: Average Wear Rate***		
FW-03.1C-09P	51	3.983	2.470	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-13P	51	3.983	2.470	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-01P	64	3.732	2.314	430.4	12.975	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-10P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-12P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-16P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-06P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-14P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-15N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***								***Sorted By: Average Wear Rate***		
FW-02.8D-06V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8D-18V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-05V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-17V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-24R (D/S)	7	10.707	6.639	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8D-13F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-25R	18	9.369	5.810	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8D-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-11E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-07E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-15E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-21E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-22E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.7-04T (BR/SE)	14	6.600	4.093	430.4	13.194	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-24R	7	6.523	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-05B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-08B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-19P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-12P_1	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-08P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-23P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-09T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-04T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***								***Sorted By: Average Wear Rate***		
FW-02.8D-04T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-25R (D/S)	18	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-09T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-20T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-20T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-03P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-16P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.7-04T	14	4.544	2.860	430.4	4.547	0.0	30.000	6.621	0.000	61.01	HBD
FW-03.1D-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-06P_1	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-09P	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-01P	64	3.743	2.321	430.4	13.033	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-10P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.6-02T (D/S)	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-02T (D/S)	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.6-02T	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-02T	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.8D-12P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-06P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-14P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.7-01P	63	1.647	1.037	430.4	4.532	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-03P	65	1.647	1.037	430.4	4.532	0.0	30.000	6.621	0.000	61.01	HBD
FW-03.1D-10N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 4:05:56PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.423

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.3 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.1B-11T	12	4.336	2.729	430.4	6.059	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.1B-11T (BR/SE)	12	7.480	4.638	430.4	17.403	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1B-11T (D/S)	12	6.849	4.247	430.4	12.137	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.3-01P	62	3.335	2.068	430.4	12.105	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.1C-11T (BR/SE)	12	7.481	4.639	430.4	17.408	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.1C-11T	12	6.834	4.238	430.4	12.096	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.1C-11T (D/S)	12	8.571	5.315	430.4	18.135	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-02T	15	6.205	3.848	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-02T (D/S)	15	6.205	3.848	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-03P	65	4.137	2.565	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-04E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-05E	4	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-06P	54	6.619	4.104	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-07E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-08P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-09E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-10P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-11E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-12P_1	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-12P_2	9	2.939	1.850	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-13E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-14P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-15E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-16P	52	5.171	3.207	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-17E	2	7.653	4.746	430.4	17.833	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-18P	52	5.221	3.238	430.4	18.108	0.0	30.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.4 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.4-19T	14	11.490	7.125	430.4	18.116	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.4-19T (BR/SE)	14	6.560	4.068	430.4	13.066	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.4-19T (D/S)	14	9.783	6.066	430.4	13.587	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.5 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.5-01T (D/S)	15	5.338	3.310	430.4	13.595	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-02P	65	3.522	2.184	430.4	13.374	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-03T	15	5.283	3.276	430.4	13.374	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-03T (D/S)	15	5.283	3.276	430.4	13.374	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-06P	65	3.556	2.205	430.4	13.581	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-04T	14	9.783	6.066	430.4	13.587	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-04T (D/S)	14	7.799	4.836	430.4	9.058	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.5-04T (BR/SE)	14	6.589	4.086	430.4	13.157	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.5-01T	15	5.338	3.310	430.4	13.595	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.6 SG INLET HEADER***									***Sorted By: Flow Order***	
FW-02.6-01P	63	2.834	1.757	430.4	9.049	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.6-03T	14	7.794	4.833	430.4	9.049	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.6-03T (BR/SE)	14	6.593	4.088	430.4	13.170	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.6-03T (D/S)	14	4.523	2.847	430.4	4.524	0.0	30.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***									***Sorted By: Flow Order***	
FW-02.8A-01P	64	3.745	2.322	430.4	13.046	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-03T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-03T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-04V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-25R	7	4.045	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-25R (D/S)	7	5.941	5.941	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8A-05V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8A-26R	18	8.383	5.198	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8A-26R (D/S)	18	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-06E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-07P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-08T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-08T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-09P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-10E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-11P_1	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8A SG HDR to SG 31***									***Sorted By: Flow Order***	
FW-02.8A-11P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-12F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-13P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-14E	1	6.150	3.814	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-15P	51	4.100	2.542	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-16E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-17P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-18V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-19V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-20P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-21T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-21T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-22E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-23E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8A-24P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-05B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-06P_1	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-06P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-08B	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1A-09N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***									***Sorted By: Flow Order***	
FW-02.8B-01P	64	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-03P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-04T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-04T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-05V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-25R	7	6.523	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-25R (D/S)	7	10.707	6.639	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8B-06V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8B-26R	18	5.198	5.198	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8B SG HDR to SG 32***									***Sorted By: Flow Order***	
FW-02.8B-26R (D/S)	18	3.467	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-07E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-08P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-09T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-09T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-10P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-11E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-12P_1	54	6.020	3.733	430.4	13.144	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-12P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-13F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-14P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-15E	1	6.150	3.814	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-16P	51	4.100	2.542	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-17E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-18P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-19V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-20V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-21P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-22T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-22T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-23E	4	6.881	4.267	430.4	12.904	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8B-24P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-05B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-06P	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-08E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-09P	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-10E	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-11E	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1B-12N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***									***Sorted By: Flow Order***	
FW-02.8C-01P	64	3.732	2.314	430.4	12.975	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***									***Sorted By: Flow Order***	
FW-02.8C-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-03P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-04T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-04T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-05V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-24R	7	6.523	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-24R (D/S)	7	9.580	5.941	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8C-06V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8C-25R	18	8.383	5.198	430.4	27.512	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8C-25R (D/S)	18	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-07E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-08P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-09T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-09T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-10P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-11E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-12P_1	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-12P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-13F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-14P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-15E	1	6.150	3.814	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-16E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-17P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-18V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-19V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-20P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-21T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-21T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-22E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8C-23P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-16P_1	51	3.983	2.470	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-16P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8C SG HDR to SG 34***									***Sorted By: Flow Order***	
FW-03.1C-05B	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-06P_1	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-06P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-09P	51	3.983	2.470	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-10E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-11P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-12E	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-13P	51	3.983	2.470	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-14E	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1C-15N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***									***Sorted By: Flow Order***	
FW-02.6-02T (D/S)	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-01P	63	1.647	1.037	430.4	4.532	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-02T	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-02T (D/S)	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-03P	65	1.647	1.037	430.4	4.532	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-04T	14	4.544	2.860	430.4	4.547	0.0	30.000	6.621	0.000	61.01	HBD
FW-02.7-04T (BR/SE)	14	6.600	4.093	430.4	13.194	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-01P	64	3.743	2.321	430.4	13.033	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-02E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-03P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-04T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-04T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-05V	22	13.166	8.164	430.4	22.434	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-24R	7	6.523	4.045	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-24R (D/S)	7	10.707	6.639	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8D-06V	24	16.730	10.374	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8D-25R	18	9.369	5.810	430.4	32.833	0.0	12.750	6.621	0.000	61.01	HBD
FW-02.8D-25R (D/S)	18	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-07E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-08P	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-09T	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-09T (D/S)	15	5.591	3.467	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-10P	65	3.727	2.311	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-11E	4	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW-02.8D SG HDR to SG 33***									***Sorted By: Flow Order***	
FW-02.8D-12P_1	54	5.964	3.698	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-12P_2	9	2.405	1.514	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-13F	6	10.650	6.604	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-14P	56	2.130	1.321	430.4	16.012	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-15E	2	6.896	4.276	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-16P	52	4.659	2.889	430.4	12.949	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-17V	25	12.218	7.576	430.4	19.921	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-18V	22	13.875	8.604	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-19P	58	6.105	3.786	430.4	24.384	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-20T	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-20T (D/S)	15	5.431	3.368	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-21E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-22E	4	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.8D-23P	54	5.793	3.592	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-01P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-02E	2	6.698	4.154	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-03P	52	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-04B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-05B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-06P_1	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-06P_2	9	2.304	1.450	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-07B	1	5.974	3.705	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-08B	3	6.336	3.929	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-09P	53	4.526	2.807	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-03.1D-10N	30	0.106	0.066	430.4	12.366	0.0	18.000	6.621	0.000	61.01	HBD
FW-02.6-02T	15	2.433	1.532	430.4	4.458	0.0	30.000	6.621	0.000	61.01	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 4:05:56PM

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.423

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.3 SG INLET HEADER**					***Sorted By:Remaining Life***		
FW-02.1B-11T (D/S)	1.398	1.325	1.195	1.195	268,653	No	203,584
FW-02.1B-11T (BR/SE)	0.974	0.878	0.717	0.717	304,618	Yes	203,584
FW-02.1B-11T	1.398	1.349	1.195	1.195	493,421	Yes	203,584
FW-02.3-01P	1.380	1.349	1.195	1.195	653,122	No	203,584
===>Grouped by Line: **FW-02.4 SG INLET HEADER**					***Sorted By:Remaining Life***		
FW-02.4-07E	1.260	1.082	1.195	1.195	-161,750	No	203,584
FW-02.4-13E	1.260	1.082	1.195	1.195	-161,750	No	203,584
FW-02.4-08P	1.260	1.140	1.195	1.195	-134,251	No	203,584
FW-02.4-12P_1	1.260	1.140	1.195	1.195	-134,251	No	203,584
FW-02.4-14P	1.260	1.140	1.195	1.195	-134,251	No	203,584
FW-02.4-03P	1.260	1.164	1.195	1.195	-110,068	No	203,584
FW-02.1C-11T (D/S)	1.375	1.176	1.195	1.195	-31,546	No	203,584
FW-02.4-12P_2	1.260	1.192	1.195	1.195	-15,473	No	203,584
FW-02.1C-11T	1.375	1.216	1.195	1.195	43,847	No	203,584
FW-02.4-19T	1.368	1.291	1.195	1.195	118,336	No	203,584
FW-02.4-19T (D/S)	1.368	1.289	1.195	1.195	135,612	No	203,584
FW-02.4-17E	1.260	1.278	1.195	1.195	153,299	Yes	203,584
FW-02.1C-11T (BR/SE)	0.975	0.801	0.717	0.717	158,941	Yes	203,584
FW-02.4-15E	1.260	1.295	1.195	1.195	185,250	Yes	203,584
FW-02.4-19T (BR/SE)	0.974	0.827	0.717	0.717	236,974	Yes	203,584
FW-02.4-05E	1.260	1.334	1.195	1.195	255,853	Yes	203,584
FW-02.4-09E	1.260	1.338	1.195	1.195	263,670	Yes	203,584
FW-02.4-11E	1.260	1.339	1.195	1.195	265,660	Yes	203,584
FW-02.4-02T	1.260	1.324	1.195	1.195	294,038	Yes	203,584
FW-02.4-06P	1.260	1.334	1.195	1.195	297,745	Yes	203,584
FW-02.4-02T (D/S)	0.000	1.336	1.195	1.195	321,358	Yes	203,584
FW-02.4-16P	1.260	1.329	1.195	1.195	365,007	No	203,584
FW-02.4-10P	1.260	1.339	1.195	1.195	392,924	Yes	203,584
FW-02.4-04E	1.260	1.412	1.195	1.195	399,834	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-02.4 SG INLET HEADER**				***Sorted By:Remaining Life***		
FW-02.4-18P	1.365	1.344	1.195	1.195	402,141	Yes	203,584
===>Grouped by Line:	**FW-02.5 SG INLET HEADER**				***Sorted By:Remaining Life***		
FW-02.5-03T (D/S)	0.000	1.137	1.195	1.195	-135,942	No	203,584
FW-02.5-02P	1.260	1.178	1.195	1.195	-70,581	No	203,584
FW-02.5-04T	1.368	1.317	1.195	1.195	175,744	No	203,584
FW-02.5-04T (D/S)	1.368	1.332	1.195	1.195	247,611	No	203,584
FW-02.5-01T	1.372	1.326	1.195	1.195	345,854	No	203,584
FW-02.5-06P	1.365	1.282	1.195	1.195	347,140	No	203,584
FW-02.5-01T (D/S)	1.372	1.333	1.195	1.195	364,379	No	203,584
FW-02.5-03T	1.260	1.333	1.195	1.195	370,406	No	203,584
FW-02.5-04T (BR/SE)	1.002	0.906	0.717	0.717	405,599	Yes	203,584
===>Grouped by Line:	**FW-02.6 SG INLET HEADER**				***Sorted By:Remaining Life***		
FW-02.6-03T	1.361	1.353	1.195	1.195	285,789	No	203,584
FW-02.6-03T (BR/SE)	1.006	0.852	0.717	0.717	289,489	Yes	203,584
FW-02.6-03T (D/S)	1.361	1.337	1.195	1.195	438,547	Yes	203,584
FW-02.6-01P	1.361	1.295	1.195	1.195	499,348	No	203,584
===>Grouped by Line:	**FW-02.8A SG HDR to SG 31**				***Sorted By:Remaining Life***		
FW-02.8A-04V	0.938	0.632	0.889	0.889	-187,464	No	203,584
FW-02.8A-19V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8A-18V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8A-12F	0.938	0.690	0.717	0.717	-35,148	No	203,584
FW-02.8A-26R	0.000	0.631	0.589	0.589	70,020	Yes	203,584
FW-02.8A-26R (D/S)	0.000	0.862	0.832	0.832	76,373	Yes	203,584
FW-02.8A-22E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8A-23E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1A-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8A-10E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8A-16E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-03.1A-05B	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-02.8A-20P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-03.1A-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1A-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-02.8A-24P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-02.8A-14E	0.938	0.795	0.717	0.717	179,392	No	203,584
FW-02.8A-11P_1	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8A-21T	0.750	0.624	0.544	0.544	206,217	No	203,584
FW-02.8A-21T (D/S)	0.000	0.624	0.544	0.544	206,217	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-02.8A SG HDR to SG 31**				***Sorted By:Remaining Life***		
FW-02.8A-25R	0.000	0.930	0.832	0.832	212,473	No	16,992
FW-02.8A-08T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8A-08T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8A-05V	1.312	0.923	0.630	0.630	247,737	No	203,584
FW-02.8A-03T	0.938	0.838	0.717	0.717	304,940	Yes	203,584
FW-03.1A-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1A-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1A-06P_1	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-02.8A-06E	0.938	0.881	0.717	0.717	335,522	Yes	203,584
FW-02.8A-17P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8A-25R (D/S)	0.000	0.832	0.589	0.589	358,487	No	16,992
FW-02.8A-07P	0.938	0.876	0.717	0.717	376,632	Yes	203,584
FW-02.8A-03T (D/S)	0.000	0.871	0.717	0.717	388,323	Yes	203,584
FW-02.8A-02E	0.938	0.925	0.717	0.717	425,664	Yes	203,584
FW-02.8A-15P	0.938	0.843	0.717	0.717	433,246	No	203,584
FW-02.8A-09P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8A-01P	0.968	0.881	0.717	0.717	618,653	Yes	203,584
FW-03.1A-08B	0.750	0.972	0.544	0.544	901,478	Yes	203,584
FW-03.1A-06P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-02.8A-11P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.8A-13P	0.938	0.902	0.717	0.717	1,230,110	Yes	203,584
FW-03.1A-09N	0.750	0.745	0.478	0.478	35,606,872	No	203,584
===>Grouped by Line:	**FW-02.8B SG HDR to SG 32**				***Sorted By:Remaining Life***		
FW-02.8B-05V	0.938	0.632	0.889	0.889	-187,464	No	203,584
FW-02.8B-20V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8B-19V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8B-13F	0.938	0.783	0.717	0.717	87,288	Yes	203,584
FW-03.1B-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8B-25R	0.000	0.886	0.832	0.832	117,179	No	203,584
FW-02.8B-02E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8B-11E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8B-17E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-03.1B-05B	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-03.1B-11E	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-02.8B-21P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-03.1B-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1B-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1B-10E	0.750	0.611	0.544	0.544	157,623	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-02.8B SG HDR to SG 32**				***Sorted By:Remaining Life***		
FW-02.8B-24P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-02.8B-15E	0.938	0.795	0.717	0.717	179,392	No	203,584
FW-02.8B-07E	0.938	0.820	0.717	0.717	210,470	Yes	203,584
FW-03.1B-08E	0.750	0.648	0.544	0.544	219,068	Yes	203,584
FW-02.8B-04T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8B-04T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8B-06V	1.312	0.923	0.630	0.630	247,737	No	203,584
FW-02.8B-26R (D/S)	0.000	0.931	0.832	0.832	250,717	No	16,992
FW-02.8B-23E	0.924	0.685	0.544	0.544	287,913	Yes	203,584
FW-02.8B-22T (D/S)	0.000	0.656	0.544	0.544	288,905	Yes	203,584
FW-02.8B-08P	0.938	0.839	0.717	0.717	290,151	Yes	203,584
FW-03.1B-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1B-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1B-06P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-02.8B-12P_1	0.998	0.858	0.717	0.717	331,160	No	203,584
FW-02.8B-03P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8B-18P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8B-09T	0.938	0.859	0.717	0.717	358,002	Yes	203,584
FW-02.8B-25R (D/S)	1.312	0.862	0.589	0.589	359,866	No	203,584
FW-02.8B-09T (D/S)	0.000	0.872	0.717	0.717	390,850	Yes	203,584
FW-02.8B-22T	0.000	0.703	0.544	0.544	411,156	Yes	203,584
FW-02.8B-26R	0.000	0.834	0.589	0.589	412,127	No	16,992
FW-02.8B-16P	0.938	0.843	0.717	0.717	433,246	No	203,584
FW-02.8B-01P	0.938	0.851	0.717	0.717	509,402	Yes	203,584
FW-02.8B-10P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8B-14P	0.990	0.861	0.717	0.717	954,971	Yes	203,584
FW-02.8B-12P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-03.1B-09P	0.750	0.860	0.544	0.544	984,887	Yes	203,584
FW-03.1B-12N	0.750	0.748	0.478	0.478	35,919,252	No	203,584
===>Grouped by Line:	**FW-02.8C SG HDR to SG 34**				***Sorted By:Remaining Life***		
FW-02.8C-19V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8C-18V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8C-13F	0.938	0.690	0.717	0.717	-35,148	No	203,584
FW-02.8C-25R (D/S)	0.000	0.858	0.832	0.832	66,266	Yes	203,584
FW-02.8C-22E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1C-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1C-05B	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8C-02E	0.938	0.778	0.717	0.717	124,505	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **FW-02.8C SG HDR to SG 34**					***Sorted By:Remaining Life***		
FW-02.8C-11E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8C-16E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8C-20P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-03.1C-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1C-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-02.8C-23P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-02.8C-15E	0.938	0.795	0.717	0.717	179,392	No	203,584
FW-02.8C-12P_1	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8C-25R	0.000	0.709	0.589	0.589	201,470	Yes	203,584
FW-02.8C-21T	0.750	0.624	0.544	0.544	206,217	No	203,584
FW-02.8C-21T (D/S)	0.000	0.624	0.544	0.544	206,217	No	203,584
FW-02.8C-04T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-04T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-09T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-09T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-03.1C-14E	0.750	0.650	0.544	0.544	249,289	Yes	203,584
FW-03.1C-13P	0.750	0.630	0.544	0.544	301,736	Yes	203,584
FW-03.1C-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1C-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1C-06P_1	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1C-11P	0.750	0.681	0.544	0.544	332,235	Yes	203,584
FW-02.8C-05V	0.938	1.199	0.889	0.889	332,721	No	203,584
FW-02.8C-03P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8C-17P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8C-24R (D/S)	0.000	0.825	0.589	0.589	347,131	Yes	203,584
FW-02.8C-08P	0.938	0.865	0.717	0.717	351,810	Yes	203,584
FW-03.1C-16P_1	0.750	0.657	0.544	0.544	400,592	No	203,584
FW-03.1C-09P	0.750	0.657	0.544	0.544	400,592	No	203,584
FW-02.8C-07E	0.938	0.924	0.717	0.717	424,979	Yes	203,584
FW-03.1C-10E	0.750	0.757	0.544	0.544	447,404	Yes	203,584
FW-02.8C-10P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-03.1C-12E	0.750	0.771	0.544	0.544	535,155	Yes	203,584
FW-02.8C-01P	0.946	0.859	0.717	0.717	538,639	Yes	203,584
FW-03.1C-16P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-03.1C-06P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-02.8C-06V	1.312	1.724	0.630	0.630	923,778	No	203,584
FW-02.8C-12P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.8C-14P	0.938	0.900	0.717	0.717	1,216,845	Yes	203,584
FW-02.8C-24R	0.000	1.582	0.832	0.832	1,625,182	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-02.8C SG HDR to SG 34**				***Sorted By:Remaining Life***		
FW-03.1C-15N	0.750	0.704	0.478	0.478	30,056,134	No	203,584
===>Grouped by Line:	**FW-02.8D SG HDR to SG 33**				***Sorted By:Remaining Life***		
FW-02.8D-05V	0.938	0.632	0.889	0.889	-187,464	No	203,584
FW-02.8D-18V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8D-17V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8D-13F	0.938	0.690	0.717	0.717	-35,148	No	203,584
FW-02.6-02T	1.260	1.203	1.195	1.195	48,564	No	203,584
FW-02.6-02T (D/S)	0.000	1.203	1.195	1.195	48,564	No	203,584
FW-02.7-02T	1.260	1.203	1.195	1.195	48,564	No	203,584
FW-02.7-02T (D/S)	0.000	1.203	1.195	1.195	48,564	No	203,584
FW-02.8D-25R (D/S)	0.000	0.858	0.832	0.832	66,266	Yes	203,584
FW-02.8D-21E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8D-22E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1D-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8D-02E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-07E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-11E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-15E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-03.1D-05B	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-02.8D-24R	0.000	0.897	0.832	0.832	139,694	No	203,584
FW-02.8D-19P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-03.1D-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1D-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-02.8D-25R	1.312	0.701	0.589	0.589	167,920	Yes	203,584
FW-02.8D-23P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-02.8D-08P	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8D-12P_1	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8D-20T	0.750	0.624	0.544	0.544	206,217	No	203,584
FW-02.8D-20T (D/S)	0.000	0.624	0.544	0.544	206,217	No	203,584
FW-02.8D-04T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-04T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-09T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-09T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-06V	1.312	0.923	0.630	0.630	247,737	No	203,584
FW-02.7-04T	1.395	1.289	1.195	1.195	289,252	No	203,584
FW-02.7-04T (BR/SE)	1.013	0.860	0.717	0.717	305,319	Yes	203,584
FW-02.8D-24R (D/S)	1.312	0.827	0.589	0.589	313,051	No	203,584
FW-03.1D-01P	0.750	0.645	0.544	0.544	313,123	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **FW-02.8D SG HDR to SG 33**					***Sorted By:Remaining Life***		
FW-03.1D-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1D-06P_1	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1D-09P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-02.8D-03P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8D-16P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-03.1D-08B	0.750	0.714	0.544	0.544	378,752	Yes	203,584
FW-02.8D-10P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8D-01P	0.964	0.877	0.717	0.717	604,147	Yes	203,584
FW-03.1D-06P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-02.8D-12P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.7-01P	1.372	1.334	1.195	1.195	1,172,438	No	203,584
FW-02.7-03P	1.372	1.334	1.195	1.195	1,172,438	No	203,584
FW-02.8D-14P	0.938	0.902	0.717	0.717	1,230,110	Yes	203,584
FW-03.1D-10N	0.750	0.748	0.478	0.478	35,919,252	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.423

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.3 SG INLET HEADER**					***Sorted By:Flow Order***		
FW-02.1B-11T	1.398	1.349	1.195	1.195	493,421	Yes	203,584
FW-02.1B-11T (BR/SE)	0.974	0.878	0.717	0.717	304,618	Yes	203,584
FW-02.1B-11T (D/S)	1.398	1.325	1.195	1.195	268,653	No	203,584
FW-02.3-01P	1.380	1.349	1.195	1.195	653,122	No	203,584
===>Grouped by Line: **FW-02.4 SG INLET HEADER**					***Sorted By:Flow Order***		
FW-02.1C-11T (BR/SE)	0.975	0.801	0.717	0.717	158,941	Yes	203,584
FW-02.1C-11T	1.375	1.216	1.195	1.195	43,847	No	203,584
FW-02.1C-11T (D/S)	1.375	1.176	1.195	1.195	-31,546	No	203,584
FW-02.4-02T	1.260	1.324	1.195	1.195	294,038	Yes	203,584
FW-02.4-02T (D/S)	0.000	1.336	1.195	1.195	321,358	Yes	203,584
FW-02.4-03P	1.260	1.164	1.195	1.195	-110,068	No	203,584
FW-02.4-04E	1.260	1.412	1.195	1.195	399,834	Yes	203,584
FW-02.4-05E	1.260	1.334	1.195	1.195	255,853	Yes	203,584
FW-02.4-06P	1.260	1.334	1.195	1.195	297,745	Yes	203,584
FW-02.4-07E	1.260	1.082	1.195	1.195	-161,750	No	203,584
FW-02.4-08P	1.260	1.140	1.195	1.195	-134,251	No	203,584
FW-02.4-09E	1.260	1.338	1.195	1.195	263,670	Yes	203,584
FW-02.4-10P	1.260	1.339	1.195	1.195	392,924	Yes	203,584
FW-02.4-11E	1.260	1.339	1.195	1.195	265,660	Yes	203,584
FW-02.4-12P_1	1.260	1.140	1.195	1.195	-134,251	No	203,584
FW-02.4-12P_2	1.260	1.192	1.195	1.195	-15,473	No	203,584
FW-02.4-13E	1.260	1.082	1.195	1.195	-161,750	No	203,584
FW-02.4-14P	1.260	1.140	1.195	1.195	-134,251	No	203,584
FW-02.4-15E	1.260	1.295	1.195	1.195	185,250	Yes	203,584
FW-02.4-16P	1.260	1.329	1.195	1.195	365,007	No	203,584
FW-02.4-17E	1.260	1.278	1.195	1.195	153,299	Yes	203,584
FW-02.4-18P	1.365	1.344	1.195	1.195	402,141	Yes	203,584
FW-02.4-19T	1.368	1.291	1.195	1.195	118,336	No	203,584
FW-02.4-19T (BR/SE)	0.974	0.827	0.717	0.717	236,974	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW-02.4 SG INLET HEADER**				***Sorted By:Flow Order***		
FW-02.4-19T (D/S)	1.368	1.289	1.195	1.195	135,612	No	203,584
===>Grouped by Line:	**FW-02.5 SG INLET HEADER**				***Sorted By:Flow Order***		
FW-02.5-01T (D/S)	1.372	1.333	1.195	1.195	364,379	No	203,584
FW-02.5-02P	1.260	1.178	1.195	1.195	-70,581	No	203,584
FW-02.5-03T	1.260	1.333	1.195	1.195	370,406	No	203,584
FW-02.5-03T (D/S)	0.000	1.137	1.195	1.195	-135,942	No	203,584
FW-02.5-06P	1.365	1.282	1.195	1.195	347,140	No	203,584
FW-02.5-04T	1.368	1.317	1.195	1.195	175,744	No	203,584
FW-02.5-04T (D/S)	1.368	1.332	1.195	1.195	247,611	No	203,584
FW-02.5-04T (BR/SE)	1.002	0.906	0.717	0.717	405,599	Yes	203,584
FW-02.5-01T	1.372	1.326	1.195	1.195	345,854	No	203,584
===>Grouped by Line:	**FW-02.6 SG INLET HEADER**				***Sorted By:Flow Order***		
FW-02.6-01P	1.361	1.295	1.195	1.195	499,348	No	203,584
FW-02.6-03T	1.361	1.353	1.195	1.195	285,789	No	203,584
FW-02.6-03T (BR/SE)	1.006	0.852	0.717	0.717	289,489	Yes	203,584
FW-02.6-03T (D/S)	1.361	1.337	1.195	1.195	438,547	Yes	203,584
===>Grouped by Line:	**FW-02.8A SG HDR to SG 31**				***Sorted By:Flow Order***		
FW-02.8A-01P	0.968	0.881	0.717	0.717	618,653	Yes	203,584
FW-02.8A-02E	0.938	0.925	0.717	0.717	425,664	Yes	203,584
FW-02.8A-03T	0.938	0.838	0.717	0.717	304,940	Yes	203,584
FW-02.8A-03T (D/S)	0.000	0.871	0.717	0.717	388,323	Yes	203,584
FW-02.8A-04V	0.938	0.632	0.889	0.889	-187,464	No	203,584
FW-02.8A-25R	0.000	0.930	0.832	0.832	212,473	No	16,992
FW-02.8A-25R (D/S)	0.000	0.832	0.589	0.589	358,487	No	16,992
FW-02.8A-05V	1.312	0.923	0.630	0.630	247,737	No	203,584
FW-02.8A-26R	0.000	0.631	0.589	0.589	70,020	Yes	203,584
FW-02.8A-26R (D/S)	0.000	0.862	0.832	0.832	76,373	Yes	203,584
FW-02.8A-06E	0.938	0.881	0.717	0.717	335,522	Yes	203,584
FW-02.8A-07P	0.938	0.876	0.717	0.717	376,632	Yes	203,584
FW-02.8A-08T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8A-08T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8A-09P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8A-10E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8A-11P_1	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8A-11P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.8A-12F	0.938	0.690	0.717	0.717	-35,148	No	203,584
FW-02.8A-13P	0.938	0.902	0.717	0.717	1,230,110	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8A SG HDR to SG 31**					***Sorted By:Flow Order***		
FW-02.8A-14E	0.938	0.795	0.717	0.717	179,392	No	203,584
FW-02.8A-15P	0.938	0.843	0.717	0.717	433,246	No	203,584
FW-02.8A-16E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8A-17P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8A-18V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8A-19V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8A-20P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-02.8A-21T	0.750	0.624	0.544	0.544	206,217	No	203,584
FW-02.8A-21T (D/S)	0.000	0.624	0.544	0.544	206,217	No	203,584
FW-02.8A-22E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8A-23E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8A-24P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-03.1A-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1A-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1A-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1A-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1A-05B	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-03.1A-06P_1	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1A-06P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-03.1A-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1A-08B	0.750	0.972	0.544	0.544	901,478	Yes	203,584
FW-03.1A-09N	0.750	0.745	0.478	0.478	35,606,872	No	203,584
===>Grouped by Line: **FW-02.8B SG HDR to SG 32**					***Sorted By:Flow Order***		
FW-02.8B-01P	0.938	0.851	0.717	0.717	509,402	Yes	203,584
FW-02.8B-02E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8B-03P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8B-04T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8B-04T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8B-05V	0.938	0.632	0.889	0.889	-187,464	No	203,584
FW-02.8B-25R	0.000	0.886	0.832	0.832	117,179	No	203,584
FW-02.8B-25R (D/S)	1.312	0.862	0.589	0.589	359,866	No	203,584
FW-02.8B-06V	1.312	0.923	0.630	0.630	247,737	No	203,584
FW-02.8B-26R	0.000	0.834	0.589	0.589	412,127	No	16,992
FW-02.8B-26R (D/S)	0.000	0.931	0.832	0.832	250,717	No	16,992
FW-02.8B-07E	0.938	0.820	0.717	0.717	210,470	Yes	203,584
FW-02.8B-08P	0.938	0.839	0.717	0.717	290,151	Yes	203,584
FW-02.8B-09T	0.938	0.859	0.717	0.717	358,002	Yes	203,584
FW-02.8B-09T (D/S)	0.000	0.872	0.717	0.717	390,850	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8B SG HDR to SG 32**					***Sorted By:Flow Order***		
FW-02.8B-10P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8B-11E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8B-12P_1	0.998	0.858	0.717	0.717	331,160	No	203,584
FW-02.8B-12P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.8B-13F	0.938	0.783	0.717	0.717	87,288	Yes	203,584
FW-02.8B-14P	0.990	0.861	0.717	0.717	954,971	Yes	203,584
FW-02.8B-15E	0.938	0.795	0.717	0.717	179,392	No	203,584
FW-02.8B-16P	0.938	0.843	0.717	0.717	433,246	No	203,584
FW-02.8B-17E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8B-18P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8B-19V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8B-20V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8B-21P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-02.8B-22T	0.000	0.703	0.544	0.544	411,156	Yes	203,584
FW-02.8B-22T (D/S)	0.000	0.656	0.544	0.544	288,905	Yes	203,584
FW-02.8B-23E	0.924	0.685	0.544	0.544	287,913	Yes	203,584
FW-02.8B-24P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-03.1B-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1B-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1B-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1B-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1B-05B	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-03.1B-06P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1B-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1B-08E	0.750	0.648	0.544	0.544	219,068	Yes	203,584
FW-03.1B-09P	0.750	0.860	0.544	0.544	984,887	Yes	203,584
FW-03.1B-10E	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1B-11E	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-03.1B-12N	0.750	0.748	0.478	0.478	35,919,252	No	203,584
===>Grouped by Line: **FW-02.8C SG HDR to SG 34**					***Sorted By:Flow Order***		
FW-02.8C-01P	0.946	0.859	0.717	0.717	538,639	Yes	203,584
FW-02.8C-02E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8C-03P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8C-04T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-04T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-05V	0.938	1.199	0.889	0.889	332,721	No	203,584
FW-02.8C-24R	0.000	1.582	0.832	0.832	1,625,182	Yes	203,584
FW-02.8C-24R (D/S)	0.000	0.825	0.589	0.589	347,131	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8C SG HDR to SG 34**					***Sorted By:Flow Order***		
FW-02.8C-06V	1.312	1.724	0.630	0.630	923,778	No	203,584
FW-02.8C-25R	0.000	0.709	0.589	0.589	201,470	Yes	203,584
FW-02.8C-25R (D/S)	0.000	0.858	0.832	0.832	66,266	Yes	203,584
FW-02.8C-07E	0.938	0.924	0.717	0.717	424,979	Yes	203,584
FW-02.8C-08P	0.938	0.865	0.717	0.717	351,810	Yes	203,584
FW-02.8C-09T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-09T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8C-10P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8C-11E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8C-12P_1	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8C-12P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.8C-13F	0.938	0.690	0.717	0.717	-35,148	No	203,584
FW-02.8C-14P	0.938	0.900	0.717	0.717	1,216,845	Yes	203,584
FW-02.8C-15E	0.938	0.795	0.717	0.717	179,392	No	203,584
FW-02.8C-16E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8C-17P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8C-18V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8C-19V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8C-20P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-02.8C-21T	0.750	0.624	0.544	0.544	206,217	No	203,584
FW-02.8C-21T (D/S)	0.000	0.624	0.544	0.544	206,217	No	203,584
FW-02.8C-22E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8C-23P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-03.1C-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1C-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1C-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1C-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1C-16P_1	0.750	0.657	0.544	0.544	400,592	No	203,584
FW-03.1C-16P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-03.1C-05B	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1C-06P_1	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1C-06P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-03.1C-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1C-09P	0.750	0.657	0.544	0.544	400,592	No	203,584
FW-03.1C-10E	0.750	0.757	0.544	0.544	447,404	Yes	203,584
FW-03.1C-11P	0.750	0.681	0.544	0.544	332,235	Yes	203,584
FW-03.1C-12E	0.750	0.771	0.544	0.544	535,155	Yes	203,584
FW-03.1C-13P	0.750	0.630	0.544	0.544	301,736	Yes	203,584
FW-03.1C-14E	0.750	0.650	0.544	0.544	249,289	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8C SG HDR to SG 34**					***Sorted By:Flow Order***		
FW-03.1C-15N	0.750	0.704	0.478	0.478	30,056,134	No	203,584
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Flow Order***		
FW-02.6-02T (D/S)	0.000	1.203	1.195	1.195	48,564	No	203,584
FW-02.7-01P	1.372	1.334	1.195	1.195	1,172,438	No	203,584
FW-02.7-02T	1.260	1.203	1.195	1.195	48,564	No	203,584
FW-02.7-02T (D/S)	0.000	1.203	1.195	1.195	48,564	No	203,584
FW-02.7-03P	1.372	1.334	1.195	1.195	1,172,438	No	203,584
FW-02.7-04T	1.395	1.289	1.195	1.195	289,252	No	203,584
FW-02.7-04T (BR/SE)	1.013	0.860	0.717	0.717	305,319	Yes	203,584
FW-02.8D-01P	0.964	0.877	0.717	0.717	604,147	Yes	203,584
FW-02.8D-02E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-03P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8D-04T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-04T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-05V	0.938	0.632	0.889	0.889	-187,464	No	203,584
FW-02.8D-24R	0.000	0.897	0.832	0.832	139,694	No	203,584
FW-02.8D-24R (D/S)	1.312	0.827	0.589	0.589	313,051	No	203,584
FW-02.8D-06V	1.312	0.923	0.630	0.630	247,737	No	203,584
FW-02.8D-25R	1.312	0.701	0.589	0.589	167,920	Yes	203,584
FW-02.8D-25R (D/S)	0.000	0.858	0.832	0.832	66,266	Yes	203,584
FW-02.8D-07E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-08P	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8D-09T	0.938	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-09T (D/S)	0.000	0.808	0.717	0.717	230,163	No	203,584
FW-02.8D-10P	0.938	0.851	0.717	0.717	509,402	No	203,584
FW-02.8D-11E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-12P_1	0.938	0.799	0.717	0.717	195,258	No	203,584
FW-02.8D-12P_2	0.938	0.882	0.717	0.717	955,454	No	203,584
FW-02.8D-13F	0.938	0.690	0.717	0.717	-35,148	No	203,584
FW-02.8D-14P	0.938	0.902	0.717	0.717	1,230,110	Yes	203,584
FW-02.8D-15E	0.938	0.778	0.717	0.717	124,505	No	203,584
FW-02.8D-16P	0.938	0.830	0.717	0.717	341,858	No	203,584
FW-02.8D-17V	0.938	0.654	0.717	0.717	-77,233	No	203,584
FW-02.8D-18V	0.938	0.616	0.717	0.717	-107,799	No	203,584
FW-02.8D-19P	0.750	0.608	0.544	0.544	147,223	No	203,584
FW-02.8D-20T	0.750	0.624	0.544	0.544	206,217	No	203,584
FW-02.8D-20T (D/S)	0.000	0.624	0.544	0.544	206,217	No	203,584
FW-02.8D-21E	0.750	0.594	0.544	0.544	105,089	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW-02.8D SG HDR to SG 33**					***Sorted By:Flow Order***		
FW-02.8D-22E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-02.8D-23P	0.750	0.615	0.544	0.544	172,808	No	203,584
FW-03.1D-01P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1D-02E	0.750	0.594	0.544	0.544	105,089	No	203,584
FW-03.1D-03P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1D-04B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1D-05B	0.750	0.603	0.544	0.544	129,855	No	203,584
FW-03.1D-06P_1	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1D-06P_2	0.750	0.696	0.544	0.544	917,723	No	203,584
FW-03.1D-07B	0.750	0.611	0.544	0.544	157,623	No	203,584
FW-03.1D-08B	0.750	0.714	0.544	0.544	378,752	Yes	203,584
FW-03.1D-09P	0.750	0.645	0.544	0.544	313,123	No	203,584
FW-03.1D-10N	0.750	0.748	0.478	0.478	35,919,252	No	203,584
FW-02.6-02T	1.260	1.203	1.195	1.195	48,564	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

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Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: FW: SG HEADERS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.423

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**FW-02.3 SG INLET HEADER**										***Sorted By: Flow Order***	
FW-02.1B-11T	1.398	60.3	71.0	60.3	71.0	1.376	GW	107,911	1,324.5	1,376.0	27.3	78,649
FW-02.1B-11T (BR/SE)	0.974	127.1	71.0	127.1	71.0	0.925	GW	107,911	846.9	925.0	46.7	107,911
===>Grouped by Line:	**FW-02.4 SG INLET HEADER**										***Sorted By: Flow Order***	
FW-02.1C-11T (BR/SE)	0.975	104.4	66.0	104.4	66.0	0.975	ER	0	801.1	975.0	173.9	78,649
FW-02.4-02T	1.260	122.3	53.0	122.3	53.0	1.346	GW	153,469	1,137.7	1,346.0	21.9	153,469
FW-02.4-02T (D/S)	0.000	122.3	43.0	122.3	43.0	1.358	GW	153,469	1,137.7	1,358.0	21.9	153,469
FW-02.4-04E	1.260	119.4	91.0	119.4	91.0	1.470	GW	92,205	1,140.6	1,470.0	58.4	92,205
FW-02.4-05E	1.260	119.4	238.0	119.4	238.0	1.392	GW	92,205	1,140.6	1,392.0	58.4	92,205
FW-02.4-06P	1.260	103.3	69.0	103.3	69.0	1.385	GW	92,205	1,156.7	1,385.0	50.5	92,205
FW-02.4-09E	1.260	168.7	192.0	168.7	192.0	1.347	MT	186,592	1,091.3	1,347.0	9.2	186,592
FW-02.4-10P	1.260	114.0	35.0	114.0	35.0	1.345	MT	186,592	1,146.0	1,345.0	6.2	186,592
FW-02.4-11E	1.260	159.7	206.0	159.7	206.0	1.357	MT	170,123	1,100.3	1,357.0	18.1	170,123
FW-02.4-15E	1.260	143.2	212.0	143.2	212.0	1.330	GW	137,201	1,116.8	1,330.0	34.7	137,201
FW-02.4-17E	1.260	150.9	145.0	150.9	145.0	1.305	GW	153,469	1,109.1	1,305.0	27.0	153,469
FW-02.4-18P	1.365	102.9	40.0	102.9	40.0	1.362	GW	153,469	1,262.1	1,362.0	18.4	153,469
FW-02.4-19T (BR/SE)	0.974	111.5	145.0	111.5	145.0	0.868	GW	107,911	862.5	868.0	41.0	107,911
===>Grouped by Line:	**FW-02.5 SG INLET HEADER**										***Sorted By: Flow Order***	
FW-02.5-04T (BR/SE)	1.002	123.3	86.0	123.3	86.0	0.936	GW	137,201	878.7	936.0	29.9	137,201
===>Grouped by Line:	**FW-02.6 SG INLET HEADER**										***Sorted By: Flow Order***	
FW-02.6-03T (BR/SE)	1.006	145.3	166.0	145.3	166.0	0.860	MT	186,592	860.7	860.0	7.9	186,592
FW-02.6-03T (D/S)	1.361	99.6	38.0	99.6	38.0	1.343	MT	186,592	1,261.4	1,343.0	5.5	186,592
===>Grouped by Line:	**FW-02.8A SG HDR to SG 31**										***Sorted By: Flow Order***	
FW-02.8A-01P	0.968	52.3	97.0	52.3	97.0	0.968	ER	0	881.0	968.0	87.0	78,649
FW-02.8A-02E	0.938	129.0	129.0	129.0	129.0	0.956	GW	137,201	809.0	956.0	31.3	137,201

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**FW-02.8A SG HDR to SG 31**											***Sorted By: Flow Order***
FW-02.8A-03T	0.938	104.6	75.0	104.6	75.0	0.863	GW	137,201	833.4	863.0	25.3	137,201
FW-02.8A-03T (D/S)	0.000	104.6	56.0	104.6	56.0	0.896	GW	137,201	833.4	896.0	25.3	137,201
FW-02.8A-25R	0.000	143.7	448.0	0.0	0.0	0.938	ER	186,592	938.0	938.0	7.8	0
FW-02.8A-25R (D/S)	0.000	236.0	184.0	0.0	0.0	0.844	ER	186,592	844.0	844.0	11.5	0
FW-02.8A-26R	0.000	184.7	212.0	184.7	212.0	0.641	MT	186,592	659.3	641.0	10.1	186,592
FW-02.8A-26R (D/S)	0.000	123.2	289.0	123.2	289.0	0.869	MT	186,592	814.8	869.0	6.7	186,592
FW-02.8A-06E	0.938	129.0	158.0	129.0	158.0	0.912	GW	137,201	809.0	912.0	31.3	137,201
FW-02.8A-07P	0.938	111.6	58.0	111.6	58.0	0.903	GW	137,201	826.4	903.0	27.0	137,201
FW-02.8A-13P	0.938	46.9	125.0	46.9	125.0	0.905	MT	186,592	891.1	905.0	2.6	186,592
FW-03.1A-08B	0.750	52.6	140.0	52.6	140.0	0.980	MT	186,592	602.4	980.0	8.1	186,592
===>Grouped by Line:	**FW-02.8B SG HDR to SG 32**											***Sorted By: Flow Order***
FW-02.8B-01P	0.938	52.0	78.0	52.0	78.0	0.938	ER	0	851.4	938.0	86.6	78,649
FW-02.8B-07E	0.938	152.0	221.0	152.0	221.0	0.828	MT	186,592	786.0	828.0	8.3	186,592
FW-02.8B-08P	0.938	93.1	69.0	93.1	69.0	0.885	GW	92,205	844.9	885.0	45.5	92,205
FW-02.8B-09T	0.938	104.6	60.0	104.6	60.0	0.884	GW	137,201	833.4	884.0	25.3	137,201
FW-02.8B-09T (D/S)	0.000	104.6	41.0	104.6	41.0	0.897	GW	137,201	833.4	897.0	25.3	137,201
FW-02.8B-13F	0.938	222.3	154.0	222.3	154.0	0.808	MT	170,123	715.7	808.0	25.2	170,123
FW-02.8B-14P	0.990	44.5	75.0	44.5	75.0	0.866	MT	170,123	945.5	866.0	5.0	170,123
FW-02.8B-22T	0.000	75.8	39.0	75.8	39.0	0.753	GW	78,649	674.2	753.0	50.4	78,649
FW-02.8B-22T (D/S)	0.000	75.8	59.0	75.8	59.0	0.706	GW	78,649	674.2	706.0	50.4	78,649
FW-02.8B-23E	0.924	151.6	281.5	151.6	281.5	0.693	MT	186,592	772.4	693.0	8.3	186,592
FW-03.1B-08E	0.750	132.0	99.0	132.0	99.0	0.672	GW	153,469	618.0	672.0	23.6	153,469
FW-03.1B-09P	0.750	89.2	68.0	89.2	68.0	0.876	GW	153,469	660.8	876.0	16.0	153,469
===>Grouped by Line:	**FW-02.8C SG HDR to SG 34**											***Sorted By: Flow Order***
FW-02.8C-01P	0.946	52.1	71.0	52.1	71.0	0.946	ER	0	859.3	946.0	86.7	78,649
FW-02.8C-24R	0.000	116.0	247.0	116.0	247.0	1.618	GW	121,025	822.0	1,618.0	35.6	121,025
FW-02.8C-24R (D/S)	0.000	170.4	148.0	170.4	148.0	0.877	GW	121,025	673.6	877.0	52.2	121,025
FW-02.8C-25R	0.000	184.7	169.0	184.7	169.0	0.719	MT	186,592	659.3	719.0	10.1	186,592
FW-02.8C-25R (D/S)	0.000	123.2	252.0	123.2	252.0	0.865	MT	186,592	814.8	865.0	6.7	186,592
FW-02.8C-07E	0.938	122.7	121.0	122.7	121.0	0.962	GW	121,025	815.3	962.0	37.6	121,025
FW-02.8C-08P	0.938	106.1	53.0	106.1	53.0	0.898	GW	121,025	831.9	898.0	32.5	121,025
FW-02.8C-14P	0.938	46.9	123.0	46.9	123.0	0.903	MT	186,592	891.1	903.0	2.6	186,592
FW-03.1C-10E	0.750	125.3	215.0	125.3	215.0	0.787	GW	137,201	624.7	787.0	30.4	137,201
FW-03.1C-11P	0.750	108.4	41.0	108.4	41.0	0.707	MT	137,201	641.6	707.0	26.3	137,201
FW-03.1C-12E	0.750	131.7	149.0	131.7	149.0	0.778	MT	186,592	618.3	778.0	7.2	186,592
FW-03.1C-13P	0.750	83.1	129.0	83.1	129.0	0.639	MT	170,123	666.9	639.0	9.4	170,123
FW-03.1C-14E	0.750	111.8	273.0	111.8	273.0	0.677	GW	137,201	638.2	677.0	27.1	137,201

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**FW-02.8D SG HDR to SG 33**											***Sorted By: Flow Order***
FW-02.7-04T (BR/SE)	1.013	92.1	153.0	92.1	153.0	1.013	ER	0	859.6	1,013.0	153.4	78,649
FW-02.8D-01P	0.964	52.2	52.0	52.2	52.0	0.964	ER	0	877.0	964.0	87.0	78,649
FW-02.8D-25R	1.312	206.5	132.0	206.5	132.0	0.712	MT	186,592	1,105.5	712.0	11.3	186,592
FW-02.8D-25R (D/S)	0.000	123.2	156.0	123.2	156.0	0.865	MT	186,592	814.8	865.0	6.7	186,592
FW-02.8D-14P	0.938	46.9	125.0	46.9	125.0	0.905	MT	186,592	891.1	905.0	2.6	186,592
FW-03.1D-08B	0.750	139.6	176.5	139.6	176.5	0.722	MT	186,592	610.4	722.0	7.6	186,592

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/5/2010 4:28:53PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.976

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1A HD PMP 31 to HDR***								***Sorted By: Average Wear Rate***		
HD-12.2A-06O	6	11.708	7.846	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.1A-01V	24	11.281	7.560	370.3	31.512	0.0	8.625	6.925	0.000	47.16	ARD
HD-11.2A-01R (D/S)	7	6.817	4.568	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-11.1A-01N	31	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.1A-02V	25	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-01V	22	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.1A-02R	18	5.965	3.997	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.2A-03E	4	4.845	3.247	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.2A-01R	7	4.583	3.071	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-04T (D/S)	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.1A-02R (D/S)	18	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-04T	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-02P	58	2.881	1.931	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-05P	65	2.714	1.819	370.3	14.043	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-07P	56	2.342	1.569	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***								***Sorted By: Average Wear Rate***		
HD-12.2B-06O	6	11.708	7.846	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.1B-01V	24	10.652	7.138	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-11.2B-01R (D/S)	7	6.817	4.568	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-11.1B-01N	31	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.1B-02V	25	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-01V	22	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.1B-02R	18	5.965	3.997	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.2B-08T (BR/SE)	10	5.238	3.510	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-03E	4	4.882	3.271	370.3	13.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.2B-01R	7	4.583	3.071	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-08T (D/S)	10	4.539	3.314	370.3	8.492	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.2B-04T (D/S)	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***								***Sorted By: Average Wear Rate***		
HD-12.1B-02R (D/S)	18	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-04T	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-02P	58	2.905	1.947	370.3	13.448	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.3-01P	60	2.722	1.988	370.3	8.488	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.2B-05P	65	2.628	1.761	370.3	13.343	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-07P	56	2.342	1.569	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
===>Grouped by Line:	***HD-12.2A HD PMP HDR to CD SYS***								***Sorted By: Average Wear Rate***		
HD-12.2A-08T (D/S)	12	7.301	4.003	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-01E	4	6.742	3.697	370.3	17.617	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-17E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-03E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-07E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-09E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-11E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-13E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-05E	1	5.876	3.222	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-02P	54	5.698	3.124	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-15T (D/S)	15	5.342	2.929	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-15T	15	5.342	2.929	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.2A-08T (BR/SE)	12	4.453	2.984	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.4-18P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-04P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-08P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-10P_1	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-12P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-14P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-06P	51	3.917	2.148	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.2A-08T	12	3.760	2.738	370.3	8.595	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-16P	65	3.561	1.953	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-10P_2	9	2.479	1.388	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 4:28:53PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.976

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1A HD PMP 31 to HDR***									***Sorted By: Flow Order***	
HD-11.1A-01N	31	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.1A-02V	25	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.2A-01R	7	4.583	3.071	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.2A-01R (D/S)	7	6.817	4.568	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.1A-01V	24	11.281	7.560	370.3	31.512	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.1A-02R	18	5.965	3.997	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.1A-02R (D/S)	18	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-01V	22	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-02P	58	2.881	1.931	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-03E	4	4.845	3.247	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-04T	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-04T (D/S)	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-05P	65	2.714	1.819	370.3	14.043	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-06O	6	11.708	7.846	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-07P	56	2.342	1.569	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***									***Sorted By: Flow Order***	
HD-11.1B-01N	31	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.1B-02V	25	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.2B-01R	7	4.583	3.071	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-11.2B-01R (D/S)	7	6.817	4.568	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.1B-01V	24	10.652	7.138	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.1B-02R	18	5.965	3.997	370.3	28.763	0.0	8.625	6.925	0.000	47.16	ARD
HD-12.1B-02R (D/S)	18	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-01V	22	6.548	4.388	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-02P	58	2.905	1.947	370.3	13.448	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-03E	4	4.882	3.271	370.3	13.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-04T	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-11.1B HD PMP 32 to HDR***									***Sorted By: Flow Order***	
HD-12.2B-04T (D/S)	15	3.929	2.633	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-05P	65	2.628	1.761	370.3	13.343	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-06O	6	11.708	7.846	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-07P	56	2.342	1.569	370.3	33.430	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-08T (BR/SE)	10	5.238	3.510	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2B-08T (D/S)	10	4.539	3.314	370.3	8.492	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.3-01P	60	2.722	1.988	370.3	8.488	0.0	16.000	6.925	0.000	47.16	ARD
===>Grouped by Line:	***HD-12.2A HD PMP HDR to CD SYS***									***Sorted By: Flow Order***	
HD-12.2A-08T (BR/SE)	12	4.453	2.984	370.3	13.270	0.0	12.750	6.925	0.000	47.16	ARD
HD-12.2A-08T	12	3.760	2.738	370.3	8.595	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.2A-08T (D/S)	12	7.301	4.003	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-01E	4	6.742	3.697	370.3	17.617	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-02P	54	5.698	3.124	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-03E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-04P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-05E	1	5.876	3.222	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-06P	51	3.917	2.148	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-07E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-08P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-09E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-10P_1	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-10P_2	9	2.479	1.388	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-11E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-12P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-13E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-14P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-15T	15	5.342	2.929	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-15T (D/S)	15	5.342	2.929	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-16P	65	3.561	1.953	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-17E	2	6.588	3.613	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD
HD-12.4-18P	52	4.452	2.441	370.3	16.985	0.0	16.000	6.925	0.000	47.16	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/5/2010 4:28:53PM

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.976

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1A HD PMP 31 to HDR**					***Sorted By:Remaining Life***		
HD-12.1A-01V	0.500	0.234	0.220	0.220	15,495	No	203,584
HD-12.2A-01V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-11.1A-02V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-12.1A-02R	0.000	0.260	0.206	0.206	119,175	Yes	203,584
HD-11.2A-01R (D/S)	0.000	0.296	0.206	0.206	172,732	No	203,584
HD-12.2A-06O	0.500	0.477	0.304	0.304	192,541	No	203,584
HD-12.2A-03E	0.500	0.387	0.304	0.304	224,107	No	203,584
HD-11.1A-01N	0.500	0.470	0.304	0.304	331,338	No	203,584
HD-12.2A-04T	0.500	0.409	0.304	0.304	347,286	No	203,584
HD-12.2A-04T (D/S)	0.000	0.409	0.304	0.304	347,286	No	203,584
HD-12.1A-02R (D/S)	0.000	0.466	0.304	0.304	537,604	Yes	203,584
HD-11.2A-01R	0.000	0.501	0.304	0.304	561,222	Yes	203,584
HD-12.2A-02P	0.500	0.433	0.304	0.304	584,047	No	203,584
HD-12.2A-07P	0.569	0.445	0.304	0.304	786,192	Yes	203,584
HD-12.2A-05P	0.664	0.601	0.304	0.304	1,428,565	No	203,584
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Remaining Life***		
HD-12.2B-06O	0.500	0.228	0.304	0.304	-92,795	No	203,584
HD-11.1B-02V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-12.2B-01V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-12.1B-01V	0.322	0.271	0.220	0.220	61,803	No	203,584
HD-11.1B-01N	0.500	0.348	0.304	0.304	86,850	No	203,584
HD-11.2B-01R (D/S)	0.000	0.260	0.206	0.206	104,424	No	203,584
HD-12.2B-08T (BR/SE)	0.000	0.378	0.304	0.304	184,513	Yes	203,584
HD-12.1B-02R	0.000	0.317	0.206	0.206	244,273	No	203,584
HD-12.2B-03E	0.535	0.441	0.304	0.304	365,048	Yes	203,584
HD-12.2B-08T (D/S)	0.000	0.551	0.382	0.382	445,765	No	203,584
HD-11.2B-01R	0.000	0.473	0.304	0.304	481,896	No	203,584
HD-12.1B-02R (D/S)	0.000	0.466	0.304	0.304	538,185	Yes	203,584
HD-12.2B-02P	0.539	0.465	0.304	0.304	722,318	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Remaining Life***		
HD-12.2B-04T (D/S)	0.000	0.534	0.304	0.304	763,869	No	203,584
HD-12.2B-05P	0.516	0.474	0.304	0.304	841,897	Yes	203,584
HD-12.2B-07P	0.527	0.455	0.304	0.304	842,885	Yes	203,584
HD-12.2B-04T	0.500	0.564	0.304	0.304	863,692	No	203,584
HD-12.3-01P	0.654	0.591	0.382	0.382	920,469	Yes	203,584
===>Grouped by Line: **HD-12.2A HD PMP HDR to CD SYS**					***Sorted By:Remaining Life***		
HD-12.2A-08T (D/S)	0.000	0.486	0.382	0.382	228,531	No	203,584
HD-12.4-03E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-07E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-09E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-11E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-13E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-17E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-05E	0.656	0.519	0.382	0.382	373,939	No	203,584
HD-12.4-02P	0.656	0.524	0.382	0.382	397,227	No	203,584
HD-12.4-15T	0.656	0.532	0.382	0.382	448,461	No	203,584
HD-12.4-15T (D/S)	0.000	0.532	0.382	0.382	448,461	No	203,584
HD-12.2A-08T (BR/SE)	0.000	0.458	0.304	0.304	450,016	Yes	203,584
HD-12.4-01E	0.789	0.613	0.382	0.382	547,242	Yes	203,584
HD-12.4-04P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-08P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-10P_1	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-12P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-14P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-18P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-06P	0.656	0.565	0.382	0.382	746,547	No	203,584
HD-12.2A-08T	0.700	0.618	0.382	0.382	753,960	Yes	203,584
HD-12.4-16P	0.656	0.573	0.382	0.382	858,329	No	203,584
HD-12.4-10P_2	0.656	0.598	0.382	0.382	1,366,311	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.976

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1A HD PMP 31 to HDR**					***Sorted By:Flow Order***		
HD-11.1A-01N	0.500	0.470	0.304	0.304	331,338	No	203,584
HD-11.1A-02V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-11.2A-01R	0.000	0.501	0.304	0.304	561,222	Yes	203,584
HD-11.2A-01R (D/S)	0.000	0.296	0.206	0.206	172,732	No	203,584
HD-12.1A-01V	0.500	0.234	0.220	0.220	15,495	No	203,584
HD-12.1A-02R	0.000	0.260	0.206	0.206	119,175	Yes	203,584
HD-12.1A-02R (D/S)	0.000	0.466	0.304	0.304	537,604	Yes	203,584
HD-12.2A-01V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-12.2A-02P	0.500	0.433	0.304	0.304	584,047	No	203,584
HD-12.2A-03E	0.500	0.387	0.304	0.304	224,107	No	203,584
HD-12.2A-04T	0.500	0.409	0.304	0.304	347,286	No	203,584
HD-12.2A-04T (D/S)	0.000	0.409	0.304	0.304	347,286	No	203,584
HD-12.2A-05P	0.664	0.601	0.304	0.304	1,428,565	No	203,584
HD-12.2A-06O	0.500	0.477	0.304	0.304	192,541	No	203,584
HD-12.2A-07P	0.569	0.445	0.304	0.304	786,192	Yes	203,584
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Flow Order***		
HD-11.1B-01N	0.500	0.348	0.304	0.304	86,850	No	203,584
HD-11.1B-02V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-11.2B-01R	0.000	0.473	0.304	0.304	481,896	No	203,584
HD-11.2B-01R (D/S)	0.000	0.260	0.206	0.206	104,424	No	203,584
HD-12.1B-01V	0.322	0.271	0.220	0.220	61,803	No	203,584
HD-12.1B-02R	0.000	0.317	0.206	0.206	244,273	No	203,584
HD-12.1B-02R (D/S)	0.000	0.466	0.304	0.304	538,185	Yes	203,584
HD-12.2B-01V	0.500	0.348	0.326	0.326	44,338	No	203,584
HD-12.2B-02P	0.539	0.465	0.304	0.304	722,318	Yes	203,584
HD-12.2B-03E	0.535	0.441	0.304	0.304	365,048	Yes	203,584
HD-12.2B-04T	0.500	0.564	0.304	0.304	863,692	No	203,584
HD-12.2B-04T (D/S)	0.000	0.534	0.304	0.304	763,869	No	203,584
HD-12.2B-05P	0.516	0.474	0.304	0.304	841,897	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-11.1B HD PMP 32 to HDR**					***Sorted By:Flow Order***		
HD-12.2B-06O	0.500	0.228	0.304	0.304	-92,795	No	203,584
HD-12.2B-07P	0.527	0.455	0.304	0.304	842,885	Yes	203,584
HD-12.2B-08T (BR/SE)	0.000	0.378	0.304	0.304	184,513	Yes	203,584
HD-12.2B-08T (D/S)	0.000	0.551	0.382	0.382	445,765	No	203,584
HD-12.3-01P	0.654	0.591	0.382	0.382	920,469	Yes	203,584
===>Grouped by Line: **HD-12.2A HD PMP HDR to CD SYS**					***Sorted By:Flow Order***		
HD-12.2A-08T (BR/SE)	0.000	0.458	0.304	0.304	450,016	Yes	203,584
HD-12.2A-08T	0.700	0.618	0.382	0.382	753,960	Yes	203,584
HD-12.2A-08T (D/S)	0.000	0.486	0.382	0.382	228,531	No	203,584
HD-12.4-01E	0.789	0.613	0.382	0.382	547,242	Yes	203,584
HD-12.4-02P	0.656	0.524	0.382	0.382	397,227	No	203,584
HD-12.4-03E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-04P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-05E	0.656	0.519	0.382	0.382	373,939	No	203,584
HD-12.4-06P	0.656	0.565	0.382	0.382	746,547	No	203,584
HD-12.4-07E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-08P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-09E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-10P_1	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-10P_2	0.656	0.598	0.382	0.382	1,366,311	No	203,584
HD-12.4-11E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-12P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-13E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-14P	0.656	0.553	0.382	0.382	612,408	No	203,584
HD-12.4-15T	0.656	0.532	0.382	0.382	448,461	No	203,584
HD-12.4-15T (D/S)	0.000	0.532	0.382	0.382	448,461	No	203,584
HD-12.4-16P	0.656	0.573	0.382	0.382	858,329	No	203,584
HD-12.4-17E	0.656	0.503	0.382	0.382	293,376	No	203,584
HD-12.4-18P	0.656	0.553	0.382	0.382	612,408	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HD PMP TO BFP HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.976

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-11.1A HD PMP 31 to HDR**											***Sorted By: Flow Order***
HD-11.2A-01R	0.000	83.6	91.0	83.6	91.0	0.524	MT	137,201	416.4	524.0	22.9	137,201
HD-12.1A-02R	0.000	130.9	86.0	130.9	86.0	0.268	MT	186,592	191.1	268.0	7.8	186,592
HD-12.1A-02R (D/S)	0.000	86.2	92.0	86.2	92.0	0.471	MT	186,592	413.8	471.0	5.1	186,592
HD-12.2A-07P	0.569	40.6	73.0	40.6	73.0	0.459	GW	121,025	528.4	459.0	13.8	121,025
===>Grouped by Line:	**HD-11.1B HD PMP 32 to HDR**											***Sorted By: Flow Order***
HD-12.1B-02R (D/S)	0.000	76.4	56.0	76.4	56.0	0.481	GW	153,469	423.6	481.0	14.9	153,469
HD-12.2B-02P	0.539	39.4	42.0	39.4	42.0	0.493	GW	78,649	499.6	493.0	28.1	78,649
HD-12.2B-03E	0.535	47.7	45.0	47.7	45.0	0.447	MT	186,592	427.9	447.0	6.3	186,592
HD-12.2B-05P	0.516	57.7	39.0	57.7	39.0	0.477	MT	186,592	458.3	477.0	3.4	186,592
HD-12.2B-07P	0.527	38.7	90.0	38.7	90.0	0.471	GW	107,911	488.3	471.0	15.7	107,911
HD-12.2B-08T (BR/SE)	0.000	71.0	82.0	71.0	82.0	0.500	ER	0	378.3	500.0	121.7	78,649
HD-12.3-01P	0.654	35.9	38.0	35.9	38.0	0.654	ER	0	590.7	654.0	63.3	78,649
===>Grouped by Line:	**HD-12.2A HD PMP HDR to CD SYS**											***Sorted By: Flow Order***
HD-12.2A-08T (BR/SE)	0.000	92.1	64.0	92.1	64.0	0.469	MT	170,123	407.9	469.0	11.4	170,123
HD-12.2A-08T	0.700	76.9	56.0	76.9	56.0	0.628	MT	170,123	623.1	628.0	10.5	170,123
HD-12.4-01E	0.789	149.5	132.0	149.5	132.0	0.620	MT	186,592	639.5	620.0	7.2	186,592

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:03:25AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-FWH 31A to Condenser 33***								***Sorted By: Average Wear Rate***		
TEMP01	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	8.04	HBD
===>Grouped by Line:	***HD-FWH 31B to Condenser 32***								***Sorted By: Average Wear Rate***		
TEMP02	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	8.04	HBD
===>Grouped by Line:	***HD-FWH 31C to Condenser 31***								***Sorted By: Average Wear Rate***		
TEMP03	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	8.04	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:03:25AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-FWH 31A to Condenser 33***								***Sorted By: Flow Order***		
TEMP01	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	8.04	HBD
===>Grouped by Line:	***HD-FWH 31B to Condenser 32***								***Sorted By: Flow Order***		
TEMP02	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	8.04	HBD
===>Grouped by Line:	***HD-FWH 31C to Condenser 31***								***Sorted By: Flow Order***		
TEMP03	31	1.238	0.851	91.8	4.165	0.0	12.750	7.056	0.000	8.04	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:03:25AM

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 31A to Condenser 33**					***Sorted By:Remaining Life***		
TEMP01	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31B to Condenser 32**					***Sorted By:Remaining Life***		
TEMP02	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31C to Condenser 31**					***Sorted By:Remaining Life***		
TEMP03	0.000	0.221	0.021	0.021	2,059,940	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR 31 TO COND
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 31A to Condenser 33**					***Sorted By:Flow Order***		
TEMP01	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31B to Condenser 32**					***Sorted By:Flow Order***		
TEMP02	0.000	0.221	0.021	0.021	2,059,940	No	203,584
===>Grouped by Line: **HD-FWH 31C to Condenser 31**					***Sorted By:Flow Order***		
TEMP03	0.000	0.221	0.021	0.021	2,059,940	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 10:12:38AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.863

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1A FWH 32A to FWH 31A***								***Sorted By: Average Wear Rate***		
HD-09.1A-01V	24	9.024	2.195	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1A-01N	31	6.697	1.637	165.8	2.896	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-07T (D/S)	10	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-10V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-01V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2A-01R (D/S)	7	5.775	1.405	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1A-07T (BR/SE)	10	5.151	1.260	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.1A-02R	18	5.053	1.229	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1A-03E	4	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-09E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-05E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2A-01R	7	4.507	1.103	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-04P	54	4.121	1.008	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-08P	60	3.983	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.1A-02R (D/S)	18	3.863	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-02P	61	3.838	0.851	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-06P	52	3.220	0.788	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-04T	13	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-03E	3	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-04T (BR/SE)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-04T (D/S)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-02P	58	0.002	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-09.1B-01V	24	9.024	2.195	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1B-01N	31	6.697	1.637	165.8	2.896	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-07T (D/S)	10	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-10V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-01V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-8.2B-01R (D/S)	7	5.775	1.405	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1B-07T (BR/SE)	10	5.151	1.260	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.1B-02R	18	5.053	1.229	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1B-03E	4	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-09E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-05E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2B-01R	7	4.507	1.103	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-04P	54	4.121	1.008	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-08P	60	3.983	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.1B-02R (D/S)	18	3.863	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-02P	61	3.838	0.851	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-06P	52	3.220	0.788	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-04T	13	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-03E	3	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-04T (D/S)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-04T (BR/SE)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-02P	58	0.002	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.1C-01V	24	9.024	2.195	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1C-01N	31	6.697	1.637	165.8	2.896	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-07T (D/S)	10	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-10V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-01V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2C-01R (D/S)	7	5.775	1.405	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1C-07T (BR/SE)	10	5.151	1.260	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.1C-02R	18	5.053	1.229	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-8.1C-09E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-03E	4	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-05E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2C-01R	7	4.507	1.103	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-04P	54	4.121	1.008	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-08P	60	3.983	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.1C-02R (D/S)	18	3.863	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-02P	61	3.838	0.851	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-06P	52	3.220	0.788	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-04T	13	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.2C-03E	3	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-04T (D/S)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-04T (BR/SE)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-02P	58	0.002	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.3A FWH 32A to FWH 31A***								***Sorted By: Average Wear Rate***		
HD-09.3A-02N	30	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.3A-01P	64	0.002	0.001	165.8	1.469	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.3B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-09.3B-02N	30	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.3B-01P	64	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.3C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.3C-02N	30	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.3C-01P	64	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.4A FWH 32A to FWH 31A***								***Sorted By: Average Wear Rate***		
HD-09.4A-04N	30	0.002	0.001	165.8	1.452	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4A-02E	4	0.002	0.001	165.8	1.495	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4A-01P	63	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4A-03P	54	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.4B FWH 32B to FWH 31B***								***Sorted By: Average Wear Rate***		
HD-09.4B-04N	30	0.002	0.001	165.8	1.452	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4B-02E	4	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4B-01P	63	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4B-03P	54	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.4C FWH 32C to FWH 31C***								***Sorted By: Average Wear Rate***		
HD-09.4C-04N	30	0.002	0.001	165.8	1.452	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4C-02E	4	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4C-01P	63	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4C-03P	54	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 10:12:38AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.863

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1A FWH 32A to FWH 31A***									***Sorted By: Flow Order***	
HD-8.1A-01N	31	6.697	1.637	165.8	2.896	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-02P	61	3.838	0.851	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-03E	4	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-04P	54	4.121	1.008	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-05E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-06P	52	3.220	0.788	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-07T (BR/SE)	10	5.151	1.260	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-07T (D/S)	10	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-08P	60	3.983	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-09E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1A-10V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2A-01R	7	4.507	1.103	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2A-01R (D/S)	7	5.775	1.405	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1A-01V	24	9.024	2.195	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1A-02R	18	5.053	1.229	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1A-02R (D/S)	18	3.863	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-01V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-02P	58	0.002	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-03E	3	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-04T	13	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-04T (BR/SE)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2A-04T (D/S)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***									***Sorted By: Flow Order***	
HD-8.1B-01N	31	6.697	1.637	165.8	2.896	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-02P	61	3.838	0.851	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-03E	4	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-04P	54	4.121	1.008	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1B FWH 32B to FWH 31B***									***Sorted By: Flow Order***	
HD-8.1B-05E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-06P	52	3.220	0.788	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-07T (BR/SE)	10	5.151	1.260	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-07T (D/S)	10	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-08P	60	3.983	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-09E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1B-10V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2B-01R	7	4.507	1.103	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2B-01R (D/S)	7	5.775	1.405	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1B-01V	24	9.024	2.195	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1B-02R	18	5.053	1.229	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1B-02R (D/S)	18	3.863	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-01V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-02P	58	0.002	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-03E	3	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-04T	13	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-04T (BR/SE)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2B-04T (D/S)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***									***Sorted By: Flow Order***	
HD-8.1C-01N	31	6.697	1.637	165.8	2.896	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-02P	61	3.838	0.851	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-03E	4	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-04P	54	4.121	1.008	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-05E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-06P	52	3.220	0.788	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-07T (BR/SE)	10	5.151	1.260	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-07T (D/S)	10	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-08P	60	3.983	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-09E	2	4.765	1.166	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.1C-10V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2C-01R	7	4.507	1.103	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-8.2C-01R (D/S)	7	5.775	1.405	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1C-01V	24	9.024	2.195	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1C-02R	18	5.053	1.229	165.8	3.969	0.0	10.750	7.056	0.000	8.04	ARD
HD-09.1C-02R (D/S)	18	3.863	0.945	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-01V	22	6.439	1.575	165.8	2.779	0.0	12.750	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-08.1C FWH 32C to FWH 31C***								***Sorted By: Flow Order***		
HD-09.2C-02P	58	0.002	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-03E	3	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-04T	13	0.003	0.001	165.8	2.926	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-04T (BR/SE)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.2C-04T (D/S)	13	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.3A FWH 32A to FWH 31A***								***Sorted By: Flow Order***		
HD-09.3A-01P	64	0.002	0.001	165.8	1.469	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.3A-02N	30	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.3B FWH 32B to FWH 31B***								***Sorted By: Flow Order***		
HD-09.3B-01P	64	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.3B-02N	30	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.3C FWH 32C to FWH 31C***								***Sorted By: Flow Order***		
HD-09.3C-01P	64	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.3C-02N	30	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.4A FWH 32A to FWH 31A***								***Sorted By: Flow Order***		
HD-09.4A-01P	63	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4A-02E	4	0.002	0.001	165.8	1.495	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4A-03P	54	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4A-04N	30	0.002	0.001	165.8	1.452	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.4B FWH 32B to FWH 31B***								***Sorted By: Flow Order***		
HD-09.4B-01P	63	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4B-02E	4	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4B-03P	54	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4B-04N	30	0.002	0.001	165.8	1.452	0.0	12.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-09.4C FWH 32C to FWH 31C***								***Sorted By: Flow Order***		
HD-09.4C-01P	63	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4C-02E	4	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4C-03P	54	0.002	0.001	165.8	1.468	0.0	12.750	7.056	0.000	8.04	ARD
HD-09.4C-04N	30	0.002	0.001	165.8	1.452	0.0	12.750	7.056	0.000	8.04	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 10:12:38AM

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.863

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1A FWH 32A to FWH 31A**					***Sorted By:Remaining Life***		
HD-09.1A-01V	0.250	0.040	0.019	0.019	84,268	No	203,584
HD-8.1A-10V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-09.2A-01V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-8.1A-07T (D/S)	0.000	0.100	0.021	0.021	440,038	No	203,584
HD-8.2A-01R (D/S)	0.000	0.116	0.018	0.018	610,501	No	203,584
HD-8.1A-07T (BR/SE)	0.000	0.130	0.021	0.021	758,080	No	203,584
HD-8.1A-03E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1A-05E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1A-09E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.2A-01R	0.000	0.145	0.021	0.021	985,252	No	203,584
HD-8.1A-01N	0.375	0.219	0.021	0.021	1,060,390	No	203,584
HD-8.1A-04P	0.250	0.154	0.021	0.021	1,155,632	No	203,584
HD-8.1A-08P	0.250	0.157	0.021	0.021	1,262,473	No	203,584
HD-8.1A-02P	0.250	0.161	0.021	0.021	1,437,458	No	203,584
HD-8.1A-06P	0.250	0.175	0.021	0.021	1,712,204	No	203,584
HD-09.1A-02R	0.000	0.267	0.018	0.018	1,772,424	No	203,584
HD-09.1A-02R (D/S)	0.000	0.247	0.021	0.021	2,090,756	Yes	203,584
HD-09.2A-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Remaining Life***		
HD-09.1B-01V	0.250	0.040	0.019	0.019	84,268	No	203,584
HD-8.1B-10V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-09.2B-01V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-8.1B-07T (D/S)	0.000	0.100	0.021	0.021	440,038	No	203,584
HD-8.2B-01R (D/S)	0.000	0.116	0.018	0.018	610,501	No	203,584
HD-8.1B-07T (BR/SE)	0.000	0.130	0.021	0.021	758,080	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Remaining Life***		
HD-8.1B-03E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1B-05E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1B-09E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.2B-01R	0.000	0.145	0.021	0.021	985,252	No	203,584
HD-8.1B-01N	0.375	0.219	0.021	0.021	1,060,390	No	203,584
HD-8.1B-04P	0.250	0.154	0.021	0.021	1,155,632	No	203,584
HD-8.1B-08P	0.250	0.157	0.021	0.021	1,262,473	No	203,584
HD-8.1B-02P	0.250	0.161	0.021	0.021	1,437,458	No	203,584
HD-09.1B-02R	0.000	0.222	0.018	0.018	1,451,674	Yes	203,584
HD-8.1B-06P	0.250	0.175	0.021	0.021	1,712,204	No	203,584
HD-09.1B-02R (D/S)	0.000	0.316	0.021	0.021	2,730,236	Yes	203,584
HD-09.2B-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1C FWH 32C to FWH 31C**					***Sorted By:Remaining Life***		
HD-09.1C-01V	0.250	0.040	0.019	0.019	84,268	No	203,584
HD-8.1C-10V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-09.2C-01V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-8.1C-07T (D/S)	0.000	0.100	0.021	0.021	440,038	No	203,584
HD-8.2C-01R (D/S)	0.000	0.116	0.018	0.018	610,501	No	203,584
HD-8.1C-07T (BR/SE)	0.000	0.130	0.021	0.021	758,080	No	203,584
HD-8.1C-03E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1C-05E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1C-09E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.2C-01R	0.000	0.145	0.021	0.021	985,252	No	203,584
HD-8.1C-01N	0.375	0.219	0.021	0.021	1,060,390	No	203,584
HD-8.1C-04P	0.250	0.154	0.021	0.021	1,155,632	No	203,584
HD-8.1C-08P	0.250	0.157	0.021	0.021	1,262,473	No	203,584
HD-8.1C-02P	0.250	0.161	0.021	0.021	1,437,458	No	203,584
HD-09.1C-02R	0.000	0.231	0.018	0.018	1,516,244	No	203,584
HD-8.1C-06P	0.250	0.175	0.021	0.021	1,712,204	No	203,584
HD-09.1C-02R (D/S)	0.000	0.261	0.021	0.021	2,223,766	No	203,584
HD-09.2C-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**HD-08.1C FWH 32C to FWH 31C**				***Sorted By:Remaining Life***		
HD-09.2C-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3A FWH 32A to FWH 31A**				***Sorted By:Remaining Life***		
HD-09.3A-01P	0.409	0.409	0.020	0.020	100,000,000	No	203,584
HD-09.3A-02N	0.406	0.363	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3B FWH 32B to FWH 31B**				***Sorted By:Remaining Life***		
HD-09.3B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3B-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3C FWH 32C to FWH 31C**				***Sorted By:Remaining Life***		
HD-09.3C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3C-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4A FWH 32A to FWH 31A**				***Sorted By:Remaining Life***		
HD-09.4A-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-02E	0.462	0.462	0.020	0.020	100,000,000	No	203,584
HD-09.4A-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-04N	0.375	0.354	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4B FWH 32B to FWH 31B**				***Sorted By:Remaining Life***		
HD-09.4B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4C FWH 32C to FWH 31C**				***Sorted By:Remaining Life***		
HD-09.4C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.863

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1A FWH 32A to FWH 31A**					***Sorted By:Flow Order***		
HD-8.1A-01N	0.375	0.219	0.021	0.021	1,060,390	No	203,584
HD-8.1A-02P	0.250	0.161	0.021	0.021	1,437,458	No	203,584
HD-8.1A-03E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1A-04P	0.250	0.154	0.021	0.021	1,155,632	No	203,584
HD-8.1A-05E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1A-06P	0.250	0.175	0.021	0.021	1,712,204	No	203,584
HD-8.1A-07T (BR/SE)	0.000	0.130	0.021	0.021	758,080	No	203,584
HD-8.1A-07T (D/S)	0.000	0.100	0.021	0.021	440,038	No	203,584
HD-8.1A-08P	0.250	0.157	0.021	0.021	1,262,473	No	203,584
HD-8.1A-09E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1A-10V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-8.2A-01R	0.000	0.145	0.021	0.021	985,252	No	203,584
HD-8.2A-01R (D/S)	0.000	0.116	0.018	0.018	610,501	No	203,584
HD-09.1A-01V	0.250	0.040	0.019	0.019	84,268	No	203,584
HD-09.1A-02R	0.000	0.267	0.018	0.018	1,772,424	No	203,584
HD-09.1A-02R (D/S)	0.000	0.247	0.021	0.021	2,090,756	Yes	203,584
HD-09.2A-01V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-09.2A-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2A-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Flow Order***		
HD-8.1B-01N	0.375	0.219	0.021	0.021	1,060,390	No	203,584
HD-8.1B-02P	0.250	0.161	0.021	0.021	1,437,458	No	203,584
HD-8.1B-03E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1B-04P	0.250	0.154	0.021	0.021	1,155,632	No	203,584
HD-8.1B-05E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1B-06P	0.250	0.175	0.021	0.021	1,712,204	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-08.1B FWH 32B to FWH 31B**					***Sorted By:Flow Order***		
HD-8.1B-07T (BR/SE)	0.000	0.130	0.021	0.021	758,080	No	203,584
HD-8.1B-07T (D/S)	0.000	0.100	0.021	0.021	440,038	No	203,584
HD-8.1B-08P	0.250	0.157	0.021	0.021	1,262,473	No	203,584
HD-8.1B-09E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1B-10V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-8.2B-01R	0.000	0.145	0.021	0.021	985,252	No	203,584
HD-8.2B-01R (D/S)	0.000	0.116	0.018	0.018	610,501	No	203,584
HD-09.1B-01V	0.250	0.040	0.019	0.019	84,268	No	203,584
HD-09.1B-02R	0.000	0.222	0.018	0.018	1,451,674	Yes	203,584
HD-09.1B-02R (D/S)	0.000	0.316	0.021	0.021	2,730,236	Yes	203,584
HD-09.2B-01V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-09.2B-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2B-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line: **HD-08.1C FWH 32C to FWH 31C**					***Sorted By:Flow Order***		
HD-8.1C-01N	0.375	0.219	0.021	0.021	1,060,390	No	203,584
HD-8.1C-02P	0.250	0.161	0.021	0.021	1,437,458	No	203,584
HD-8.1C-03E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1C-04P	0.250	0.154	0.021	0.021	1,155,632	No	203,584
HD-8.1C-05E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1C-06P	0.250	0.175	0.021	0.021	1,712,204	No	203,584
HD-8.1C-07T (BR/SE)	0.000	0.130	0.021	0.021	758,080	No	203,584
HD-8.1C-07T (D/S)	0.000	0.100	0.021	0.021	440,038	No	203,584
HD-8.1C-08P	0.250	0.157	0.021	0.021	1,262,473	No	203,584
HD-8.1C-09E	0.250	0.139	0.021	0.021	887,016	No	203,584
HD-8.1C-10V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-8.2C-01R	0.000	0.145	0.021	0.021	985,252	No	203,584
HD-8.2C-01R (D/S)	0.000	0.116	0.018	0.018	610,501	No	203,584
HD-09.1C-01V	0.250	0.040	0.019	0.019	84,268	No	203,584
HD-09.1C-02R	0.000	0.231	0.018	0.018	1,516,244	No	203,584
HD-09.1C-02R (D/S)	0.000	0.261	0.021	0.021	2,223,766	No	203,584
HD-09.2C-01V	0.250	0.100	0.023	0.023	431,621	No	203,584
HD-09.2C-02P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-03E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.2C-04T (BR/SE)	0.000	0.406	0.020	0.020	100,000,000	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**HD-08.1C FWH 32C to FWH 31C**				***Sorted By:Flow Order***		
HD-09.2C-04T (D/S)	0.000	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3A FWH 32A to FWH 31A**				***Sorted By:Flow Order***		
HD-09.3A-01P	0.409	0.409	0.020	0.020	100,000,000	No	203,584
HD-09.3A-02N	0.406	0.363	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3B FWH 32B to FWH 31B**				***Sorted By:Flow Order***		
HD-09.3B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3B-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.3C FWH 32C to FWH 31C**				***Sorted By:Flow Order***		
HD-09.3C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.3C-02N	0.406	0.406	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4A FWH 32A to FWH 31A**				***Sorted By:Flow Order***		
HD-09.4A-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-02E	0.462	0.462	0.020	0.020	100,000,000	No	203,584
HD-09.4A-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4A-04N	0.375	0.354	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4B FWH 32B to FWH 31B**				***Sorted By:Flow Order***		
HD-09.4B-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4B-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584
===>Grouped by Line:	**HD-09.4C FWH 32C to FWH 31C**				***Sorted By:Flow Order***		
HD-09.4C-01P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-02E	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-03P	0.406	0.406	0.020	0.020	100,000,000	No	203,584
HD-09.4C-04N	0.375	0.375	0.020	0.020	100,000,000	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HTR 32 TO HTR 31
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.863

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-08.1A FWH 32A to FWH 31A**										***Sorted By: Flow Order***	
HD-09.1A-02R (D/S)	0.000	59.6	69.0	59.6	69.0	0.277	GW	78,649	190.4	277.0	30.2	78,649
===>Grouped by Line:	**HD-08.1B FWH 32B to FWH 31B**										***Sorted By: Flow Order***	
HD-09.1B-02R	0.000	78.0	78.0	78.0	78.0	0.261	GW	78,649	172.0	261.0	39.4	78,649
HD-09.1B-02R (D/S)	0.000	59.6	50.0	59.6	50.0	0.346	GW	78,649	190.4	346.0	30.2	78,649

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:04:32AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.045

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***								***Sorted By: Average Wear Rate***		
HD-07.1A-01V	24	10.894	3.187	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-6.2A-01E (D/S)	16	6.452	1.976	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.2A-03T (BR/SE)	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-01N	31	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-01V	22	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-03T	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.1A 02R	18	5.828	1.785	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-6.1A-30E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-03E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-32E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-05E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-34E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-07E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-09E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-41E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-11E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-13E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-14E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-16E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-18E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-20E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-22E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-24E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-26E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-15P	54	4.396	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-37E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-42P	54	4.044	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-39E	1	4.011	1.251	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***								***Sorted By: Average Wear Rate***		
HD-6.1A-10P	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-02P	61	3.709	1.023	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-44T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-28T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-44T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.1A 02R (D/S)	18	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-28T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-05R	18	3.517	1.061	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-08P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-19P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.3A-01N	30	3.266	1.026	204.2	2.875	0.0	10.750	7.056	0.000	8.04	ARD
HD-6.1A-31P	52	3.188	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-38P	53	3.110	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-04P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-33P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-06P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2A-01E	16	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-12P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-43P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-17P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-21P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-23P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-25P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-27P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-40P	51	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-02P	58	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-04P	63	2.512	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-05R (D/S)	18	2.441	0.738	204.2	2.747	0.0	10.750	7.056	0.000	8.04	ARD
HD-6.1A-29P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-06P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-12P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-17P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-21P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-25P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***								***Sorted By: Average Wear Rate***		
HD-07.1B-01V	24	10.407	3.187	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***								***Sorted By: Average Wear Rate***		
HD-6.2B-01E (D/S)	16	6.452	1.976	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.2B-03T (BR/SE)	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-01N	31	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-01V	22	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-03T	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.1B-02R	18	5.828	1.785	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-6.1B-25E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-03E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-27E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-04E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-29E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-06E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-08E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-36E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-12E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-13E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-15E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-17E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-19E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-21E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-14P	54	4.396	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-32E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-10E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-34E	1	4.011	1.251	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-05P_1	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-09P	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-37P	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-16P_1	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-02P	61	3.709	1.023	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-23T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-38T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-38T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.1B-02R (D/S)	18	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-23T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-05R	18	3.517	1.061	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-07P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-20P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***								***Sorted By: Average Wear Rate***		
HD-07.3B-01N	30	3.266	1.026	204.2	2.875	0.0	10.750	7.056	0.000	8.04	ARD
HD-6.1B-26P	52	3.188	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-33P	53	3.110	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-28P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-11P_1	53	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2B-01E	16	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-18P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-22P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-35P	51	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-02P	58	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-04P	63	2.512	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-05R (D/S)	18	2.441	0.738	204.2	2.747	0.0	10.750	7.056	0.000	8.04	ARD
HD-6.1B-24P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-05P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-11P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-16P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-22P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***								***Sorted By: Average Wear Rate***		
HD-07.1C-01V	24	10.407	3.187	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-6.2C-01E (D/S)	16	6.452	1.976	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-6.1C-01N	31	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-03T (BR/SE)	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-01V	22	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-03T	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.1C-02R	18	5.828	1.785	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-6.1C-21E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-03E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-05E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-23E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-07E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-25E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-09E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-11E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-32E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-13E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-15E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***								***Sorted By: Average Wear Rate***		
HD-6.1C-17E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-28E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-33P	54	4.080	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-30E	1	4.011	1.251	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-08P_1	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-02P	61	3.709	1.023	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-19T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-34T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-34T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.1C-02R (D/S)	18	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-19T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-05R	18	3.517	1.061	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-06P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-12P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.3C-01N	30	3.266	1.026	204.2	2.875	0.0	10.750	7.056	0.000	8.04	ARD
HD-6.1C-22P	52	3.188	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-29P	53	3.110	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-04P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-24P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-10P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2C-01E	16	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-14P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-16P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-18P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-31P	51	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-02P	58	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-04P	63	2.512	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-05R (D/S)	18	2.441	0.738	204.2	2.747	0.0	10.750	7.056	0.000	8.04	ARD
HD-6.1C-35P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-20P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-08P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:04:32AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.045

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***									***Sorted By: Flow Order***	
HD-6.1A-01N	31	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-02P	61	3.709	1.023	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-03E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-04P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-05E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-06P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-06P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-07E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-08P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-09E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-10P	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-11E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-12P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-12P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-13E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-43P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-14E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-15P	54	4.396	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-16E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-17P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-17P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-18E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-19P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-20E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-21P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-21P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-22E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-23P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1A FWH 33A to FWH 32A***									***Sorted By: Flow Order***	
HD-6.1A-24E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-25P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-25P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-26E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-27P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-28T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-28T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-29P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-44T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-44T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-30E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-31P	52	3.188	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-32E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-33P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-34E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-37E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-38P	53	3.110	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-39E	1	4.011	1.251	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-40P	51	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-41E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1A-42P	54	4.044	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2A-01E	16	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2A-01E (D/S)	16	6.452	1.976	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1A-01V	24	10.894	3.187	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1A 02R	18	5.828	1.785	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1A 02R (D/S)	18	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-01V	22	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-02P	58	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-03T	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-03T (BR/SE)	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-04P	63	2.512	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-05R	18	3.517	1.061	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2A-05R (D/S)	18	2.441	0.738	204.2	2.747	0.0	10.750	7.056	0.000	8.04	ARD
HD-07.3A-01N	30	3.266	1.026	204.2	2.875	0.0	10.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***									***Sorted By: Flow Order***	
HD-6.1B-01N	31	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***									***Sorted By: Flow Order***	
HD-6.1B-02P	61	3.709	1.023	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-03E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-04E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-05P_1	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-05P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-06E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-07P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-08E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-09P	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-10E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-11P_1	53	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-11P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-12E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-13E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-14P	54	4.396	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-15E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-16P_1	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-16P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-17E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-18P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-19E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-20P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-21E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-22P_1	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-22P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-23T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-23T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-24P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-38T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-38T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-25E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-26P	52	3.188	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-27E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-28P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-29E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-32E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1B FWH 33B to FWH 32B***									***Sorted By: Flow Order***	
HD-6.1B-33P	53	3.110	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-34E	1	4.011	1.251	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-35P	51	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-36E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1B-37P	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2B-01E	16	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2B-01E (D/S)	16	6.452	1.976	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1B-01V	24	10.407	3.187	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1B-02R	18	5.828	1.785	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1B-02R (D/S)	18	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-01V	22	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-02P	58	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-03T	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-03T (BR/SE)	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-04P	63	2.512	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-05R	18	3.517	1.061	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2B-05R (D/S)	18	2.441	0.738	204.2	2.747	0.0	10.750	7.056	0.000	8.04	ARD
HD-07.3B-01N	30	3.266	1.026	204.2	2.875	0.0	10.750	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***									***Sorted By: Flow Order***	
HD-6.1C-01N	31	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-02P	61	3.709	1.023	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-03E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-04P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-05E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-06P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-07E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-08P_1	54	3.889	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-08P_2	9	1.337	0.417	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-09E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-10P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-11E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-12P	52	3.434	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-13E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-14P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-15E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-16P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-06.1C FWH 33C to FWH 32C***									***Sorted By: Flow Order***	
HD-6.1C-17E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-18P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-19T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-19T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-20P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-34T	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-34T (D/S)	15	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-35P	65	2.431	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-21E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-22P	52	3.188	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-23E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-24P	52	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-25E	2	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-28E	3	4.254	1.326	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-29P	53	3.110	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-30E	1	4.011	1.251	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-31P	51	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-32E	4	4.497	1.402	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.1C-33P	54	4.080	1.213	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2C-01E	16	3.038	0.947	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-6.2C-01E (D/S)	16	6.452	1.976	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1C-01V	24	10.407	3.187	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1C-02R	18	5.828	1.785	204.2	7.846	0.0	6.625	7.056	0.000	8.04	ARD
HD-07.1C-02R (D/S)	18	3.646	1.137	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-01V	22	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-02P	58	2.674	0.834	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-03T	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-03T (BR/SE)	13	6.077	1.895	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-04P	63	2.512	0.758	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-05R	18	3.517	1.061	204.2	4.372	0.0	8.625	7.056	0.000	8.04	ARD
HD-07.2C-05R (D/S)	18	2.441	0.738	204.2	2.747	0.0	10.750	7.056	0.000	8.04	ARD
HD-07.3C-01N	30	3.266	1.026	204.2	2.875	0.0	10.750	7.056	0.000	8.04	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:04:32AM

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.045

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Remaining Life***		
HD-07.1A-01V	0.280	0.027	0.012	0.012	41,272	No	203,584
HD-07.2A-01V	0.250	0.109	0.015	0.015	431,820	No	203,584
HD-6.1A-01N	0.250	0.109	0.014	0.014	436,554	No	203,584
HD-6.1A-14E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-13E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-11E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-18E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-07E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-09E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-03E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-20E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-22E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-24E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-26E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-30E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-32E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-34E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-16E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-05E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-37E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1A-15P	0.250	0.148	0.014	0.014	964,275	No	203,584
HD-6.1A-39E	0.250	0.157	0.014	0.014	997,791	No	203,584
HD-6.1A-10P	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1A-28T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-28T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-44T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-44T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-07.2A-05R	0.000	0.168	0.014	0.014	1,270,688	No	203,584
HD-6.1A-02P	0.250	0.164	0.014	0.014	1,279,513	No	203,584
HD-6.2A-01E (D/S)	0.000	0.333	0.011	0.011	1,429,629	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Remaining Life***		
HD-6.1A-08P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1A-19P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1A-31P	0.250	0.176	0.014	0.014	1,493,909	No	203,584
HD-6.1A-38P	0.250	0.178	0.014	0.014	1,510,654	No	203,584
HD-6.1A-43P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-12P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-21P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-23P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-25P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-27P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-33P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-06P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-17P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-04P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-41E	0.250	0.259	0.014	0.014	1,526,733	Yes	203,584
HD-6.1A-42P	0.250	0.234	0.014	0.014	1,587,496	Yes	203,584
HD-07.1A 02R	0.000	0.341	0.011	0.011	1,619,157	Yes	203,584
HD-07.2A-03T (BR/SE)	0.000	0.378	0.014	0.014	1,680,093	Yes	203,584
HD-6.1A-40P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-07.1A 02R (D/S)	0.000	0.259	0.014	0.014	1,882,544	Yes	203,584
HD-07.2A-02P	0.250	0.209	0.014	0.014	2,044,064	Yes	203,584
HD-07.2A-04P	0.250	0.192	0.014	0.014	2,048,875	No	203,584
HD-6.1A-29P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-07.2A-05R (D/S)	0.000	0.193	0.018	0.018	2,081,927	No	203,584
HD-07.2A-03T	0.250	0.473	0.014	0.014	2,119,309	Yes	203,584
HD-07.3A-01N	0.365	0.289	0.018	0.018	2,314,721	No	203,584
HD-6.2A-01E	0.000	0.424	0.014	0.014	3,788,349	Yes	203,584
HD-6.1A-12P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-17P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-21P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-25P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-06P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Remaining Life***		
HD-07.1B-01V	0.280	0.038	0.012	0.012	72,388	No	203,584
HD-07.2B-01V	0.250	0.109	0.015	0.015	431,820	No	203,584
HD-6.1B-01N	0.250	0.109	0.014	0.014	436,554	No	203,584
HD-6.2B-01E (D/S)	0.000	0.130	0.011	0.011	527,718	No	203,584
HD-6.1B-03E	0.250	0.145	0.014	0.014	819,337	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Remaining Life***		
HD-6.1B-04E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-06E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-08E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-12E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-13E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-15E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-17E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-19E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-21E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-25E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-27E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-29E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-36E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-10E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1B-32E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1B-14P	0.250	0.148	0.014	0.014	964,275	No	203,584
HD-6.1B-34E	0.250	0.157	0.014	0.014	997,791	No	203,584
HD-6.1B-05P_1	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1B-09P	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1B-16P_1	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1B-37P	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1B-23T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-23T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-38T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-38T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-07.1B-02R	0.000	0.264	0.011	0.011	1,240,782	Yes	203,584
HD-07.2B-05R	0.000	0.168	0.014	0.014	1,270,688	No	203,584
HD-6.1B-02P	0.250	0.164	0.014	0.014	1,279,513	No	203,584
HD-6.1B-07P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1B-20P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1B-26P	0.250	0.176	0.014	0.014	1,493,909	No	203,584
HD-6.1B-33P	0.250	0.178	0.014	0.014	1,510,654	No	203,584
HD-6.1B-11P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-18P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-22P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-28P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.2B-01E	0.000	0.179	0.014	0.014	1,526,015	No	203,584
HD-07.2B-03T (BR/SE)	0.000	0.357	0.014	0.014	1,583,003	Yes	203,584
HD-07.1B-02R (D/S)	0.000	0.240	0.014	0.014	1,734,866	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Remaining Life***		
HD-6.1B-35P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-07.2B-02P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-07.2B-03T	0.250	0.448	0.014	0.014	2,003,726	Yes	203,584
HD-07.2B-04P	0.250	0.192	0.014	0.014	2,048,875	No	203,584
HD-6.1B-24P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-07.2B-05R (D/S)	0.000	0.193	0.018	0.018	2,081,927	No	203,584
HD-07.3B-01N	0.365	0.289	0.018	0.018	2,314,721	No	203,584
HD-6.1B-05P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-11P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-16P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-22P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Remaining Life***		
HD-6.1C-01N	0.250	0.109	0.014	0.014	436,554	No	203,584
HD-6.1C-03E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-05E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-07E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-09E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-11E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-13E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-15E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-17E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-21E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-23E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-25E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-32E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-28E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1C-30E	0.250	0.157	0.014	0.014	997,791	No	203,584
HD-6.1C-33P	0.250	0.155	0.014	0.014	1,017,269	No	203,584
HD-6.1C-08P_1	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1C-19T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-19T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-34T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-34T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-07.2C-03T	0.250	0.280	0.014	0.014	1,227,006	Yes	203,584
HD-07.2C-05R	0.000	0.168	0.014	0.014	1,270,688	No	203,584
HD-6.1C-02P	0.250	0.164	0.014	0.014	1,279,513	No	203,584
HD-07.1C-02R	0.000	0.285	0.011	0.011	1,343,589	Yes	203,584
HD-07.1C-01V	0.280	0.512	0.012	0.012	1,373,883	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Remaining Life***		
HD-6.1C-06P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1C-12P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1C-22P	0.250	0.176	0.014	0.014	1,493,909	No	203,584
HD-6.1C-29P	0.250	0.178	0.014	0.014	1,510,654	No	203,584
HD-6.1C-04P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-10P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-14P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-16P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-18P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-24P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-07.1C-02R (D/S)	0.000	0.238	0.014	0.014	1,721,995	Yes	203,584
HD-6.2C-01E (D/S)	0.000	0.409	0.011	0.011	1,763,061	Yes	203,584
HD-6.1C-31P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-07.2C-03T (BR/SE)	0.000	0.433	0.014	0.014	1,934,376	Yes	203,584
HD-07.2C-04P	0.250	0.192	0.014	0.014	2,048,875	No	203,584
HD-6.1C-20P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-6.1C-35P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-07.2C-05R (D/S)	0.000	0.193	0.018	0.018	2,081,927	No	203,584
HD-07.2C-02P	0.250	0.220	0.014	0.014	2,161,616	Yes	203,584
HD-07.3C-01N	0.365	0.289	0.018	0.018	2,314,721	No	203,584
HD-07.2C-01V	0.250	0.636	0.015	0.015	2,868,027	No	203,584
HD-6.2C-01E	0.000	0.393	0.014	0.014	3,499,888	Yes	203,584
HD-6.1C-08P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.045

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A** ***Sorted By:Flow Order***

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
HD-6.1A-01N	0.250	0.109	0.014	0.014	436,554	No	203,584
HD-6.1A-02P	0.250	0.164	0.014	0.014	1,279,513	No	203,584
HD-6.1A-03E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-04P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-05E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-06P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-06P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-07E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-08P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1A-09E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-10P	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1A-11E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-12P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-12P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-13E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-43P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-14E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-15P	0.250	0.148	0.014	0.014	964,275	No	203,584
HD-6.1A-16E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-17P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-17P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-18E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-19P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1A-20E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-21P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-21P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-22E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-23P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-24E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-25P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1A FWH 33A to FWH 32A**					***Sorted By:Flow Order***		
HD-6.1A-25P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1A-26E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-27P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-28T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-28T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-29P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-6.1A-44T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-44T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1A-30E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-31P	0.250	0.176	0.014	0.014	1,493,909	No	203,584
HD-6.1A-32E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-33P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1A-34E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1A-37E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1A-38P	0.250	0.178	0.014	0.014	1,510,654	No	203,584
HD-6.1A-39E	0.250	0.157	0.014	0.014	997,791	No	203,584
HD-6.1A-40P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-6.1A-41E	0.250	0.259	0.014	0.014	1,526,733	Yes	203,584
HD-6.1A-42P	0.250	0.234	0.014	0.014	1,587,496	Yes	203,584
HD-6.2A-01E	0.000	0.424	0.014	0.014	3,788,349	Yes	203,584
HD-6.2A-01E (D/S)	0.000	0.333	0.011	0.011	1,429,629	Yes	203,584
HD-07.1A-01V	0.280	0.027	0.012	0.012	41,272	No	203,584
HD-07.1A 02R	0.000	0.341	0.011	0.011	1,619,157	Yes	203,584
HD-07.1A 02R (D/S)	0.000	0.259	0.014	0.014	1,882,544	Yes	203,584
HD-07.2A-01V	0.250	0.109	0.015	0.015	431,820	No	203,584
HD-07.2A-02P	0.250	0.209	0.014	0.014	2,044,064	Yes	203,584
HD-07.2A-03T	0.250	0.473	0.014	0.014	2,119,309	Yes	203,584
HD-07.2A-03T (BR/SE)	0.000	0.378	0.014	0.014	1,680,093	Yes	203,584
HD-07.2A-04P	0.250	0.192	0.014	0.014	2,048,875	No	203,584
HD-07.2A-05R	0.000	0.168	0.014	0.014	1,270,688	No	203,584
HD-07.2A-05R (D/S)	0.000	0.193	0.018	0.018	2,081,927	No	203,584
HD-07.3A-01N	0.365	0.289	0.018	0.018	2,314,721	No	203,584
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Flow Order***		
HD-6.1B-01N	0.250	0.109	0.014	0.014	436,554	No	203,584
HD-6.1B-02P	0.250	0.164	0.014	0.014	1,279,513	No	203,584
HD-6.1B-03E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-04E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-05P_1	0.250	0.160	0.014	0.014	1,049,375	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Flow Order***		
HD-6.1B-05P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-06E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-07P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1B-08E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-09P	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1B-10E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1B-11P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-11P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-12E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-13E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-14P	0.250	0.148	0.014	0.014	964,275	No	203,584
HD-6.1B-15E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-16P_1	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1B-16P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-17E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-18P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-19E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-20P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1B-21E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-22P_1	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-22P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1B-23T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-23T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-24P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-6.1B-38T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-38T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1B-25E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-26P	0.250	0.176	0.014	0.014	1,493,909	No	203,584
HD-6.1B-27E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-28P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1B-29E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-32E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1B-33P	0.250	0.178	0.014	0.014	1,510,654	No	203,584
HD-6.1B-34E	0.250	0.157	0.014	0.014	997,791	No	203,584
HD-6.1B-35P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-6.1B-36E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1B-37P	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.2B-01E	0.000	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.2B-01E (D/S)	0.000	0.130	0.011	0.011	527,718	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1B FWH 33B to FWH 32B**					***Sorted By:Flow Order***		
HD-07.1B-01V	0.280	0.038	0.012	0.012	72,388	No	203,584
HD-07.1B-02R	0.000	0.264	0.011	0.011	1,240,782	Yes	203,584
HD-07.1B-02R (D/S)	0.000	0.240	0.014	0.014	1,734,866	Yes	203,584
HD-07.2B-01V	0.250	0.109	0.015	0.015	431,820	No	203,584
HD-07.2B-02P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-07.2B-03T	0.250	0.448	0.014	0.014	2,003,726	Yes	203,584
HD-07.2B-03T (BR/SE)	0.000	0.357	0.014	0.014	1,583,003	Yes	203,584
HD-07.2B-04P	0.250	0.192	0.014	0.014	2,048,875	No	203,584
HD-07.2B-05R	0.000	0.168	0.014	0.014	1,270,688	No	203,584
HD-07.2B-05R (D/S)	0.000	0.193	0.018	0.018	2,081,927	No	203,584
HD-07.3B-01N	0.365	0.289	0.018	0.018	2,314,721	No	203,584
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Flow Order***		
HD-6.1C-01N	0.250	0.109	0.014	0.014	436,554	No	203,584
HD-6.1C-02P	0.250	0.164	0.014	0.014	1,279,513	No	203,584
HD-6.1C-03E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-04P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-05E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-06P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1C-07E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-08P_1	0.250	0.160	0.014	0.014	1,049,375	No	203,584
HD-6.1C-08P_2	0.250	0.219	0.014	0.014	4,299,188	No	203,584
HD-6.1C-09E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-10P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-11E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-12P	0.250	0.170	0.014	0.014	1,440,914	No	203,584
HD-6.1C-13E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-14P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-15E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-16P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-17E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-18P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-19T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-19T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-20P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-6.1C-34T	0.250	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-34T (D/S)	0.000	0.165	0.014	0.014	1,162,861	No	203,584
HD-6.1C-35P	0.250	0.194	0.014	0.014	2,070,745	No	203,584
HD-6.1C-21E	0.250	0.145	0.014	0.014	819,337	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-06.1C FWH 33C to FWH 32C**					***Sorted By:Flow Order***		
HD-6.1C-22P	0.250	0.176	0.014	0.014	1,493,909	No	203,584
HD-6.1C-23E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-24P	0.250	0.179	0.014	0.014	1,526,015	No	203,584
HD-6.1C-25E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-28E	0.250	0.151	0.014	0.014	903,465	No	203,584
HD-6.1C-29P	0.250	0.178	0.014	0.014	1,510,654	No	203,584
HD-6.1C-30E	0.250	0.157	0.014	0.014	997,791	No	203,584
HD-6.1C-31P	0.250	0.188	0.014	0.014	1,823,140	No	203,584
HD-6.1C-32E	0.250	0.145	0.014	0.014	819,337	No	203,584
HD-6.1C-33P	0.250	0.155	0.014	0.014	1,017,269	No	203,584
HD-6.2C-01E	0.000	0.393	0.014	0.014	3,499,888	Yes	203,584
HD-6.2C-01E (D/S)	0.000	0.409	0.011	0.011	1,763,061	Yes	203,584
HD-07.1C-01V	0.280	0.512	0.012	0.012	1,373,883	No	203,584
HD-07.1C-02R	0.000	0.285	0.011	0.011	1,343,589	Yes	203,584
HD-07.1C-02R (D/S)	0.000	0.238	0.014	0.014	1,721,995	Yes	203,584
HD-07.2C-01V	0.250	0.636	0.015	0.015	2,868,027	No	203,584
HD-07.2C-02P	0.250	0.220	0.014	0.014	2,161,616	Yes	203,584
HD-07.2C-03T	0.250	0.280	0.014	0.014	1,227,006	Yes	203,584
HD-07.2C-03T (BR/SE)	0.000	0.433	0.014	0.014	1,934,376	Yes	203,584
HD-07.2C-04P	0.250	0.192	0.014	0.014	2,048,875	No	203,584
HD-07.2C-05R	0.000	0.168	0.014	0.014	1,270,688	No	203,584
HD-07.2C-05R (D/S)	0.000	0.193	0.018	0.018	2,081,927	No	203,584
HD-07.3C-01N	0.365	0.289	0.018	0.018	2,314,721	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

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Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HTR 33 TO HTR 32
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.045

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-06.1A FWH 33A to FWH 32A**										***Sorted By: Flow Order***	
HD-6.1A-41E	0.250	94.2	56.0	94.2	56.0	0.269	GW	137,201	155.8	269.0	10.3	137,201
HD-6.1A-42P	0.250	85.1	47.0	85.1	47.0	0.243	GW	137,201	164.9	243.0	8.9	137,201
HD-6.2A-01E	0.000	63.7	61.0	63.7	61.0	0.431	GW	137,201	186.3	431.0	6.9	137,201
HD-6.2A-01E (D/S)	0.000	135.4	164.0	135.4	164.0	0.348	GW	137,201	144.6	348.0	14.5	137,201
HD-07.1A 02R	0.000	122.3	89.0	122.3	89.0	0.354	GW	137,201	157.7	354.0	13.1	137,201
HD-07.1A 02R (D/S)	0.000	76.4	107.0	76.4	107.0	0.267	GW	137,201	173.6	267.0	8.3	137,201
HD-07.2A-02P	0.250	56.0	67.0	56.0	67.0	0.215	GW	137,201	194.0	215.0	6.1	137,201
HD-07.2A-03T	0.250	104.0	81.0	104.0	81.0	0.510	GW	92,205	146.0	510.0	37.2	92,205
HD-07.2A-03T (BR/SE)	0.000	104.0	170.0	104.0	170.0	0.415	GW	92,205	146.0	415.0	37.2	92,205
===>Grouped by Line:	**HD-06.1B FWH 33B to FWH 32B**										***Sorted By: Flow Order***	
HD-07.1B-02R	0.000	125.2	88.0	125.2	88.0	0.274	MT	153,280	154.8	274.0	10.2	153,280
HD-07.1B-02R (D/S)	0.000	78.2	110.0	78.2	110.0	0.246	GW	153,280	171.8	246.0	6.5	153,280
HD-07.2B-03T	0.250	104.0	204.0	104.0	204.0	0.485	GW	92,205	146.0	485.0	37.2	92,205
HD-07.2B-03T (BR/SE)	0.000	104.0	153.0	104.0	153.0	0.394	GW	92,205	146.0	394.0	37.2	92,205
===>Grouped by Line:	**HD-06.1C FWH 33C to FWH 32C**										***Sorted By: Flow Order***	
HD-6.2C-01E	0.000	60.5	63.0	60.5	63.0	0.403	GW	121,025	189.5	403.0	10.1	121,025
HD-6.2C-01E (D/S)	0.000	128.6	117.0	128.6	117.0	0.430	GW	121,025	151.4	430.0	21.3	121,025
HD-07.1C-02R	0.000	116.2	83.0	116.2	83.0	0.304	GW	121,025	163.8	304.0	19.3	121,025
HD-07.1C-02R (D/S)	0.000	72.6	66.0	72.6	66.0	0.250	MT	121,025	177.4	250.0	12.2	121,025
HD-07.2C-02P	0.250	53.2	39.0	53.2	39.0	0.229	GW	121,025	196.8	229.0	8.9	121,025
HD-07.2C-03T	0.250	104.0	171.0	104.0	171.0	0.317	GW	92,205	146.0	317.0	37.2	92,205
HD-07.2C-03T (BR/SE)	0.000	104.0	159.0	104.0	159.0	0.470	GW	92,205	146.0	470.0	37.2	92,205

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 10:27:49AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.911

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***								***Sorted By: Average Wear Rate***		
HD-05.1A-01V	24	14.087	7.029	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-4.2A-02V	22	9.992	4.994	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3A-01R (D/S)	7	9.015	4.498	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1A-02R	18	7.889	3.936	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-4.3A-01R	7	6.994	3.495	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.2A-01E (D/S)	16	6.195	3.096	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.1A-01N	31	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-01T (BR/SE)	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-01T	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-06N	30	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-05E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-04E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-08E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-10E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-12E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-14E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-03T (D/S)	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-03T	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-06E	3	3.473	1.785	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-05P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-02P	61	3.165	1.377	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.1A-02R (D/S)	18	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-11P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-15P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-07P	53	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-09P_1	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-13P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***								***Sorted By: Average Wear Rate***		
HD-4.2A-01E	16	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-04P	65	2.345	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-02P	63	2.139	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-09P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-04.1B FWH 34B to FWH 33B***								***Sorted By: Average Wear Rate***		
HD-05.1B-01V	24	14.087	7.029	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-4.2B-02V	22	9.992	4.994	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3B-01R (D/S)	7	9.015	4.498	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1B-02R	18	7.889	3.936	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-4.3B-01R	7	6.994	3.495	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.2B-01E (D/S)	16	6.195	3.096	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-05.2B-01T (BR/SE)	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-05T (D/S)	10	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-01N	31	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-01T	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-05T (BR/SE)	10	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-06N	30	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-07E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-04E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-09E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-12E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-14E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-16E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-10E	3	3.473	1.785	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-05P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-02P	61	3.165	1.377	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-06P	60	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.1B-02R (D/S)	18	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-08P	52	2.931	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-13P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-17P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-04P	51	2.579	1.122	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-11P_1	53	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-15P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1B FWH 34B to FWH 33B***								***Sorted By: Average Wear Rate***		
HD-4.2B-01E	16	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-02P	63	2.139	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-11P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***								***Sorted By: Average Wear Rate***		
HD-05.1C-01V	24	14.087	7.029	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-4.2C-02V	22	9.992	4.994	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3C-01R (D/S)	7	9.015	4.498	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1C-02R	18	7.889	3.936	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-4.3C-01R	7	6.994	3.495	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.2C-01E (D/S)	16	6.195	3.096	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.1C-01N	31	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-01T (BR/SE)	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-01T	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-06N	30	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-08E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-03E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-04E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-10E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-05E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-12E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-14E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-16E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-18E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-20E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-22E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-06T (D/S)	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-06T	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-09P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-05P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-02P	61	3.165	1.377	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.1C-02R (D/S)	18	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-11P	52	2.931	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-19P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-23P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-04P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***								***Sorted By: Average Wear Rate***		
HD-4.1C-13P_1	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-15P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-17P_1	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-21P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2C-01E	16	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-07P	65	2.345	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-02P	63	2.139	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-13P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-17P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 10:27:49AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.911

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***									***Sorted By: Flow Order***	
HD-4.1A-01N	31	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-02P	61	3.165	1.377	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-03T	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-03T (D/S)	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-04P	65	2.345	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-05E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-06E	3	3.473	1.785	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-07P	53	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-08E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-09P_1	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-09P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-10E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-11P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-12E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-13P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-14E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1A-15P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2A-01E	16	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2A-01E (D/S)	16	6.195	3.096	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.2A-02V	22	9.992	4.994	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3A-01R	7	6.994	3.495	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3A-01R (D/S)	7	9.015	4.498	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1A-01V	24	14.087	7.029	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1A-02R	18	7.889	3.936	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1A-02R (D/S)	18	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-01T	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-01T (BR/SE)	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-02P	63	2.139	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1A FWH 34A to FWH 33A***									***Sorted By: Flow Order***	
HD-05.2A-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-04E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-05P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2A-06N	30	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-04.1B FWH 34B to FWH 33B***									***Sorted By: Flow Order***	
HD-4.1B-01N	31	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-02P	61	3.165	1.377	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-04P	51	2.579	1.122	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-05T (BR/SE)	10	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-05T (D/S)	10	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-06P	60	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-07E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-08P	52	2.931	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-09E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-10E	3	3.473	1.785	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-11P_1	53	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-11P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-12E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-13P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-14E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-15P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-16E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1B-17P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2B-01E	16	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2B-01E (D/S)	16	6.195	3.096	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.2B-02V	22	9.992	4.994	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3B-01R	7	6.994	3.495	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3B-01R (D/S)	7	9.015	4.498	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1B-01V	24	14.087	7.029	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1B-02R	18	7.889	3.936	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1B-02R (D/S)	18	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-01T	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-01T (BR/SE)	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-02P	63	2.139	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1B FWH 34B to FWH 33B***									***Sorted By: Flow Order***	
HD-05.2B-04E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-05P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2B-06N	30	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***									***Sorted By: Flow Order***	
HD-4.1C-01N	31	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-02P	61	3.165	1.377	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-03E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-04P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-05E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-06T	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-06T (D/S)	15	3.517	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-07P	65	2.345	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-08E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-09P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-10E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-11P	52	2.931	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-12E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-13P_1	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-13P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-14E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-15P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-16E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-17P_1	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-17P_2	9	1.092	0.561	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-18E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-19P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-20E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-21P	52	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-22E	2	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.1C-23P	52	2.674	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2C-01E	16	2.481	1.275	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-4.2C-01E (D/S)	16	6.195	3.096	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.2C-02V	22	9.992	4.994	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3C-01R	7	6.994	3.495	253.2	9.779	0.0	4.500	7.056	0.000	8.04	ARD
HD-4.3C-01R (D/S)	7	9.015	4.498	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1C-01V	24	14.087	7.029	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-04.1C FWH 34C to FWH 33C***									***Sorted By: Flow Order***	
HD-05.1C-02R	18	7.889	3.936	253.2	16.839	0.0	3.500	7.056	0.000	8.04	ARD
HD-05.1C-02R (D/S)	18	2.977	1.530	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-01T	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-01T (BR/SE)	13	4.962	2.550	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-02P	63	2.139	1.020	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-03E	1	3.275	1.683	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-04E	4	3.672	1.887	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-05P	54	3.176	1.632	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD
HD-05.2C-06N	30	3.969	2.040	253.2	4.309	0.0	6.625	7.056	0.000	8.04	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 10:27:49AM

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.911

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Remaining Life***		
HD-4.2A-02V	0.237	0.005	0.016	0.016	-19,719	No	203,584
HD-05.1A-02R	0.000	0.033	0.012	0.012	46,812	Yes	203,584
HD-05.1A-01V	0.216	0.182	0.012	0.012	211,764	No	203,584
HD-4.3A-01R (D/S)	0.000	0.183	0.012	0.012	333,134	No	203,584
HD-4.3A-01R	0.000	0.199	0.015	0.015	461,588	No	203,584
HD-4.1A-01N	0.280	0.165	0.022	0.022	490,023	No	203,584
HD-4.2A-01E (D/S)	0.000	0.230	0.015	0.015	608,168	No	203,584
HD-05.2A-01T	0.280	0.227	0.022	0.022	704,238	Yes	203,584
HD-05.2A-06N	0.280	0.188	0.022	0.022	711,548	No	203,584
HD-05.2A-01T (BR/SE)	0.000	0.251	0.022	0.022	786,674	Yes	203,584
HD-4.1A-05E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-08E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-14E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-10E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-12E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-05.2A-04E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-06E	0.280	0.199	0.022	0.022	869,781	No	203,584
HD-05.2A-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2A-05P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-4.1A-03T (D/S)	0.000	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1A-03T	0.280	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1A-02P	0.280	0.206	0.022	0.022	1,173,029	No	203,584
HD-4.1A-15P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1A-11P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1A-07P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1A-09P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1A-13P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-05.1A-02R (D/S)	0.000	0.264	0.022	0.022	1,384,017	Yes	203,584
HD-4.1A-04P	0.280	0.226	0.022	0.022	1,747,355	No	203,584
HD-05.2A-02P	0.280	0.231	0.022	0.022	1,797,259	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**HD-04.1A FWH 34A to FWH 33A**				***Sorted By:Remaining Life***		
HD-4.2A-01E	0.000	0.302	0.022	0.022	1,924,124	No	203,584
HD-4.1A-09P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
===>Grouped by Line:	**HD-04.1B FWH 34B to FWH 33B**				***Sorted By:Remaining Life***		
HD-4.2B-02V	0.237	0.005	0.016	0.016	-19,719	No	203,584
HD-05.1B-01V	0.216	0.228	0.012	0.012	268,943	No	203,584
HD-4.3B-01R (D/S)	0.000	0.184	0.012	0.012	335,581	No	203,584
HD-05.1B-02R	0.000	0.203	0.012	0.012	426,924	No	203,584
HD-4.3B-01R	0.000	0.208	0.015	0.015	484,596	Yes	203,584
HD-4.1B-01N	0.280	0.165	0.022	0.022	490,023	No	203,584
HD-4.1B-05T (D/S)	0.000	0.165	0.022	0.022	490,023	No	203,584
HD-4.2B-01E (D/S)	0.000	0.255	0.015	0.015	679,924	Yes	203,584
HD-05.1B-02R (D/S)	0.000	0.144	0.022	0.022	697,051	No	203,584
HD-4.1B-05T (BR/SE)	0.000	0.188	0.022	0.022	711,548	No	203,584
HD-05.2B-06N	0.280	0.188	0.022	0.022	711,548	No	203,584
HD-4.1B-07E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-09E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-12E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-14E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-16E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-05.2B-04E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-10E	0.280	0.199	0.022	0.022	869,781	No	203,584
HD-05.2B-01T	0.280	0.280	0.022	0.022	887,168	Yes	203,584
HD-4.1B-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2B-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2B-05P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-05.2B-01T (BR/SE)	0.000	0.312	0.022	0.022	997,083	Yes	203,584
HD-4.1B-06P	0.280	0.211	0.022	0.022	1,080,757	No	203,584
HD-4.1B-02P	0.280	0.206	0.022	0.022	1,173,029	No	203,584
HD-4.1B-08P	0.280	0.212	0.022	0.022	1,304,304	No	203,584
HD-4.1B-13P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1B-17P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1B-11P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1B-15P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.2B-01E	0.000	0.233	0.022	0.022	1,446,961	Yes	203,584
HD-4.1B-04P	0.280	0.220	0.022	0.022	1,545,968	No	203,584
HD-05.2B-02P	0.280	0.230	0.022	0.022	1,788,355	No	203,584
HD-4.1B-11P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
===>Grouped by Line:	**HD-04.1C FWH 34C to FWH 33C**				***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Remaining Life***		
HD-4.2C-02V	0.237	0.005	0.016	0.016	-19,719	No	203,584
HD-05.1C-01V	0.216	0.160	0.012	0.012	183,767	No	203,584
HD-4.3C-01R (D/S)	0.000	0.209	0.012	0.012	384,266	No	203,584
HD-05.1C-02R	0.000	0.207	0.012	0.012	434,721	No	203,584
HD-4.3C-01R	0.000	0.190	0.015	0.015	439,486	No	203,584
HD-4.1C-01N	0.280	0.165	0.022	0.022	490,023	No	203,584
HD-05.1C-02R (D/S)	0.000	0.124	0.022	0.022	584,668	No	203,584
HD-4.2C-01E (D/S)	0.000	0.225	0.015	0.015	593,691	Yes	203,584
HD-05.2C-06N	0.280	0.188	0.022	0.022	711,548	No	203,584
HD-4.1C-12E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-14E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-16E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-18E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-20E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-22E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-05.2C-04E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-03E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-05E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-08E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-10E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-05.2C-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2C-01T	0.280	0.303	0.022	0.022	966,367	Yes	203,584
HD-05.2C-05P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-4.1C-09P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-4.1C-06T	0.280	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1C-06T (D/S)	0.000	0.198	0.022	0.022	1,008,937	No	203,584
HD-05.2C-01T (BR/SE)	0.000	0.332	0.022	0.022	1,065,978	Yes	203,584
HD-4.1C-02P	0.280	0.206	0.022	0.022	1,173,029	No	203,584
HD-4.1C-11P	0.280	0.212	0.022	0.022	1,304,304	No	203,584
HD-4.1C-19P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1C-23P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1C-13P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-15P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-17P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-21P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-04P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.2C-01E	0.000	0.228	0.022	0.022	1,412,873	Yes	203,584
HD-4.1C-07P	0.280	0.226	0.022	0.022	1,747,355	No	203,584
HD-05.2C-02P	0.280	0.230	0.022	0.022	1,788,355	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Remaining Life***		
HD-4.1C-13P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
HD-4.1C-17P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.911

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Flow Order***		
HD-4.1A-01N	0.280	0.165	0.022	0.022	490,023	No	203,584
HD-4.1A-02P	0.280	0.206	0.022	0.022	1,173,029	No	203,584
HD-4.1A-03T	0.280	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1A-03T (D/S)	0.000	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1A-04P	0.280	0.226	0.022	0.022	1,747,355	No	203,584
HD-4.1A-05E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-06E	0.280	0.199	0.022	0.022	869,781	No	203,584
HD-4.1A-07P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1A-08E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-09P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1A-09P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
HD-4.1A-10E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-11P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1A-12E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-13P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1A-14E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1A-15P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.2A-01E	0.000	0.302	0.022	0.022	1,924,124	No	203,584
HD-4.2A-01E (D/S)	0.000	0.230	0.015	0.015	608,168	No	203,584
HD-4.2A-02V	0.237	0.005	0.016	0.016	-19,719	No	203,584
HD-4.3A-01R	0.000	0.199	0.015	0.015	461,588	No	203,584
HD-4.3A-01R (D/S)	0.000	0.183	0.012	0.012	333,134	No	203,584
HD-05.1A-01V	0.216	0.182	0.012	0.012	211,764	No	203,584
HD-05.1A-02R	0.000	0.033	0.012	0.012	46,812	Yes	203,584
HD-05.1A-02R (D/S)	0.000	0.264	0.022	0.022	1,384,017	Yes	203,584
HD-05.2A-01T	0.280	0.227	0.022	0.022	704,238	Yes	203,584
HD-05.2A-01T (BR/SE)	0.000	0.251	0.022	0.022	786,674	Yes	203,584
HD-05.2A-02P	0.280	0.231	0.022	0.022	1,797,259	Yes	203,584
HD-05.2A-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2A-04E	0.280	0.195	0.022	0.022	801,356	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1A FWH 34A to FWH 33A**					***Sorted By:Flow Order***		
HD-05.2A-05P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-05.2A-06N	0.280	0.188	0.022	0.022	711,548	No	203,584
===>Grouped by Line: **HD-04.1B FWH 34B to FWH 33B**					***Sorted By:Flow Order***		
HD-4.1B-01N	0.280	0.165	0.022	0.022	490,023	No	203,584
HD-4.1B-02P	0.280	0.206	0.022	0.022	1,173,029	No	203,584
HD-4.1B-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-4.1B-04P	0.280	0.220	0.022	0.022	1,545,968	No	203,584
HD-4.1B-05T (BR/SE)	0.000	0.188	0.022	0.022	711,548	No	203,584
HD-4.1B-05T (D/S)	0.000	0.165	0.022	0.022	490,023	No	203,584
HD-4.1B-06P	0.280	0.211	0.022	0.022	1,080,757	No	203,584
HD-4.1B-07E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-08P	0.280	0.212	0.022	0.022	1,304,304	No	203,584
HD-4.1B-09E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-10E	0.280	0.199	0.022	0.022	869,781	No	203,584
HD-4.1B-11P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1B-11P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
HD-4.1B-12E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-13P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1B-14E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-15P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1B-16E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1B-17P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.2B-01E	0.000	0.233	0.022	0.022	1,446,961	Yes	203,584
HD-4.2B-01E (D/S)	0.000	0.255	0.015	0.015	679,924	Yes	203,584
HD-4.2B-02V	0.237	0.005	0.016	0.016	-19,719	No	203,584
HD-4.3B-01R	0.000	0.208	0.015	0.015	484,596	Yes	203,584
HD-4.3B-01R (D/S)	0.000	0.184	0.012	0.012	335,581	No	203,584
HD-05.1B-01V	0.216	0.228	0.012	0.012	268,943	No	203,584
HD-05.1B-02R	0.000	0.203	0.012	0.012	426,924	No	203,584
HD-05.1B-02R (D/S)	0.000	0.144	0.022	0.022	697,051	No	203,584
HD-05.2B-01T	0.280	0.280	0.022	0.022	887,168	Yes	203,584
HD-05.2B-01T (BR/SE)	0.000	0.312	0.022	0.022	997,083	Yes	203,584
HD-05.2B-02P	0.280	0.230	0.022	0.022	1,788,355	No	203,584
HD-05.2B-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2B-04E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-05.2B-05P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-05.2B-06N	0.280	0.188	0.022	0.022	711,548	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Flow Order***		
HD-4.1C-01N	0.280	0.165	0.022	0.022	490,023	No	203,584
HD-4.1C-02P	0.280	0.206	0.022	0.022	1,173,029	No	203,584
HD-4.1C-03E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-04P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-05E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-06T	0.280	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1C-06T (D/S)	0.000	0.198	0.022	0.022	1,008,937	No	203,584
HD-4.1C-07P	0.280	0.226	0.022	0.022	1,747,355	No	203,584
HD-4.1C-08E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-09P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-4.1C-10E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-11P	0.280	0.212	0.022	0.022	1,304,304	No	203,584
HD-4.1C-12E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-13P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-13P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
HD-4.1C-14E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-15P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-16E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-17P_1	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-17P_2	0.280	0.255	0.022	0.022	3,631,657	No	203,584
HD-4.1C-18E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-19P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.1C-20E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-21P	0.280	0.222	0.022	0.022	1,376,124	No	203,584
HD-4.1C-22E	0.280	0.195	0.022	0.022	801,356	No	203,584
HD-4.1C-23P	0.280	0.218	0.022	0.022	1,345,304	No	203,584
HD-4.2C-01E	0.000	0.228	0.022	0.022	1,412,873	Yes	203,584
HD-4.2C-01E (D/S)	0.000	0.225	0.015	0.015	593,691	Yes	203,584
HD-4.2C-02V	0.237	0.005	0.016	0.016	-19,719	No	203,584
HD-4.3C-01R	0.000	0.190	0.015	0.015	439,486	No	203,584
HD-4.3C-01R (D/S)	0.000	0.209	0.012	0.012	384,266	No	203,584
HD-05.1C-01V	0.216	0.160	0.012	0.012	183,767	No	203,584
HD-05.1C-02R	0.000	0.207	0.012	0.012	434,721	No	203,584
HD-05.1C-02R (D/S)	0.000	0.124	0.022	0.022	584,668	No	203,584
HD-05.2C-01T	0.280	0.303	0.022	0.022	966,367	Yes	203,584
HD-05.2C-01T (BR/SE)	0.000	0.332	0.022	0.022	1,065,978	Yes	203,584
HD-05.2C-02P	0.280	0.230	0.022	0.022	1,788,355	No	203,584
HD-05.2C-03E	0.280	0.204	0.022	0.022	946,499	No	203,584
HD-05.2C-04E	0.280	0.195	0.022	0.022	801,356	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-04.1C FWH 34C to FWH 33C**					***Sorted By:Flow Order***		
HD-05.2C-05P	0.280	0.206	0.022	0.022	988,455	No	203,584
HD-05.2C-06N	0.280	0.188	0.022	0.022	711,548	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HTR 34 TO HTR 33
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.911

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-04.1A FWH 34A to FWH 33A**										***Sorted By: Flow Order***	
HD-05.1A-02R	0.000	125.8	124.0	125.8	124.0	0.062		137,201	61.6	61.6	28.9	92,205
HD-05.1A-02R (D/S)	0.000	54.9	74.0	54.9	74.0	0.275	MT	137,201	222.0	275.0	11.2	121,025
HD-05.2A-01T	0.280	110.4	86.0	110.4	86.0	0.232	MT	186,592	169.6	232.0	4.9	186,592
HD-05.2A-01T (BR/SE)	0.000	110.4	139.0	110.4	139.0	0.256	MT	186,592	169.6	256.0	4.9	186,592
HD-05.2A-02P	0.280	40.0	39.0	40.0	39.0	0.241	GW	121,025	240.0	241.0	9.7	121,025
===>Grouped by Line:	**HD-04.1B FWH 34B to FWH 33B**										***Sorted By: Flow Order***	
HD-4.2B-01E	0.000	48.3	53.0	48.3	53.0	0.242	GW	137,201	231.7	242.0	9.3	137,201
HD-4.2B-01E (D/S)	0.000	121.2	102.0	121.2	102.0	0.278	GW	137,201	115.8	278.0	22.7	137,201
HD-4.3B-01R	0.000	136.9	132.0	136.9	132.0	0.234	GW	137,201	100.1	234.0	25.7	137,201
HD-05.2B-01T	0.280	96.6	74.0	96.6	74.0	0.299	GW	137,201	183.4	299.0	18.7	137,201
HD-05.2B-01T (BR/SE)	0.000	96.6	98.0	96.6	98.0	0.331	GW	137,201	183.4	331.0	18.7	137,201
===>Grouped by Line:	**HD-04.1C FWH 34C to FWH 33C**										***Sorted By: Flow Order***	
HD-4.2C-01E	0.000	48.3	104.0	48.3	104.0	0.246	GW	92,205	240.7	246.0	18.3	137,201
HD-4.2C-01E (D/S)	0.000	121.2	175.0	121.2	175.0	0.270	GW	92,205	138.2	270.0	45.2	137,201
HD-05.2C-01T	0.280	96.6	63.0	96.6	63.0	0.332	GW	107,359	193.3	332.0	28.6	137,201
HD-05.2C-01T (BR/SE)	0.000	96.6	141.0	96.6	141.0	0.361	GW	107,359	193.3	361.0	28.6	137,201

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:05:17AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.487

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1A FWH 35A to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1A-15V	22	3.717	2.375	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-01N	31	3.703	2.367	379.8	3.077	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-16N	30	2.973	1.900	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-03E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-05E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-07E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-09E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-11E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-12E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-14E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-06P	54	2.379	1.520	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-13P	54	2.379	1.520	379.8	3.116	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-02P	61	2.007	1.283	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-04P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-08P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-10P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1B-13V	22	3.717	2.375	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-01N	31	3.703	2.367	379.8	3.077	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-14N	30	2.973	1.900	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-03E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-05E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-07E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-09E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-10E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-12E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-11P	54	2.379	1.520	379.8	3.116	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-02P	61	2.007	1.283	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1B-04P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-06P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-08P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
===>Grouped by Line:	***HD-03.1C FWH 35C to HD TK***								***Sorted By: Average Wear Rate***		
HD-03.1C-17V	22	3.717	2.375	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-01N	31	3.703	2.367	379.8	3.077	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-18N	30	2.973	1.900	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-03E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-05E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-07E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-09E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-11E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-13E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-14E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-16E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-15P	54	2.379	1.520	379.8	3.116	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-02P	61	2.007	1.283	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-04P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-06P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-08P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-10P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-12P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:05:17AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.487

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1A FWH 35A to HD TK***									***Sorted By: Flow Order***	
HD-03.1A-01N	31	3.703	2.367	379.8	3.077	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-02P	61	2.007	1.283	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-03E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-04P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-05E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-06P	54	2.379	1.520	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-07E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-08P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-09E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-10P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-11E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-12E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-13P	54	2.379	1.520	379.8	3.116	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-14E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-15V	22	3.717	2.375	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1A-16N	30	2.973	1.900	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***									***Sorted By: Flow Order***	
HD-03.1B-01N	31	3.703	2.367	379.8	3.077	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-02P	61	2.007	1.283	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-03E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-04P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-05E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-06P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-07E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-08P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-09E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-10E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-03.1B FWH 35B to HD TK***									***Sorted By: Flow Order***	
HD-03.1B-11P	54	2.379	1.520	379.8	3.116	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-12E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-13V	22	3.717	2.375	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1B-14N	30	2.973	1.900	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
===>Grouped by Line:	***HD-03.1C FWH 35C to HD TK***									***Sorted By: Flow Order***	
HD-03.1C-01N	31	3.703	2.367	379.8	3.077	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-02P	61	2.007	1.283	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-03E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-04P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-05E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-06P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-07E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-08P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-09E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-10P	52	1.858	1.188	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-11E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-12P	52	1.858	1.188	379.8	3.138	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-13E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-14E	4	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-15P	54	2.379	1.520	379.8	3.116	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-16E	2	2.750	1.758	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-17V	22	3.717	2.375	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD
HD-03.1C-18N	30	2.973	1.900	379.8	3.089	0.0	10.750	6.843	0.000	36.60	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:05:17AM

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.487

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1A FWH 35A to HD TK**					***Sorted By:Remaining Life***		
HD-03.1A-01N	0.240	0.154	0.089	0.089	240,391	No	203,584
HD-03.1A-15V	0.250	0.164	0.095	0.095	251,972	No	203,584
HD-03.1A-09E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-05E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-07E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-03E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-06P	0.250	0.195	0.089	0.089	609,240	No	203,584
HD-03.1A-11E	0.250	0.217	0.089	0.089	638,354	Yes	203,584
HD-03.1A-14E	0.250	0.230	0.089	0.089	703,139	Yes	203,584
HD-03.1A-13P	0.250	0.219	0.089	0.089	747,531	Yes	203,584
HD-03.1A-02P	0.250	0.203	0.089	0.089	781,048	No	203,584
HD-03.1A-12E	0.250	0.249	0.089	0.089	797,825	Yes	203,584
HD-03.1A-08P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1A-10P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1A-04P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1A-16N	0.250	0.306	0.089	0.089	999,901	No	203,584
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Remaining Life***		
HD-03.1B-01N	0.240	0.154	0.089	0.089	240,391	No	203,584
HD-03.1B-13V	0.250	0.164	0.095	0.095	251,972	No	203,584
HD-03.1B-14N	0.250	0.181	0.089	0.089	423,688	No	203,584
HD-03.1B-03E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-10E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-12E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-05E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-07E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-11P	0.250	0.195	0.089	0.089	609,240	No	203,584
HD-03.1B-09E	0.250	0.235	0.089	0.089	729,059	Yes	203,584
HD-03.1B-02P	0.250	0.203	0.089	0.089	781,048	No	203,584
HD-03.1B-04P	0.250	0.207	0.089	0.089	869,013	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**HD-03.1B FWH 35B to HD TK**				***Sorted By:Remaining Life***		
HD-03.1B-08P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1B-06P	0.250	0.207	0.089	0.089	869,013	No	203,584
===>Grouped by Line:	**HD-03.1C FWH 35C to HD TK**				***Sorted By:Remaining Life***		
HD-03.1C-01N	0.240	0.154	0.089	0.089	240,391	No	203,584
HD-03.1C-17V	0.250	0.164	0.095	0.095	251,972	No	203,584
HD-03.1C-18N	0.250	0.181	0.089	0.089	423,688	No	203,584
HD-03.1C-03E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-05E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-07E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-09E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-11E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-14E	0.250	0.224	0.089	0.089	672,813	Yes	203,584
HD-03.1C-13E	0.250	0.244	0.089	0.089	772,483	Yes	203,584
HD-03.1C-02P	0.250	0.203	0.089	0.089	781,048	No	203,584
HD-03.1C-16E	0.250	0.247	0.089	0.089	787,433	Yes	203,584
HD-03.1C-15P	0.250	0.227	0.089	0.089	797,252	Yes	203,584
HD-03.1C-04P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-06P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-08P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-10P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-12P	0.250	0.207	0.089	0.089	869,013	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.487

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1A FWH 35A to HD TK**					***Sorted By:Flow Order***		
HD-03.1A-01N	0.240	0.154	0.089	0.089	240,391	No	203,584
HD-03.1A-02P	0.250	0.203	0.089	0.089	781,048	No	203,584
HD-03.1A-03E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-04P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1A-05E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-06P	0.250	0.195	0.089	0.089	609,240	No	203,584
HD-03.1A-07E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-08P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1A-09E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1A-10P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1A-11E	0.250	0.217	0.089	0.089	638,354	Yes	203,584
HD-03.1A-12E	0.250	0.249	0.089	0.089	797,825	Yes	203,584
HD-03.1A-13P	0.250	0.219	0.089	0.089	747,531	Yes	203,584
HD-03.1A-14E	0.250	0.230	0.089	0.089	703,139	Yes	203,584
HD-03.1A-15V	0.250	0.164	0.095	0.095	251,972	No	203,584
HD-03.1A-16N	0.250	0.306	0.089	0.089	999,901	No	203,584
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Flow Order***		
HD-03.1B-01N	0.240	0.154	0.089	0.089	240,391	No	203,584
HD-03.1B-02P	0.250	0.203	0.089	0.089	781,048	No	203,584
HD-03.1B-03E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-04P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1B-05E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-06P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1B-07E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-08P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1B-09E	0.250	0.235	0.089	0.089	729,059	Yes	203,584
HD-03.1B-10E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1B-11P	0.250	0.195	0.089	0.089	609,240	No	203,584
HD-03.1B-12E	0.250	0.186	0.089	0.089	483,867	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-03.1B FWH 35B to HD TK**					***Sorted By:Flow Order***		
HD-03.1B-13V	0.250	0.164	0.095	0.095	251,972	No	203,584
HD-03.1B-14N	0.250	0.181	0.089	0.089	423,688	No	203,584
===>Grouped by Line: **HD-03.1C FWH 35C to HD TK**					***Sorted By:Flow Order***		
HD-03.1C-01N	0.240	0.154	0.089	0.089	240,391	No	203,584
HD-03.1C-02P	0.250	0.203	0.089	0.089	781,048	No	203,584
HD-03.1C-03E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-04P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-05E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-06P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-07E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-08P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-09E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-10P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-11E	0.250	0.186	0.089	0.089	483,867	No	203,584
HD-03.1C-12P	0.250	0.207	0.089	0.089	869,013	No	203,584
HD-03.1C-13E	0.250	0.244	0.089	0.089	772,483	Yes	203,584
HD-03.1C-14E	0.250	0.224	0.089	0.089	672,813	Yes	203,584
HD-03.1C-15P	0.250	0.227	0.089	0.089	797,252	Yes	203,584
HD-03.1C-16E	0.250	0.247	0.089	0.089	787,433	Yes	203,584
HD-03.1C-17V	0.250	0.164	0.095	0.095	251,972	No	203,584
HD-03.1C-18N	0.250	0.181	0.089	0.089	423,688	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HTR 35 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.487

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-03.1A FWH 35A to HD TK**										***Sorted By: Flow Order***	
HD-03.1A-11E	0.250	37.0	40.0	37.0	40.0	0.244	GW	78,649	213.0	244.0	26.9	78,649
HD-03.1A-12E	0.250	37.0	43.0	37.0	43.0	0.276	GW	78,649	213.0	276.0	26.9	78,649
HD-03.1A-13P	0.250	32.0	32.0	32.0	32.0	0.242	GW	78,649	218.0	242.0	23.3	78,649
HD-03.1A-14E	0.250	37.0	32.0	37.0	32.0	0.257	GW	78,649	213.0	257.0	26.9	78,649
===>Grouped by Line:	**HD-03.1B FWH 35B to HD TK**										***Sorted By: Flow Order***	
HD-03.1B-09E	0.250	57.2	48.0	57.2	48.0	0.242	MT	170,123	192.8	242.0	6.7	170,123
===>Grouped by Line:	**HD-03.1C FWH 35C to HD TK**										***Sorted By: Flow Order***	
HD-03.1C-13E	0.250	53.9	59.0	53.9	59.0	0.254	GW	153,469	196.1	254.0	10.0	153,469
HD-03.1C-14E	0.250	53.9	84.0	53.9	84.0	0.234	GW	153,469	196.1	234.0	10.0	153,469
HD-03.1C-15P	0.250	46.6	38.0	46.6	38.0	0.236	GW	153,469	203.4	236.0	8.6	153,469
HD-03.1C-16E	0.250	53.9	31.0	53.9	31.0	0.257	GW	153,469	196.1	257.0	10.0	153,469

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:05:31AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.405

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1A FWH 36A to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.2A-01R (D/S)	7	7.081	4.054	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1A-02R	18	6.196	3.548	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-01.1A-01N	31	5.056	2.997	394.5	5.239	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2A-02N	30	4.161	2.467	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-03E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-05E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-07E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-09E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2A-01R	7	3.564	2.113	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.1A-02R (D/S)	18	3.121	1.850	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-02P	61	2.749	1.630	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-04P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-06P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-08P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-10P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.1A 01V	24	0.089	0.051	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.2A-01V	22	0.042	0.025	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.2B-01R (D/S)	7	7.081	4.054	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1B-02R	18	6.196	3.548	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-01.1B-01N	31	5.056	2.997	394.5	5.239	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2B-02N	30	4.161	2.467	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-03E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-05E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-07E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2B-01R	7	3.564	2.113	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.1B-02R (D/S)	18	3.121	1.850	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-02P	61	2.749	1.630	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.1B-04P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-06P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.1B-01V	24	0.089	0.051	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.2B-01V	22	0.042	0.025	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
===>Grouped by Line:	***HD-01.1C FWH 36C to HD TK***								***Sorted By: Average Wear Rate***		
HD-01.2C-01R (D/S)	7	7.081	4.054	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1C-02R	18	6.196	3.548	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-01.1C-01N	31	5.056	2.997	394.5	5.239	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2C-02N	30	4.161	2.467	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-11E	2	3.931	2.330	394.5	5.524	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-03E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-05E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-07E	4	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-09E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2C-01R	7	3.564	2.113	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-08P	54	3.259	1.932	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.1C-02R (D/S)	18	3.121	1.850	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-02P	61	2.749	1.630	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-04P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-06P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-10P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.1C-01V	24	0.089	0.051	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.2C-01V	22	0.042	0.025	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:05:31AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.405

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1A FWH 36A to HD TK***									***Sorted By: Flow Order***	
HD-01.1A-01N	31	5.056	2.997	394.5	5.239	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-02P	61	2.749	1.630	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-03E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-04P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-05E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-06P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-07E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-08P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-09E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1A-10P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2A-01R	7	3.564	2.113	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2A-01R (D/S)	7	7.081	4.054	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1A 01V	24	0.089	0.051	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1A-02R	18	6.196	3.548	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1A-02R (D/S)	18	3.121	1.850	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2A-01V	22	0.042	0.025	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2A-02N	30	4.161	2.467	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***									***Sorted By: Flow Order***	
HD-01.1B-01N	31	5.056	2.997	394.5	5.239	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-02P	61	2.749	1.630	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-03E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-04P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-05E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-06P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1B-07E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2B-01R	7	3.564	2.113	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2B-01R (D/S)	7	7.081	4.054	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-01.1B FWH 36B to HD TK***									***Sorted By: Flow Order***	
HD-02.1B-01V	24	0.089	0.051	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1B-02R	18	6.196	3.548	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1B-02R (D/S)	18	3.121	1.850	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2B-01V	22	0.042	0.025	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2B-02N	30	4.161	2.467	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
===>Grouped by Line:	***HD-01.1C FWH 36C to HD TK***									***Sorted By: Flow Order***	
HD-01.1C-01N	31	5.056	2.997	394.5	5.239	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-02P	61	2.749	1.630	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-03E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-04P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-05E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-06P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-07E	4	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-08P	54	3.259	1.932	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-09E	2	3.768	2.233	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-10P	52	2.546	1.509	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.1C-11E	2	3.931	2.330	394.5	5.524	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2C-01R	7	3.564	2.113	394.5	5.278	0.0	10.750	6.774	0.000	36.60	ARD
HD-01.2C-01R (D/S)	7	7.081	4.054	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1C-01V	24	0.089	0.051	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1C-02R	18	6.196	3.548	394.5	14.743	0.0	6.625	6.774	0.000	36.60	ARD
HD-02.1C-02R (D/S)	18	3.121	1.850	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2C-01V	22	0.042	0.025	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD
HD-02.2C-02N	30	4.161	2.467	394.5	5.401	0.0	10.750	6.774	0.000	36.60	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:05:31AM

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.405

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1A FWH 36A to HD TK**					***Sorted By:Remaining Life***		
HD-01.1A-01N	0.288	0.170	0.137	0.137	98,447	No	203,584
HD-01.1A-05E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1A-07E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1A-03E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.2A-01R (D/S)	0.000	0.294	0.098	0.098	423,461	Yes	203,584
HD-01.1A-02P	0.307	0.243	0.159	0.159	450,215	No	203,584
HD-02.1A-02R	0.000	0.285	0.098	0.098	461,367	Yes	203,584
HD-01.1A-10P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1A-08P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1A-06P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1A-04P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.2A-01R	0.000	0.316	0.159	0.159	649,387	Yes	203,584
HD-01.1A-09E	0.307	0.325	0.159	0.159	649,911	Yes	203,584
HD-02.2A-02N	0.365	0.345	0.137	0.137	740,277	Yes	203,584
HD-02.1A-02R (D/S)	0.000	0.351	0.159	0.159	907,263	Yes	203,584
HD-02.1A 01V	0.280	0.278	0.105	0.105	29,679,390	No	203,584
HD-02.2A-01V	0.365	0.364	0.171	0.171	68,258,624	No	203,584
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Remaining Life***		
HD-01.1B-01N	0.288	0.170	0.137	0.137	98,447	No	203,584
HD-01.1B-05E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1B-03E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.2B-01R (D/S)	0.000	0.242	0.098	0.098	311,504	Yes	203,584
HD-01.1B-02P	0.307	0.243	0.159	0.159	450,215	No	203,584
HD-02.2B-02N	0.365	0.268	0.137	0.137	466,906	No	203,584
HD-02.1B-02R	0.000	0.294	0.098	0.098	483,793	Yes	203,584
HD-01.1B-06P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1B-04P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1B-07E	0.307	0.320	0.159	0.159	631,908	Yes	203,584
HD-01.2B-01R	0.000	0.336	0.159	0.159	732,688	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Remaining Life***		
HD-02.1B-02R (D/S)	0.000	0.322	0.159	0.159	772,128	Yes	203,584
HD-02.1B-01V	0.280	0.440	0.105	0.105	57,568,324	No	203,584
HD-02.2B-01V	0.365	0.364	0.171	0.171	68,258,624	No	203,584
===>Grouped by Line: **HD-01.1C FWH 36C to HD TK**					***Sorted By:Remaining Life***		
HD-01.1C-01N	0.288	0.170	0.137	0.137	98,447	No	203,584
HD-01.1C-03E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-05E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-07E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-09E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-08P	0.307	0.231	0.159	0.159	326,206	No	203,584
HD-01.2C-01R (D/S)	0.000	0.257	0.098	0.098	343,431	Yes	203,584
HD-01.1C-11E	0.421	0.266	0.159	0.159	402,550	Yes	203,584
HD-01.1C-02P	0.307	0.243	0.159	0.159	450,215	No	203,584
HD-01.1C-04P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1C-06P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1C-10P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-02.1C-02R	0.000	0.318	0.098	0.098	542,459	No	203,584
HD-02.1C-02R (D/S)	0.000	0.288	0.159	0.159	608,516	Yes	203,584
HD-01.2C-01R	0.000	0.307	0.159	0.159	613,999	Yes	203,584
HD-02.2C-02N	0.000	0.374	0.137	0.137	842,809	Yes	203,584
HD-02.1C-01V	0.280	0.278	0.105	0.105	29,679,390	No	203,584
HD-02.2C-01V	0.000	0.364	0.171	0.171	68,258,624	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.405

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1A FWH 36A to HD TK**					***Sorted By:Flow Order***		
HD-01.1A-01N	0.288	0.170	0.137	0.137	98,447	No	203,584
HD-01.1A-02P	0.307	0.243	0.159	0.159	450,215	No	203,584
HD-01.1A-03E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1A-04P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1A-05E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1A-06P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1A-07E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1A-08P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1A-09E	0.307	0.325	0.159	0.159	649,911	Yes	203,584
HD-01.1A-10P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.2A-01R	0.000	0.316	0.159	0.159	649,387	Yes	203,584
HD-01.2A-01R (D/S)	0.000	0.294	0.098	0.098	423,461	Yes	203,584
HD-02.1A 01V	0.280	0.278	0.105	0.105	29,679,390	No	203,584
HD-02.1A-02R	0.000	0.285	0.098	0.098	461,367	Yes	203,584
HD-02.1A-02R (D/S)	0.000	0.351	0.159	0.159	907,263	Yes	203,584
HD-02.2A-01V	0.365	0.364	0.171	0.171	68,258,624	No	203,584
HD-02.2A-02N	0.365	0.345	0.137	0.137	740,277	Yes	203,584
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Flow Order***		
HD-01.1B-01N	0.288	0.170	0.137	0.137	98,447	No	203,584
HD-01.1B-02P	0.307	0.243	0.159	0.159	450,215	No	203,584
HD-01.1B-03E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1B-04P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1B-05E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1B-06P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1B-07E	0.307	0.320	0.159	0.159	631,908	Yes	203,584
HD-01.2B-01R	0.000	0.336	0.159	0.159	732,688	Yes	203,584
HD-01.2B-01R (D/S)	0.000	0.242	0.098	0.098	311,504	Yes	203,584
HD-02.1B-01V	0.280	0.440	0.105	0.105	57,568,324	No	203,584
HD-02.1B-02R	0.000	0.294	0.098	0.098	483,793	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-01.1B FWH 36B to HD TK**					***Sorted By:Flow Order***		
HD-02.1B-02R (D/S)	0.000	0.322	0.159	0.159	772,128	Yes	203,584
HD-02.2B-01V	0.365	0.364	0.171	0.171	68,258,624	No	203,584
HD-02.2B-02N	0.365	0.268	0.137	0.137	466,906	No	203,584
===>Grouped by Line: **HD-01.1C FWH 36C to HD TK**					***Sorted By:Flow Order***		
HD-01.1C-01N	0.288	0.170	0.137	0.137	98,447	No	203,584
HD-01.1C-02P	0.307	0.243	0.159	0.159	450,215	No	203,584
HD-01.1C-03E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-04P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1C-05E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-06P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1C-07E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-08P	0.307	0.231	0.159	0.159	326,206	No	203,584
HD-01.1C-09E	0.307	0.219	0.159	0.159	235,714	No	203,584
HD-01.1C-10P	0.307	0.248	0.159	0.159	513,707	No	203,584
HD-01.1C-11E	0.421	0.266	0.159	0.159	402,550	Yes	203,584
HD-01.2C-01R	0.000	0.307	0.159	0.159	613,999	Yes	203,584
HD-01.2C-01R (D/S)	0.000	0.257	0.098	0.098	343,431	Yes	203,584
HD-02.1C-01V	0.280	0.278	0.105	0.105	29,679,390	No	203,584
HD-02.1C-02R	0.000	0.318	0.098	0.098	542,459	No	203,584
HD-02.1C-02R (D/S)	0.000	0.288	0.159	0.159	608,516	Yes	203,584
HD-02.2C-01V	0.000	0.364	0.171	0.171	68,258,624	No	203,584
HD-02.2C-02N	0.000	0.374	0.137	0.137	842,809	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HTR 36 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.405

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-01.1A FWH 36A to HD TK**										***Sorted By: Flow Order***	
HD-01.1A-09E	0.307	70.6	82.0	70.6	82.0	0.342	GW	137,201	236.4	342.0	17.0	137,201
HD-01.2A-01R	0.000	66.8	66.0	66.8	66.0	0.332	GW	137,201	240.2	332.0	16.0	137,201
HD-01.2A-01R (D/S)	0.000	133.8	122.0	133.8	122.0	0.325	GW	137,201	146.2	325.0	30.8	137,201
HD-02.1A-02R	0.000	117.0	73.0	117.0	73.0	0.312	MT	137,201	163.0	312.0	27.0	137,201
HD-02.1A-02R (D/S)	0.000	58.5	86.0	58.5	86.0	0.365	GW	137,201	306.5	365.0	14.0	137,201
HD-02.2A-02N	0.365	78.0	110.0	78.0	110.0	0.364	GW	137,201	287.0	364.0	18.7	137,201
===>Grouped by Line:	**HD-01.1B FWH 36B to HD TK**										***Sorted By: Flow Order***	
HD-01.1B-07E	0.307	58.0	61.0	58.0	61.0	0.350	GW	92,205	249.0	350.0	29.5	92,205
HD-01.2B-01R	0.000	54.9	46.0	54.9	46.0	0.364	GW	92,205	252.1	364.0	28.0	92,205
HD-01.2B-01R (D/S)	0.000	109.9	62.0	109.9	62.0	0.297	GW	92,205	170.1	297.0	54.6	92,205
HD-02.1B-02R	0.000	137.1	94.0	137.1	94.0	0.301	MT	186,592	142.9	301.0	6.9	186,592
HD-02.1B-02R (D/S)	0.000	68.9	57.0	68.9	57.0	0.326	MT	186,592	296.1	326.0	3.6	186,592
===>Grouped by Line:	**HD-01.1C FWH 36C to HD TK**										***Sorted By: Flow Order***	
HD-01.1C-11E	0.421	69.8	131.0	69.8	131.0	0.288	GW	121,025	351.2	288.0	21.6	121,025
HD-01.2C-01R	0.000	63.3	64.0	63.3	64.0	0.327	GW	121,025	243.7	327.0	19.6	121,025
HD-01.2C-01R (D/S)	0.000	126.7	71.0	126.7	71.0	0.295	GW	121,025	153.3	295.0	37.9	121,025
HD-02.1C-02R (D/S)	0.000	55.4	60.0	55.4	60.0	0.305	GW	121,025	309.6	305.0	17.1	121,025
HD-02.2C-02N	0.000	73.9	89.0	73.9	89.0	0.397	MT	121,025	291.1	397.0	22.9	121,025

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:05:37AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.597

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-10.1A HD TK to HD PMP 31***								***Sorted By: Average Wear Rate***		
HD-10.2A-07X	6	5.635	2.100	369.7	7.223	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-04V	22	4.632	1.727	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-06N	30	3.706	1.381	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-02E	3	3.242	1.209	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-01E (D/S)	16	2.872	1.070	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.1A-01N	31	2.777	1.035	369.7	3.375	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2A-03P	53	2.316	0.863	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-05P	58	2.038	0.760	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.1A-02P	61	1.455	0.542	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2A-01E	16	1.347	0.502	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
===>Grouped by Line:	***HD-10.1B HD TK to HD PMP 32***								***Sorted By: Average Wear Rate***		
HD-10.2B-06X	6	5.635	2.100	369.7	7.223	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-03V	22	4.632	1.727	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-05N	30	3.706	1.381	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-02P	54	2.965	1.105	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-01E (D/S)	16	2.872	1.070	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.1B-01N	31	2.777	1.035	369.7	3.375	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2B-04P	58	2.038	0.760	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.1B-02P	61	1.455	0.542	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2B-01E	16	1.347	0.502	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:05:37AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.597

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD-10.1A HD TK to HD PMP 31***									***Sorted By: Flow Order***	
HD-10.1A-01N	31	2.777	1.035	369.7	3.375	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.1A-02P	61	1.455	0.542	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2A-01E	16	1.347	0.502	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2A-01E (D/S)	16	2.872	1.070	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-02E	3	3.242	1.209	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-03P	53	2.316	0.863	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-04V	22	4.632	1.727	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-05P	58	2.038	0.760	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-07X	6	5.635	2.100	369.7	7.223	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2A-06N	30	3.706	1.381	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
===>Grouped by Line:	***HD-10.1B HD TK to HD PMP 32***									***Sorted By: Flow Order***	
HD-10.1B-01N	31	2.777	1.035	369.7	3.375	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.1B-02P	61	1.455	0.542	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2B-01E	16	1.347	0.502	369.7	3.268	0.0	24.000	6.861	0.000	47.16	HBD
HD-10.2B-01E (D/S)	16	2.872	1.070	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-02P	54	2.965	1.105	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-03V	22	4.632	1.727	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-04P	58	2.038	0.760	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-06X	6	5.635	2.100	369.7	7.223	0.0	18.000	6.861	0.000	47.16	HBD
HD-10.2B-05N	30	3.706	1.381	369.7	5.850	0.0	18.000	6.861	0.000	47.16	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:05:37AM

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.597

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-10.1A HD TK to HD PMP 31**					***Sorted By:Remaining Life***		
HD-10.2A-07X	0.312	0.181	0.149	0.149	133,596	No	203,584
HD-10.2A-04V	0.312	0.204	0.160	0.160	227,185	No	203,584
HD-10.2A-06N	0.312	0.226	0.149	0.149	487,555	No	203,584
HD-10.2A-05P	0.312	0.265	0.149	0.149	1,333,352	No	203,584
HD-10.2A-03P	0.312	0.302	0.149	0.149	1,553,578	Yes	203,584
HD-10.2A-02E	0.312	0.379	0.149	0.149	1,668,121	Yes	203,584
HD-10.2A-01E (D/S)	0.000	0.362	0.149	0.149	1,742,469	Yes	203,584
HD-10.1A-02P	0.375	0.353	0.199	0.199	2,491,163	No	203,584
HD-10.1A-01N	0.562	0.497	0.199	0.199	2,528,280	No	203,584
HD-10.2A-01E	0.000	0.360	0.199	0.199	2,816,528	Yes	203,584
===>Grouped by Line: **HD-10.1B HD TK to HD PMP 32**					***Sorted By:Remaining Life***		
HD-10.2B-06X	0.312	0.181	0.149	0.149	133,596	No	203,584
HD-10.2B-03V	0.312	0.204	0.160	0.160	227,185	No	203,584
HD-10.2B-05N	0.312	0.226	0.149	0.149	487,555	No	203,584
HD-10.2B-02P	0.312	0.243	0.149	0.149	745,993	No	203,584
HD-10.2B-01E (D/S)	0.000	0.245	0.149	0.149	787,676	No	203,584
HD-10.2B-04P	0.312	0.265	0.149	0.149	1,333,352	No	203,584
HD-10.1B-02P	0.375	0.341	0.199	0.199	2,301,509	No	203,584
HD-10.1B-01N	0.562	0.497	0.199	0.199	2,528,280	No	203,584
HD-10.2B-01E	0.000	0.344	0.199	0.199	2,529,326	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.597

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-10.1A HD TK to HD PMP 31**					***Sorted By:Flow Order***		
HD-10.1A-01N	0.562	0.497	0.199	0.199	2,528,280	No	203,584
HD-10.1A-02P	0.375	0.353	0.199	0.199	2,491,163	No	203,584
HD-10.2A-01E	0.000	0.360	0.199	0.199	2,816,528	Yes	203,584
HD-10.2A-01E (D/S)	0.000	0.362	0.149	0.149	1,742,469	Yes	203,584
HD-10.2A-02E	0.312	0.379	0.149	0.149	1,668,121	Yes	203,584
HD-10.2A-03P	0.312	0.302	0.149	0.149	1,553,578	Yes	203,584
HD-10.2A-04V	0.312	0.204	0.160	0.160	227,185	No	203,584
HD-10.2A-05P	0.312	0.265	0.149	0.149	1,333,352	No	203,584
HD-10.2A-07X	0.312	0.181	0.149	0.149	133,596	No	203,584
HD-10.2A-06N	0.312	0.226	0.149	0.149	487,555	No	203,584
===>Grouped by Line: **HD-10.1B HD TK to HD PMP 32**					***Sorted By:Flow Order***		
HD-10.1B-01N	0.562	0.497	0.199	0.199	2,528,280	No	203,584
HD-10.1B-02P	0.375	0.341	0.199	0.199	2,301,509	No	203,584
HD-10.2B-01E	0.000	0.344	0.199	0.199	2,529,326	No	203,584
HD-10.2B-01E (D/S)	0.000	0.245	0.149	0.149	787,676	No	203,584
HD-10.2B-02P	0.312	0.243	0.149	0.149	745,993	No	203,584
HD-10.2B-03V	0.312	0.204	0.160	0.160	227,185	No	203,584
HD-10.2B-04P	0.312	0.265	0.149	0.149	1,333,352	No	203,584
HD-10.2B-06X	0.312	0.181	0.149	0.149	133,596	No	203,584
HD-10.2B-05N	0.312	0.226	0.149	0.149	487,555	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: HD: HTR DN TO PUMPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.597

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**HD-10.1A HD TK to HD PMP 31**											***Sorted By: Flow Order***
HD-10.2A-01E	0.000	28.5	45.0	28.5	45.0	0.363	GW	153,469	346.5	363.0	2.8	153,469
HD-10.2A-01E (D/S)	0.000	60.7	41.0	60.7	41.0	0.368	GW	153,469	251.3	368.0	6.1	153,469
HD-10.2A-02E	0.312	68.5	67.0	68.5	67.0	0.386	GW	153,469	243.5	386.0	6.9	153,469
HD-10.2A-03P	0.312	48.9	50.0	48.9	50.0	0.307	GW	153,469	263.1	307.0	4.9	153,469

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/9/2010 12:32:54PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS: HPTURB TO PRESEPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-HP Turbine to Presep 1A***								***Sorted By: Average Wear Rate***		
TEMP06	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 1B***								***Sorted By: Average Wear Rate***		
TEMP07	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2A***								***Sorted By: Average Wear Rate***		
TEMP08	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2B***								***Sorted By: Average Wear Rate***		
TEMP09	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/9/2010 12:32:54PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS: HPTURB TO PRESEP
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-HP Turbine to Presep 1A***									***Sorted By: Flow Order***	
TEMP06	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 1B***									***Sorted By: Flow Order***	
TEMP07	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2A***									***Sorted By: Flow Order***	
TEMP08	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-HP Turbine to Presep 2B***									***Sorted By: Flow Order***	
TEMP09	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/9/2010 12:32:54PM

Run Name: MS: HPTURB TO PRESEPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-HP Turbine to Presep 1A**					***Sorted By:Remaining Life***		
TEMP06	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 1B**					***Sorted By:Remaining Life***		
TEMP07	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2A**					***Sorted By:Remaining Life***		
TEMP08	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2B**					***Sorted By:Remaining Life***		
TEMP09	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MS: HPTURB TO PRESEPS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-HP Turbine to Presep 1A**					***Sorted By:Flow Order***		
TEMP06	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 1B**					***Sorted By:Flow Order***		
TEMP07	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2A**					***Sorted By:Flow Order***		
TEMP08	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-HP Turbine to Presep 2B**					***Sorted By:Flow Order***		
TEMP09	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/9/2010 12:33:15PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-"A" Header to MSR 31A***								***Sorted By: Average Wear Rate***		
TEMP18	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 31A & 32A***								***Sorted By: Average Wear Rate***		
TEMP16	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 32A***								***Sorted By: Average Wear Rate***		
TEMP19	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 33A***								***Sorted By: Average Wear Rate***		
TEMP20	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP14	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 31B***								***Sorted By: Average Wear Rate***		
TEMP21	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 31B & 32B***								***Sorted By: Average Wear Rate***		
TEMP17	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 32B***								***Sorted By: Average Wear Rate***		
TEMP22	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 33B***								***Sorted By: Average Wear Rate***		
TEMP23	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP15	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 1A to "A" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP10	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 1B to "B" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP11	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 2A to "A" MSR Header***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-Presep 2A to "A" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP12	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 2B to "B" MSR Header***								***Sorted By: Average Wear Rate***		
TEMP13	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/9/2010 12:33:15PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-"A" Header to MSR 31A***									***Sorted By: Flow Order***	
TEMP18	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 31A & 32A***									***Sorted By: Flow Order***	
TEMP16	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 32A***									***Sorted By: Flow Order***	
TEMP19	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" Header to MSR 33A***									***Sorted By: Flow Order***	
TEMP20	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"A" MSR Header***									***Sorted By: Flow Order***	
TEMP14	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 31B***									***Sorted By: Flow Order***	
TEMP21	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 31B & 32B***									***Sorted By: Flow Order***	
TEMP17	31	21.863	9.311	441.8	51.331	93.7	37.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 32B***									***Sorted By: Flow Order***	
TEMP22	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" Header to MSR 33B***									***Sorted By: Flow Order***	
TEMP23	31	22.622	9.630	441.8	51.712	93.7	26.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-"B" MSR Header***									***Sorted By: Flow Order***	
TEMP15	31	21.235	9.046	441.8	50.005	93.7	45.500	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 1A to "A" MSR Header***									***Sorted By: Flow Order***	
TEMP10	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 1B to "B" MSR Header***									***Sorted By: Flow Order***	
TEMP11	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 2A to "A" MSR Header***									***Sorted By: Flow Order***	
TEMP12	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD
===>Grouped by Line:	***MS-Presep 2B to "B" MSR Header***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MS-Presep 2B to "B" MSR Header***									***Sorted By: Flow Order***	
TEMP13	31	22.330	9.508	441.8	52.218	93.7	32.000	6.653	0.000	175.36	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/9/2010 12:33:15PM

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-"A" Header to MSR 31A**					***Sorted By:Remaining Life***		
TEMP18	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 31A & 32A**					***Sorted By:Remaining Life***		
TEMP16	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 32A**					***Sorted By:Remaining Life***		
TEMP19	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 33A**					***Sorted By:Remaining Life***		
TEMP20	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" MSR Header**					***Sorted By:Remaining Life***		
TEMP14	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B**					***Sorted By:Remaining Life***		
TEMP21	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B & 32B**					***Sorted By:Remaining Life***		
TEMP17	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 32B**					***Sorted By:Remaining Life***		
TEMP22	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 33B**					***Sorted By:Remaining Life***		
TEMP23	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" MSR Header**					***Sorted By:Remaining Life***		
TEMP15	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-Presep 1A to "A" MSR Header**					***Sorted By:Remaining Life***		
TEMP10	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MS-Presep 1B to "B" MSR Header**				***Sorted By:Remaining Life***		
TEMP11	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line:	**MS-Presep 2A to "A" MSR Header**				***Sorted By:Remaining Life***		
TEMP12	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line:	**MS-Presep 2B to "B" MSR Header**				***Sorted By:Remaining Life***		
TEMP13	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MS: PRESEPS TO MSR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-"A" Header to MSR 31A**					***Sorted By:Flow Order***		
TEMP18	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 31A & 32A**					***Sorted By:Flow Order***		
TEMP16	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 32A**					***Sorted By:Flow Order***		
TEMP19	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" Header to MSR 33A**					***Sorted By:Flow Order***		
TEMP20	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"A" MSR Header**					***Sorted By:Flow Order***		
TEMP14	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B**					***Sorted By:Flow Order***		
TEMP21	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 31B & 32B**					***Sorted By:Flow Order***		
TEMP17	0.000	-0.133	0.306	0.306	-188,410	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 32B**					***Sorted By:Flow Order***		
TEMP22	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" Header to MSR 33B**					***Sorted By:Flow Order***		
TEMP23	0.000	-0.151	0.219	0.219	-169,635	No	203,584
===>Grouped by Line: **MS-"B" MSR Header**					***Sorted By:Flow Order***		
TEMP15	0.000	-0.119	0.377	0.377	-203,584	No	203,584
===>Grouped by Line: **MS-Presep 1A to "A" MSR Header**					***Sorted By:Flow Order***		
TEMP10	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-Presep 1B to "B" MSR Header**					***Sorted By:Flow Order***		
TEMP11	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-Presep 2A to "A" MSR Header**					***Sorted By:Flow Order***		
TEMP12	0.000	-0.144	0.265	0.265	-180,081	No	203,584
===>Grouped by Line: **MS-Presep 2B to "B" MSR Header**					***Sorted By:Flow Order***		
TEMP13	0.000	-0.144	0.265	0.265	-180,081	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:06:50AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.791

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.1A_1 MSEP 31A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1A-01N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-02T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-02T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-03P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1A_2 MSEP 31A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1A-04N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-08P	61	0.341	0.163	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1A_3 MSEP 31A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1A-06T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-05N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-06T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-07P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1B_1 MSEP 31B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1B-01N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-02T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-02T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-03P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1B_2 MSEP 31B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1B-04N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-08P	61	0.341	0.163	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1B_3 MSEP 31B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.1B-05N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-06T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-06T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-07P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.2A-01T (D/S)	12	0.934	0.445	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2A-01T	12	0.518	0.247	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2A-01T (BR/SE)	12	0.430	0.205	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.2B MSEP 31B DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.2B-01T (D/S)	12	0.934	0.445	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2B-01T	12	0.518	0.247	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2B-01T (BR/SE)	12	0.430	0.205	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.3A HDR to MSEP TK 31A***								***Sorted By: Average Wear Rate***		
MSD-01.3A-01T (BR/SE)	11	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-04V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-06V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-08N	30	1.294	0.617	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-03E	2	1.197	0.570	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-01T	11	1.139	0.543	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-02P	61	0.874	0.416	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-05P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-07P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-01T (D/S)	11	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.3B HDR to MSEP TK 31B***								***Sorted By: Average Wear Rate***		
MSD-01.3B-01T (BR/SE)	11	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-04V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-06V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-08N	30	1.294	0.617	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-03E	2	1.197	0.570	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-01T	11	1.139	0.543	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-02P	61	0.874	0.416	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-05P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-07P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-01T (D/S)	11	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5A-27N	30	4.786	2.280	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.4A-01N	31	3.590	1.710	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5A-15P_2	52	2.991	1.425	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-28P_1	9	1.316	0.627	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-06V	25	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5A-05E	2	0.015	0.017	382.2	2.224	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-08E	4	0.015	0.017	382.2	2.224	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-24E	2	0.015	0.017	382.2	2.199	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-03E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-10E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-12E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-14E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-16E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-18E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-20E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-22E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-26E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-09P	54	0.013	0.015	382.2	2.246	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-01E (D/S)	16	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-04P	52	0.010	0.012	382.2	2.296	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-25P	52	0.010	0.012	382.2	2.248	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-23P	52	0.010	0.012	382.2	2.217	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-11P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-13P	52	0.010	0.011	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-15P_1	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-17P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-19P	52	0.010	0.011	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-21P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-07P	58	0.009	0.010	382.2	2.180	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-02P	66	0.008	0.009	382.2	2.217	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.4A-03T (D/S)	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-03T	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-02P	61	0.007	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5A-01E	16	0.006	0.007	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-04P	65	0.005	0.006	382.2	1.273	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5A-28P_2	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-29P	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5B-28N	30	4.786	2.280	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-12E	2	4.427	2.109	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-14E	2	4.427	2.109	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.5B-11P_2	54	3.829	1.824	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-13P	52	2.991	1.425	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-15P	52	2.991	1.425	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.4B-01N	31	1.497	1.710	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5B-29P	9	1.316	0.627	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-30P_1	9	1.316	0.627	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-04V	25	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-06E	2	0.015	0.017	382.2	2.201	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-03E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-08E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-10E	4	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-24E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-26E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-16E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-18E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-20E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-22E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-01R (D/S)	7	0.013	0.015	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-11P_1	54	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-07P	52	0.010	0.012	382.2	2.240	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-27P	52	0.010	0.012	382.2	2.213	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-25P	52	0.010	0.012	382.2	2.224	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-32P	52	0.010	0.012	382.2	2.199	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-02P	57	0.010	0.011	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-09P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-05P	58	0.009	0.010	382.2	2.207	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.4B-03E	2	0.009	0.010	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-05E	2	0.009	0.010	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5B-17P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-19P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-21P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-23P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-01R	7	0.008	0.010	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-06T (D/S)	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-06T	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-02P	61	0.007	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-04P	52	0.006	0.007	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.4B-07P	52	0.006	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-08P	65	0.005	0.006	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5B-30P_2	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-31P	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:06:50AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.791

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.1A_1 MSEP 31A to HDR***									***Sorted By: Flow Order***	
MSD-01.1A-01N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-02T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-02T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-03P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1A_2 MSEP 31A to HDR***									***Sorted By: Flow Order***	
MSD-01.1A-04N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-08P	61	0.341	0.163	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1A_3 MSEP 31A to HDR***									***Sorted By: Flow Order***	
MSD-01.1A-05N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-06T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-06T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1A-07P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1B_1 MSEP 31B to HDR***									***Sorted By: Flow Order***	
MSD-01.1B-01N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-02T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-02T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-03P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1B_2 MSEP 31B to HDR***									***Sorted By: Flow Order***	
MSD-01.1B-04N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-08P	61	0.341	0.163	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.1B_3 MSEP 31B to HDR***									***Sorted By: Flow Order***	
MSD-01.1B-05N	31	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-06T (BR/SE)	10	0.506	0.241	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-06T (D/S)	10	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.1B-07P	60	0.379	0.181	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***									***Sorted By: Flow Order***	
MSD-01.2A-01T	12	0.518	0.247	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.2A MSEP 31A DR HDR***									***Sorted By: Flow Order***	
MSD-01.2A-01T (BR/SE)	12	0.430	0.205	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2A-01T (D/S)	12	0.934	0.445	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.2B MSEP 31B DR HDR***									***Sorted By: Flow Order***	
MSD-01.2B-01T	12	0.518	0.247	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2B-01T (BR/SE)	12	0.430	0.205	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.2B-01T (D/S)	12	0.934	0.445	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.3A HDR to MSEP TK 31A***									***Sorted By: Flow Order***	
MSD-01.3A-01T (D/S)	11	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-01T	11	1.139	0.543	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-01T (BR/SE)	11	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-02P	61	0.874	0.416	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-03E	2	1.197	0.570	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-04V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-05P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-06V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-07P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3A-08N	30	1.294	0.617	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.3B HDR to MSEP TK 31B***									***Sorted By: Flow Order***	
MSD-01.3B-01T (D/S)	11	0.632	0.301	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-01T	11	1.139	0.543	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-01T (BR/SE)	11	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-02P	61	0.874	0.416	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-03E	2	1.197	0.570	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-04V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-05P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-06V	25	1.618	0.771	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-07P	58	0.712	0.339	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.3B-08N	30	1.294	0.617	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***									***Sorted By: Flow Order***	
MSD-01.4A-01N	31	3.590	1.710	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-02P	61	0.007	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-03T	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-03T (D/S)	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4A-04P	65	0.005	0.006	382.2	1.273	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5A-01E	16	0.006	0.007	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5A-01E (D/S)	16	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4A TK 31A to HD TK***									***Sorted By: Flow Order***	
MSD-01.5A-02P	66	0.008	0.009	382.2	2.217	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-03E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-04P	52	0.010	0.012	382.2	2.296	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-05E	2	0.015	0.017	382.2	2.224	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-06V	25	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-07P	58	0.009	0.010	382.2	2.180	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-08E	4	0.015	0.017	382.2	2.224	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-09P	54	0.013	0.015	382.2	2.246	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-10E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-11P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-12E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-13P	52	0.010	0.011	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-14E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-15P_1	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-15P_2	52	2.991	1.425	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-28P_1	9	1.316	0.627	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-28P_2	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-16E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-17P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-18E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-19P	52	0.010	0.011	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-20E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-21P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-29P	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-22E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-23P	52	0.010	0.012	382.2	2.217	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-24E	2	0.015	0.017	382.2	2.199	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-25P	52	0.010	0.012	382.2	2.248	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-26E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5A-27N	30	4.786	2.280	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***									***Sorted By: Flow Order***	
MSD-01.4B-01N	31	1.497	1.710	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-02P	61	0.007	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-03E	2	0.009	0.010	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-04P	52	0.006	0.007	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-05E	2	0.009	0.010	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***									***Sorted By: Flow Order***	
MSD-01.4B-07P	52	0.006	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-06T	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-06T (D/S)	15	0.007	0.008	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.4B-08P	65	0.005	0.006	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5B-01R	7	0.008	0.010	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.5B-01R (D/S)	7	0.013	0.015	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-02P	57	0.010	0.011	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-03E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-04V	25	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-05P	58	0.009	0.010	382.2	2.207	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-06E	2	0.015	0.017	382.2	2.201	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-07P	52	0.010	0.012	382.2	2.240	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-08E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-09P	52	0.010	0.011	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-10E	4	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-11P_1	54	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-11P_2	54	3.829	1.824	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-29P	9	1.316	0.627	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-12E	2	4.427	2.109	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-13P	52	2.991	1.425	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-14E	2	4.427	2.109	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-15P	52	2.991	1.425	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-30P_1	9	1.316	0.627	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-30P_2	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-16E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-17P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-18E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-19P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-20E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-21P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-22E	1	0.013	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-23P	51	0.009	0.010	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-31P	9	0.004	0.005	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-24E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-25P	52	0.010	0.012	382.2	2.224	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-32P	52	0.010	0.012	382.2	2.199	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.4B TK 31B to HD TK***									***Sorted By: Flow Order***	
MSD-01.5B-26E	2	0.015	0.017	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-27P	52	0.010	0.012	382.2	2.213	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.5B-28N	30	4.786	2.280	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:06:50AM

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.791

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.1A_1 MSEP 31A to HDR**					***Sorted By:Remaining Life***		
MSD-01.1A-01N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-03P	0.250	0.226	0.106	0.106	5,820,905	Yes	203,584
MSD-01.1A-02T (D/S)	0.000	0.315	0.106	0.106	6,102,906	No	203,584
MSD-01.1A-02T (BR/SE)	0.000	0.347	0.106	0.106	8,759,712	No	203,584
===>Grouped by Line: **MSD-01.1A_2 MSEP 31A to HDR**					***Sorted By:Remaining Life***		
MSD-01.1A-04N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-08P	0.250	0.242	0.106	0.106	7,351,691	No	203,584
===>Grouped by Line: **MSD-01.1A_3 MSEP 31A to HDR**					***Sorted By:Remaining Life***		
MSD-01.1A-05N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-06T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-06T (BR/SE)	0.000	0.238	0.106	0.106	4,823,524	No	203,584
MSD-01.1A-07P	0.250	0.241	0.106	0.106	6,573,794	No	203,584
===>Grouped by Line: **MSD-01.1B_1 MSEP 31B to HDR**					***Sorted By:Remaining Life***		
MSD-01.1B-01N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-02T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-02T (BR/SE)	0.000	0.238	0.106	0.106	4,823,524	No	203,584
MSD-01.1B-03P	0.250	0.241	0.106	0.106	6,573,794	No	203,584
===>Grouped by Line: **MSD-01.1B_2 MSEP 31B to HDR**					***Sorted By:Remaining Life***		
MSD-01.1B-04N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-08P	0.250	0.242	0.106	0.106	7,351,691	No	203,584
===>Grouped by Line: **MSD-01.1B_3 MSEP 31B to HDR**					***Sorted By:Remaining Life***		
MSD-01.1B-05N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-06T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-07P	0.250	0.241	0.106	0.106	6,573,794	No	203,584
MSD-01.1B-06T (BR/SE)	0.000	0.397	0.106	0.106	10,597,065	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.2A MSEP 31A DR HDR**				***Sorted By:Remaining Life***		
MSD-01.2A-01T (D/S)	0.000	0.228	0.106	0.106	2,416,953	No	203,584
MSD-01.2A-01T	0.250	0.238	0.106	0.106	4,695,456	No	203,584
MSD-01.2A-01T (BR/SE)	0.000	0.240	0.106	0.106	5,750,137	No	203,584
===>Grouped by Line:	**MSD-01.2B MSEP 31B DR HDR**				***Sorted By:Remaining Life***		
MSD-01.2B-01T (D/S)	0.000	0.228	0.106	0.106	2,416,953	No	203,584
MSD-01.2B-01T	0.250	0.238	0.106	0.106	4,695,456	No	203,584
MSD-01.2B-01T (BR/SE)	0.000	0.240	0.106	0.106	5,750,137	No	203,584
===>Grouped by Line:	**MSD-01.3A HDR to MSEP TK 31A**				***Sorted By:Remaining Life***		
MSD-01.3A-04V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3A-06V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3A-08N	0.250	0.220	0.106	0.106	1,624,492	No	203,584
MSD-01.3A-02P	0.250	0.222	0.106	0.106	2,443,119	Yes	203,584
MSD-01.3A-05P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3A-07P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3A-03E	0.250	0.363	0.106	0.106	3,949,920	Yes	203,584
MSD-01.3A-01T (BR/SE)	0.000	0.548	0.106	0.106	5,023,601	No	203,584
MSD-01.3A-01T	0.250	0.576	0.106	0.106	7,594,695	No	203,584
MSD-01.3A-01T (D/S)	0.000	0.414	0.106	0.106	8,978,399	No	203,584
===>Grouped by Line:	**MSD-01.3B HDR to MSEP TK 31B**				***Sorted By:Remaining Life***		
MSD-01.3B-04V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3B-06V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3B-01T (BR/SE)	0.000	0.212	0.106	0.106	1,214,135	No	203,584
MSD-01.3B-08N	0.250	0.220	0.106	0.106	1,624,492	No	203,584
MSD-01.3B-01T	0.250	0.224	0.106	0.106	1,904,990	No	203,584
MSD-01.3B-02P	0.250	0.230	0.106	0.106	2,612,389	No	203,584
MSD-01.3B-03E	0.250	0.318	0.106	0.106	3,259,563	Yes	203,584
MSD-01.3B-05P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3B-07P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3B-01T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
===>Grouped by Line:	**MSD-01.4A TK 31A to HD TK**				***Sorted By:Remaining Life***		
MSD-01.5A-27N	0.280	0.275	0.055	0.055	847,097	Yes	203,584
MSD-01.4A-01N	0.322	0.239	0.071	0.071	856,130	No	203,584
MSD-01.5A-15P_2	0.280	0.210	0.055	0.055	956,725	No	203,584
MSD-01.5A-28P_1	0.280	0.249	0.055	0.055	2,718,201	No	203,584
MSD-01.5A-06V	0.280	0.280	0.059	0.059	84,379,976	No	95,673
MSD-01.5A-28P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD-01.4A TK 31A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.5A-29P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.4A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-04P	0.349	0.349	0.071	0.071	100,000,000	No	95,673
MSD-01.5A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673
MSD-01.5A-03E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-10E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-12E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-14E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-16E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-18E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-20E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-22E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-26E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-24E	0.302	0.302	0.047	0.047	129,660,880	No	95,673
MSD-01.5A-05E	0.319	0.319	0.047	0.047	136,862,256	No	95,673
MSD-01.5A-08E	0.319	0.319	0.047	0.047	136,862,256	No	95,673
MSD-01.5A-01E (D/S)	0.000	0.280	0.047	0.047	143,339,136	No	95,673
MSD-01.5A-09P	0.317	0.317	0.055	0.055	152,749,424	No	95,673
MSD-01.5A-11P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-13P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-15P_1	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-17P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-19P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-21P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-23P	0.314	0.314	0.055	0.055	193,664,416	No	95,673
MSD-01.5A-25P	0.318	0.318	0.055	0.055	196,166,992	No	95,673
MSD-01.5A-07P	0.289	0.289	0.055	0.055	201,941,792	No	95,673
MSD-01.5A-04P	0.349	0.349	0.055	0.055	215,080,208	No	95,673
MSD-01.5A-02P	0.314	0.314	0.055	0.055	242,101,488	No	95,673
===>*Grouped by Line:* **MSD-01.4B TK 31B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.5B-28N	0.280	0.169	0.055	0.055	437,718	No	203,584
MSD-01.5B-14E	0.280	0.177	0.055	0.055	507,855	No	203,584
MSD-01.5B-11P_2	0.280	0.240	0.055	0.055	887,061	Yes	203,584
MSD-01.5B-12E	0.280	0.269	0.055	0.055	890,241	Yes	203,584
MSD-01.5B-15P	0.280	0.210	0.055	0.055	956,725	No	203,584
MSD-01.4B-01N	0.322	0.306	0.071	0.071	1,199,672	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.4B TK 31B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.5B-13P	0.280	0.255	0.055	0.055	1,230,129	Yes	203,584
MSD-01.5B-29P	0.280	0.249	0.055	0.055	2,718,201	No	203,584
MSD-01.5B-30P_1	0.280	0.249	0.055	0.055	2,718,201	No	203,584
MSD-01.5B-04V	0.280	0.280	0.059	0.059	84,379,976	No	95,673
MSD-01.4B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-07P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-08P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.5B-30P_2	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-31P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-03E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-08E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-10E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-24E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-26E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-06E	0.303	0.303	0.047	0.047	130,089,344	No	95,673
MSD-01.5B-11P_1	0.280	0.280	0.055	0.055	134,210,736	No	95,673
MSD-01.5B-16E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-18E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-20E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-22E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-01R (D/S)	0.000	0.280	0.047	0.047	138,857,152	No	95,673
MSD-01.5B-02P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5B-09P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5B-25P	0.302	0.302	0.055	0.055	186,070,896	No	95,673
MSD-01.5B-32P	0.302	0.302	0.055	0.055	186,070,896	No	95,673
MSD-01.5B-27P	0.311	0.311	0.055	0.055	191,778,144	No	95,673
MSD-01.5B-07P	0.313	0.313	0.055	0.055	193,036,576	No	95,673
MSD-01.5B-17P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-19P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-21P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-23P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-05P	0.307	0.307	0.055	0.055	215,068,896	No	95,673
MSD-01.4B-03E	0.322	0.322	0.061	0.061	224,043,296	No	95,673
MSD-01.4B-05E	0.322	0.322	0.061	0.061	224,043,296	No	95,673
MSD-01.5B-01R	0.000	0.322	0.061	0.061	236,850,560	No	95,673

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.791

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.1A_1 MSEP 31A to HDR**					***Sorted By:Flow Order***		
MSD-01.1A-01N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-02T (BR/SE)	0.000	0.347	0.106	0.106	8,759,712	No	203,584
MSD-01.1A-02T (D/S)	0.000	0.315	0.106	0.106	6,102,906	No	203,584
MSD-01.1A-03P	0.250	0.226	0.106	0.106	5,820,905	Yes	203,584
===>Grouped by Line: **MSD-01.1A_2 MSEP 31A to HDR**					***Sorted By:Flow Order***		
MSD-01.1A-04N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-08P	0.250	0.242	0.106	0.106	7,351,691	No	203,584
===>Grouped by Line: **MSD-01.1A_3 MSEP 31A to HDR**					***Sorted By:Flow Order***		
MSD-01.1A-05N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-06T (BR/SE)	0.000	0.238	0.106	0.106	4,823,524	No	203,584
MSD-01.1A-06T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1A-07P	0.250	0.241	0.106	0.106	6,573,794	No	203,584
===>Grouped by Line: **MSD-01.1B_1 MSEP 31B to HDR**					***Sorted By:Flow Order***		
MSD-01.1B-01N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-02T (BR/SE)	0.000	0.238	0.106	0.106	4,823,524	No	203,584
MSD-01.1B-02T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-03P	0.250	0.241	0.106	0.106	6,573,794	No	203,584
===>Grouped by Line: **MSD-01.1B_2 MSEP 31B to HDR**					***Sorted By:Flow Order***		
MSD-01.1B-04N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-08P	0.250	0.242	0.106	0.106	7,351,691	No	203,584
===>Grouped by Line: **MSD-01.1B_3 MSEP 31B to HDR**					***Sorted By:Flow Order***		
MSD-01.1B-05N	0.250	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-06T (BR/SE)	0.000	0.397	0.106	0.106	10,597,065	No	203,584
MSD-01.1B-06T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.1B-07P	0.250	0.241	0.106	0.106	6,573,794	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.2A MSEP 31A DR HDR**				***Sorted By:Flow Order***		
MSD-01.2A-01T	0.250	0.238	0.106	0.106	4,695,456	No	203,584
MSD-01.2A-01T (BR/SE)	0.000	0.240	0.106	0.106	5,750,137	No	203,584
MSD-01.2A-01T (D/S)	0.000	0.228	0.106	0.106	2,416,953	No	203,584
===>Grouped by Line:	**MSD-01.2B MSEP 31B DR HDR**				***Sorted By:Flow Order***		
MSD-01.2B-01T	0.250	0.238	0.106	0.106	4,695,456	No	203,584
MSD-01.2B-01T (BR/SE)	0.000	0.240	0.106	0.106	5,750,137	No	203,584
MSD-01.2B-01T (D/S)	0.000	0.228	0.106	0.106	2,416,953	No	203,584
===>Grouped by Line:	**MSD-01.3A HDR to MSEP TK 31A**				***Sorted By:Flow Order***		
MSD-01.3A-01T (D/S)	0.000	0.414	0.106	0.106	8,978,399	No	203,584
MSD-01.3A-01T	0.250	0.576	0.106	0.106	7,594,695	No	203,584
MSD-01.3A-01T (BR/SE)	0.000	0.548	0.106	0.106	5,023,601	No	203,584
MSD-01.3A-02P	0.250	0.222	0.106	0.106	2,443,119	Yes	203,584
MSD-01.3A-03E	0.250	0.363	0.106	0.106	3,949,920	Yes	203,584
MSD-01.3A-04V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3A-05P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3A-06V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3A-07P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3A-08N	0.250	0.220	0.106	0.106	1,624,492	No	203,584
===>Grouped by Line:	**MSD-01.3B HDR to MSEP TK 31B**				***Sorted By:Flow Order***		
MSD-01.3B-01T (D/S)	0.000	0.235	0.106	0.106	3,773,362	No	203,584
MSD-01.3B-01T	0.250	0.224	0.106	0.106	1,904,990	No	203,584
MSD-01.3B-01T (BR/SE)	0.000	0.212	0.106	0.106	1,214,135	No	203,584
MSD-01.3B-02P	0.250	0.230	0.106	0.106	2,612,389	No	203,584
MSD-01.3B-03E	0.250	0.318	0.106	0.106	3,259,563	Yes	203,584
MSD-01.3B-04V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3B-05P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3B-06V	0.250	0.212	0.113	0.113	1,129,077	No	203,584
MSD-01.3B-07P	0.250	0.233	0.106	0.106	3,303,225	No	203,584
MSD-01.3B-08N	0.250	0.220	0.106	0.106	1,624,492	No	203,584
===>Grouped by Line:	**MSD-01.4A TK 31A to HD TK**				***Sorted By:Flow Order***		
MSD-01.4A-01N	0.322	0.239	0.071	0.071	856,130	No	203,584
MSD-01.4A-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-03T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4A-04P	0.349	0.349	0.071	0.071	100,000,000	No	95,673
MSD-01.5A-01E	0.000	0.322	0.061	0.061	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.4A TK 31A to HD TK**					***Sorted By:Flow Order***		
MSD-01.5A-01E (D/S)	0.000	0.280	0.047	0.047	143,339,136	No	95,673
MSD-01.5A-02P	0.314	0.314	0.055	0.055	242,101,488	No	95,673
MSD-01.5A-03E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-04P	0.349	0.349	0.055	0.055	215,080,208	No	95,673
MSD-01.5A-05E	0.319	0.319	0.047	0.047	136,862,256	No	95,673
MSD-01.5A-06V	0.280	0.280	0.059	0.059	84,379,976	No	95,673
MSD-01.5A-07P	0.289	0.289	0.055	0.055	201,941,792	No	95,673
MSD-01.5A-08E	0.319	0.319	0.047	0.047	136,862,256	No	95,673
MSD-01.5A-09P	0.317	0.317	0.055	0.055	152,749,424	No	95,673
MSD-01.5A-10E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-11P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-12E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-13P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-14E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-15P_1	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-15P_2	0.280	0.210	0.055	0.055	956,725	No	203,584
MSD-01.5A-28P_1	0.280	0.249	0.055	0.055	2,718,201	No	203,584
MSD-01.5A-28P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-16E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-17P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-18E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-19P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-20E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-21P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5A-29P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5A-22E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-23P	0.314	0.314	0.055	0.055	193,664,416	No	95,673
MSD-01.5A-24E	0.302	0.302	0.047	0.047	129,660,880	No	95,673
MSD-01.5A-25P	0.318	0.318	0.055	0.055	196,166,992	No	95,673
MSD-01.5A-26E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5A-27N	0.280	0.275	0.055	0.055	847,097	Yes	203,584
===>Grouped by Line: **MSD-01.4B TK 31B to HD TK**					***Sorted By:Flow Order***		
MSD-01.4B-01N	0.322	0.306	0.071	0.071	1,199,672	No	95,673
MSD-01.4B-02P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-03E	0.322	0.322	0.061	0.061	224,043,296	No	95,673
MSD-01.4B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-05E	0.322	0.322	0.061	0.061	224,043,296	No	95,673
MSD-01.4B-07P	0.322	0.322	0.071	0.071	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.4B TK 31B to HD TK**					***Sorted By:Flow Order***		
MSD-01.4B-06T	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-06T (D/S)	0.000	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.4B-08P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.5B-01R	0.000	0.322	0.061	0.061	236,850,560	No	95,673
MSD-01.5B-01R (D/S)	0.000	0.280	0.047	0.047	138,857,152	No	95,673
MSD-01.5B-02P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5B-03E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-04V	0.280	0.280	0.059	0.059	84,379,976	No	95,673
MSD-01.5B-05P	0.307	0.307	0.055	0.055	215,068,896	No	95,673
MSD-01.5B-06E	0.303	0.303	0.047	0.047	130,089,344	No	95,673
MSD-01.5B-07P	0.313	0.313	0.055	0.055	193,036,576	No	95,673
MSD-01.5B-08E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-09P	0.280	0.280	0.055	0.055	171,813,200	No	95,673
MSD-01.5B-10E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-11P_1	0.280	0.280	0.055	0.055	134,210,736	No	95,673
MSD-01.5B-11P_2	0.280	0.240	0.055	0.055	887,061	Yes	203,584
MSD-01.5B-29P	0.280	0.249	0.055	0.055	2,718,201	No	203,584
MSD-01.5B-12E	0.280	0.269	0.055	0.055	890,241	Yes	203,584
MSD-01.5B-13P	0.280	0.255	0.055	0.055	1,230,129	Yes	203,584
MSD-01.5B-14E	0.280	0.177	0.055	0.055	507,855	No	203,584
MSD-01.5B-15P	0.280	0.210	0.055	0.055	956,725	No	203,584
MSD-01.5B-30P_1	0.280	0.249	0.055	0.055	2,718,201	No	203,584
MSD-01.5B-30P_2	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-16E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-17P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-18E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-19P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-20E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-21P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-22E	0.280	0.280	0.047	0.047	134,646,832	No	95,673
MSD-01.5B-23P	0.280	0.280	0.055	0.055	195,253,696	No	95,673
MSD-01.5B-31P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.5B-24E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-25P	0.302	0.302	0.055	0.055	186,070,896	No	95,673
MSD-01.5B-32P	0.302	0.302	0.055	0.055	186,070,896	No	95,673
MSD-01.5B-26E	0.280	0.280	0.047	0.047	120,081,360	No	95,673
MSD-01.5B-27P	0.311	0.311	0.055	0.055	191,778,144	No	95,673
MSD-01.5B-28N	0.280	0.169	0.055	0.055	437,718	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

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Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: MSD: MS 31 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.791

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**MSD-01.1A_1 MSEP 31A to HDR**										***Sorted By: Flow Order***	
MSD-01.1A-03P	0.250	8.5	73.0	8.5	73.0	0.226	MT	186,592	241.5	226.0	0.4	186,592
===>Grouped by Line:	**MSD-01.3A HDR to MSEP TK 31A**										***Sorted By: Flow Order***	
MSD-01.3A-02P	0.250	18.0	60.0	18.0	60.0	0.224	GW	153,469	232.0	224.0	2.4	153,469
MSD-01.3A-03E	0.250	24.6	55.0	24.6	55.0	0.366	GW	153,469	225.4	366.0	3.2	153,469
===>Grouped by Line:	**MSD-01.3B HDR to MSEP TK 31B**										***Sorted By: Flow Order***	
MSD-01.3B-03E	0.250	25.6	113.0	25.6	113.0	0.320	MT	170,123	224.4	320.0	2.2	170,123
===>Grouped by Line:	**MSD-01.4A TK 31A to HD TK**										***Sorted By: Flow Order***	
MSD-01.5A-01E	0.000	29.8	64.0	0.0	0.0	0.322	ER	107,911	322.0	322.0	0.1	0
MSD-01.5A-01E (D/S)	0.000	61.7	94.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.1	0
MSD-01.5A-05E	0.319	75.4	86.0	0.0	0.0	0.319	ER	107,911	319.0	319.0	0.2	0
MSD-01.5A-07P	0.289	44.0	44.0	0.0	0.0	0.289	ER	107,911	289.0	289.0	0.1	0
MSD-01.5A-08E	0.319	75.4	38.0	0.0	0.0	0.319	ER	107,911	319.0	319.0	0.2	0
MSD-01.5A-24E	0.302	74.6	64.0	0.0	0.0	0.302	ER	107,911	302.0	302.0	0.2	0
MSD-01.5A-26E	0.280	73.6	65.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.5A-27N	0.280	79.6	77.0	79.6	77.0	0.307	GW	78,649	200.4	307.0	31.7	78,649
===>Grouped by Line:	**MSD-01.4B TK 31B to HD TK**										***Sorted By: Flow Order***	
MSD-01.5B-06E	0.303	74.6	55.0	0.0	0.0	0.303	ER	107,911	303.0	303.0	0.2	0
MSD-01.5B-11P_2	0.280	71.5	46.0	71.5	46.0	0.257	GW	107,911	208.5	257.0	17.4	107,911
MSD-01.5B-12E	0.280	85.1	65.0	85.1	65.0	0.287	GW	121,025	194.9	287.0	17.8	121,025
MSD-01.5B-13P	0.280	57.5	45.0	57.5	45.0	0.267	GW	121,025	222.5	267.0	12.0	121,025
MSD-01.5B-26E	0.280	77.1	149.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 1:36:06PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 12.801

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.6A_1 MSEP 32A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6A-01N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-02T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-02T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-03P	60	1.740	0.829	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6A_2 MSEP 32A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6A-04N	31	3.862	1.840	382.2	0.241	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-08P	61	1.566	0.746	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6A_3 MSEP 32A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6A-06T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-05N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-06T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-07P	60	1.740	0.829	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6B_1 MSEP 32B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6B-01N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-02T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-02T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-03P	60	1.773	0.845	382.2	0.181	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6B_2 MSEP 32B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6B-04N	31	3.862	1.840	382.2	0.241	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-08P	61	1.596	0.760	382.2	0.181	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6B_3 MSEP 32B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.6B-06T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-05N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-06T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-07P	60	1.747	0.832	382.2	0.178	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.7A-01T (D/S)	12	4.282	2.040	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7A-01T	12	2.378	1.133	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7A-02P	62	2.089	0.995	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7A-01T (BR/SE)	12	1.972	0.939	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.7B MSEP 32B DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.7B-01T (D/S)	12	4.282	2.040	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7B-01T	12	2.378	1.133	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7B-02P	62	2.124	1.012	382.2	0.358	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7B-01T (BR/SE)	12	1.972	0.939	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.8A HDR to MSEP TK 32A***								***Sorted By: Average Wear Rate***		
MSD-01.8A-01T (BR/SE)	11	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-04V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-06V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-08N	30	5.936	2.828	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-03E	2	5.491	2.616	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-01T	11	5.222	2.488	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-02P	61	4.007	1.909	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-05P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-07P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-01T (D/S)	11	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.8B HDR to MSEP TK 32B***								***Sorted By: Average Wear Rate***		
MSD-01.8B-01T (BR/SE)	11	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-04V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-06V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-08N	30	5.936	2.828	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-03E	2	5.491	2.616	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-01T	11	5.222	2.488	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-02P	61	4.050	1.930	382.2	0.535	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-05P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-07P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-01T (D/S)	11	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 1:36:06PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 12.801

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.6A_1 MSEP 32A to HDR***									***Sorted By: Flow Order***	
MSD-01.6A-01N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-02T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-02T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-03P	60	1.740	0.829	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6A_2 MSEP 32A to HDR***									***Sorted By: Flow Order***	
MSD-01.6A-04N	31	3.862	1.840	382.2	0.241	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-08P	61	1.566	0.746	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6A_3 MSEP 32A to HDR***									***Sorted By: Flow Order***	
MSD-01.6A-05N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-06T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-06T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6A-07P	60	1.740	0.829	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6B_1 MSEP 32B to HDR***									***Sorted By: Flow Order***	
MSD-01.6B-01N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-02T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-02T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-03P	60	1.773	0.845	382.2	0.181	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6B_2 MSEP 32B to HDR***									***Sorted By: Flow Order***	
MSD-01.6B-04N	31	3.862	1.840	382.2	0.241	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-08P	61	1.596	0.760	382.2	0.181	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.6B_3 MSEP 32B to HDR***									***Sorted By: Flow Order***	
MSD-01.6B-05N	31	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-06T (BR/SE)	10	2.320	1.105	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-06T (D/S)	10	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.6B-07P	60	1.747	0.832	382.2	0.178	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***									***Sorted By: Flow Order***	
MSD-01.7A-01T	12	2.378	1.133	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.7A MSEP 32A DR HDR***									***Sorted By: Flow Order***	
MSD-01.7A-01T (BR/SE)	12	1.972	0.939	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7A-01T (D/S)	12	4.282	2.040	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7A-02P	62	2.089	0.995	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.7B MSEP 32B DR HDR***									***Sorted By: Flow Order***	
MSD-01.7B-01T	12	2.378	1.133	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7B-01T (BR/SE)	12	1.972	0.939	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7B-01T (D/S)	12	4.282	2.040	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.7B-02P	62	2.124	1.012	382.2	0.358	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.8A HDR to MSEP TK 32A***									***Sorted By: Flow Order***	
MSD-01.8A-01T (D/S)	11	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-01T	11	5.222	2.488	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-01T (BR/SE)	11	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-02P	61	4.007	1.909	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-03E	2	5.491	2.616	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-04V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-05P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-06V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-07P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8A-08N	30	5.936	2.828	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.8B HDR to MSEP TK 32B***									***Sorted By: Flow Order***	
MSD-01.8B-01T (D/S)	11	2.899	1.381	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-01T	11	5.222	2.488	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-01T (BR/SE)	11	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-02P	61	4.050	1.930	382.2	0.535	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-03E	2	5.491	2.616	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-04V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-05P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-06V	25	7.420	3.535	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-07P	58	3.265	1.556	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.8B-08N	30	5.936	2.828	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 1:36:06PM

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 12.801

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.6A_1 MSEP 32A to HDR**					***Sorted By:Remaining Life***		
MSD-01.6A-02T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-01N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-02T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6A-03P	0.250	0.210	0.106	0.106	1,099,381	No	203,584
===>Grouped by Line: **MSD-01.6A_2 MSEP 32A to HDR**					***Sorted By:Remaining Life***		
MSD-01.6A-08P	0.250	0.214	0.106	0.106	1,269,010	No	203,584
MSD-01.6A-04N	1.125	1.035	0.106	0.106	4,425,748	No	203,584
===>Grouped by Line: **MSD-01.6A_3 MSEP 32A to HDR**					***Sorted By:Remaining Life***		
MSD-01.6A-05N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-06T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-06T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6A-07P	0.250	0.210	0.106	0.106	1,099,381	No	203,584
===>Grouped by Line: **MSD-01.6B_1 MSEP 32B to HDR**					***Sorted By:Remaining Life***		
MSD-01.6B-02T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-01N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-02T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6B-03P	0.312	0.271	0.106	0.106	1,713,730	No	203,584
===>Grouped by Line: **MSD-01.6B_2 MSEP 32B to HDR**					***Sorted By:Remaining Life***		
MSD-01.6B-08P	0.312	0.275	0.106	0.106	1,951,620	No	203,584
MSD-01.6B-04N	1.125	1.035	0.106	0.106	4,425,748	No	203,584
===>Grouped by Line: **MSD-01.6B_3 MSEP 32B to HDR**					***Sorted By:Remaining Life***		
MSD-01.6B-05N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-06T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-06T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6B-07P	0.264	0.223	0.106	0.106	1,240,228	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.7A MSEP 32A DR HDR**				***Sorted By:Remaining Life***		
MSD-01.7A-02P	0.250	0.214	0.106	0.106	957,947	Yes	203,584
MSD-01.7A-01T (D/S)	0.000	0.433	0.106	0.106	1,408,015	Yes	203,584
MSD-01.7A-01T	0.250	0.323	0.106	0.106	1,678,532	No	203,584
MSD-01.7A-01T (BR/SE)	0.000	0.511	0.106	0.106	3,778,105	No	203,584
===>Grouped by Line:	**MSD-01.7B MSEP 32B DR HDR**				***Sorted By:Remaining Life***		
MSD-01.7B-01T (D/S)	0.000	0.341	0.106	0.106	1,013,006	Yes	203,584
MSD-01.7B-02P	0.304	0.255	0.106	0.106	1,290,930	No	203,584
MSD-01.7B-01T (BR/SE)	0.000	0.272	0.106	0.106	1,549,384	No	203,584
MSD-01.7B-01T	0.250	0.323	0.106	0.106	1,678,532	Yes	203,584
===>Grouped by Line:	**MSD-01.8A HDR to MSEP TK 32A**				***Sorted By:Remaining Life***		
MSD-01.8A-04V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8A-06V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8A-08N	0.250	0.176	0.106	0.106	216,710	Yes	203,584
MSD-01.8A-01T	0.250	0.195	0.106	0.106	315,120	Yes	203,584
MSD-01.8A-07P	0.250	0.174	0.106	0.106	386,190	No	203,584
MSD-01.8A-01T (BR/SE)	0.000	0.288	0.106	0.106	453,319	No	203,584
MSD-01.8A-02P	0.250	0.222	0.106	0.106	535,402	Yes	203,584
MSD-01.8A-05P	0.250	0.214	0.106	0.106	609,501	Yes	203,584
MSD-01.8A-03E	0.250	0.371	0.106	0.106	889,277	Yes	203,584
MSD-01.8A-01T (D/S)	0.000	0.277	0.106	0.106	1,087,426	Yes	203,584
===>Grouped by Line:	**MSD-01.8B HDR to MSEP TK 32B**				***Sorted By:Remaining Life***		
MSD-01.8B-04V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8B-06V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8B-05P	0.250	0.174	0.106	0.106	386,190	No	203,584
MSD-01.8B-03E	0.250	0.245	0.106	0.106	466,701	Yes	203,584
MSD-01.8B-02P	0.285	0.216	0.106	0.106	500,113	Yes	203,584
MSD-01.8B-01T (BR/SE)	0.000	0.318	0.106	0.106	526,782	No	203,584
MSD-01.8B-08N	0.250	0.291	0.106	0.106	573,881	Yes	203,584
MSD-01.8B-01T	0.250	0.306	0.106	0.106	705,700	Yes	203,584
MSD-01.8B-07P	0.250	0.240	0.106	0.106	758,897	Yes	203,584
MSD-01.8B-01T (D/S)	0.000	0.327	0.106	0.106	1,406,382	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 12.801

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.6A_1 MSEP 32A to HDR**					***Sorted By:Flow Order***		
MSD-01.6A-01N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-02T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6A-02T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-03P	0.250	0.210	0.106	0.106	1,099,381	No	203,584
===>Grouped by Line: **MSD-01.6A_2 MSEP 32A to HDR**					***Sorted By:Flow Order***		
MSD-01.6A-04N	1.125	1.035	0.106	0.106	4,425,748	No	203,584
MSD-01.6A-08P	0.250	0.214	0.106	0.106	1,269,010	No	203,584
===>Grouped by Line: **MSD-01.6A_3 MSEP 32A to HDR**					***Sorted By:Flow Order***		
MSD-01.6A-05N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-06T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6A-06T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6A-07P	0.250	0.210	0.106	0.106	1,099,381	No	203,584
===>Grouped by Line: **MSD-01.6B_1 MSEP 32B to HDR**					***Sorted By:Flow Order***		
MSD-01.6B-01N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-02T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6B-02T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-03P	0.312	0.271	0.106	0.106	1,713,730	No	203,584
===>Grouped by Line: **MSD-01.6B_2 MSEP 32B to HDR**					***Sorted By:Flow Order***		
MSD-01.6B-04N	1.125	1.035	0.106	0.106	4,425,748	No	203,584
MSD-01.6B-08P	0.312	0.275	0.106	0.106	1,951,620	No	203,584
===>Grouped by Line: **MSD-01.6B_3 MSEP 32B to HDR**					***Sorted By:Flow Order***		
MSD-01.6B-05N	0.250	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-06T (BR/SE)	0.000	0.196	0.106	0.106	717,714	No	203,584
MSD-01.6B-06T (D/S)	0.000	0.183	0.106	0.106	488,714	No	203,584
MSD-01.6B-07P	0.264	0.223	0.106	0.106	1,240,228	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.7A MSEP 32A DR HDR**				***Sorted By:Flow Order***		
MSD-01.7A-01T	0.250	0.323	0.106	0.106	1,678,532	No	203,584
MSD-01.7A-01T (BR/SE)	0.000	0.511	0.106	0.106	3,778,105	No	203,584
MSD-01.7A-01T (D/S)	0.000	0.433	0.106	0.106	1,408,015	Yes	203,584
MSD-01.7A-02P	0.250	0.214	0.106	0.106	957,947	Yes	203,584
===>Grouped by Line:	**MSD-01.7B MSEP 32B DR HDR**				***Sorted By:Flow Order***		
MSD-01.7B-01T	0.250	0.323	0.106	0.106	1,678,532	Yes	203,584
MSD-01.7B-01T (BR/SE)	0.000	0.272	0.106	0.106	1,549,384	No	203,584
MSD-01.7B-01T (D/S)	0.000	0.341	0.106	0.106	1,013,006	Yes	203,584
MSD-01.7B-02P	0.304	0.255	0.106	0.106	1,290,930	No	203,584
===>Grouped by Line:	**MSD-01.8A HDR to MSEP TK 32A**				***Sorted By:Flow Order***		
MSD-01.8A-01T (D/S)	0.000	0.277	0.106	0.106	1,087,426	Yes	203,584
MSD-01.8A-01T	0.250	0.195	0.106	0.106	315,120	Yes	203,584
MSD-01.8A-01T (BR/SE)	0.000	0.288	0.106	0.106	453,319	No	203,584
MSD-01.8A-02P	0.250	0.222	0.106	0.106	535,402	Yes	203,584
MSD-01.8A-03E	0.250	0.371	0.106	0.106	889,277	Yes	203,584
MSD-01.8A-04V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8A-05P	0.250	0.214	0.106	0.106	609,501	Yes	203,584
MSD-01.8A-06V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8A-07P	0.250	0.174	0.106	0.106	386,190	No	203,584
MSD-01.8A-08N	0.250	0.176	0.106	0.106	216,710	Yes	203,584
===>Grouped by Line:	**MSD-01.8B HDR to MSEP TK 32B**				***Sorted By:Flow Order***		
MSD-01.8B-01T (D/S)	0.000	0.327	0.106	0.106	1,406,382	Yes	203,584
MSD-01.8B-01T	0.250	0.306	0.106	0.106	705,700	Yes	203,584
MSD-01.8B-01T (BR/SE)	0.000	0.318	0.106	0.106	526,782	No	203,584
MSD-01.8B-02P	0.285	0.216	0.106	0.106	500,113	Yes	203,584
MSD-01.8B-03E	0.250	0.245	0.106	0.106	466,701	Yes	203,584
MSD-01.8B-04V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8B-05P	0.250	0.174	0.106	0.106	386,190	No	203,584
MSD-01.8B-06V	0.250	0.078	0.113	0.113	-100,517	No	203,584
MSD-01.8B-07P	0.250	0.240	0.106	0.106	758,897	Yes	203,584
MSD-01.8B-08N	0.250	0.291	0.106	0.106	573,881	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: MSD: MS 32 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 12.801

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**MSD-01.6B_3 MSEP 32B to HDR**										***Sorted By: Flow Order***	
MSD-01.6B-07P	0.264	29.0	62.0	29.0	62.0	0.264	ER	0	223.4	264.0	40.6	78,649
===>Grouped by Line:	**MSD-01.7A MSEP 32A DR HDR**										***Sorted By: Flow Order***	
MSD-01.7A-01T (D/S)	0.000	88.0	88.0	88.0	88.0	0.445	GW	153,469	162.0	445.0	11.5	153,469
MSD-01.7A-02P	0.250	42.9	67.0	42.9	67.0	0.220	MT	153,469	207.1	220.0	5.6	153,469
===>Grouped by Line:	**MSD-01.7B MSEP 32B DR HDR**										***Sorted By: Flow Order***	
MSD-01.7B-01T	0.250	48.9	43.0	48.9	43.0	0.329	MT	153,469	201.1	329.0	6.4	153,469
MSD-01.7B-01T (D/S)	0.000	88.0	88.0	88.0	88.0	0.353	MT	153,469	162.0	353.0	11.5	153,469
===>Grouped by Line:	**MSD-01.8A HDR to MSEP TK 32A**										***Sorted By: Flow Order***	
MSD-01.8A-01T (D/S)	0.000	57.4	86.0	57.4	86.0	0.287	MT	137,201	192.6	287.0	10.0	137,201
MSD-01.8A-01T	0.250	103.4	143.0	103.4	143.0	0.213	MT	137,201	146.6	213.0	17.9	137,201
MSD-01.8A-02P	0.250	79.3	68.0	79.3	68.0	0.236	GW	137,201	170.7	236.0	13.8	137,201
MSD-01.8A-03E	0.250	108.7	90.0	108.7	90.0	0.390	GW	137,201	141.3	390.0	18.9	137,201
MSD-01.8A-05P	0.250	64.7	61.0	64.7	61.0	0.225	GW	137,201	185.3	225.0	11.2	137,201
MSD-01.8A-08N	0.250	132.5	102.0	132.5	102.0	0.181	MT	186,592	117.5	181.0	5.5	186,592
===>Grouped by Line:	**MSD-01.8B HDR to MSEP TK 32B**										***Sorted By: Flow Order***	
MSD-01.8B-01T (D/S)	0.000	55.7	104.0	55.7	104.0	0.339	MT	121,025	194.3	339.0	11.7	121,025
MSD-01.8B-01T	0.250	100.4	73.0	100.4	73.0	0.327	MT	121,025	149.6	327.0	21.0	121,025
MSD-01.8B-02P	0.285	77.8	61.0	77.8	61.0	0.232	GW	121,025	207.2	232.0	16.3	121,025
MSD-01.8B-03E	0.250	122.5	178.0	122.5	178.0	0.250	MT	186,592	127.5	250.0	5.1	186,592
MSD-01.8B-07P	0.250	58.2	69.0	58.2	69.0	0.258	GW	92,205	191.8	258.0	17.7	92,205
MSD-01.8B-08N	0.250	105.8	57.0	105.8	57.0	0.323	GW	92,205	144.2	323.0	32.2	92,205

Notes:

[1] Predictions are for the time of last inspection (last known meas. wear).

[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.

[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.

[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).

[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:07:21AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 8.247

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.11A_1 MSEP 33A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11A-02T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-01N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-02T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-03P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11A_2 MSEP 33A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11A-04N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-08P	61	1.009	0.481	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11A_3 MSEP 33A to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11A-05N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-06T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-06T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-07P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11B_1 MSEP 33B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11B-02T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-01N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-02T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-03P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11B_2 MSEP 33B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11B-04N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-08P	61	1.009	0.481	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11B_3 MSEP 33B to HDR***								***Sorted By: Average Wear Rate***		
MSD-01.11B-05N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-06T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-06T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-07P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***								***Sorted By: Average Wear Rate***		

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.12A-01T (D/S)	12	2.759	1.314	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12A-01T	12	1.532	0.730	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12A-02P	62	1.346	0.641	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12A-01T (BR/SE)	12	1.270	0.605	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.12B MSEP 33B DR HDR***								***Sorted By: Average Wear Rate***		
MSD-01.12B-01T (D/S)	12	2.759	1.314	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12B-01T	12	1.532	0.730	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12B-02P	62	1.346	0.641	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12B-01T (BR/SE)	12	1.270	0.605	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.13A HDR to MSEP TK 33A***								***Sorted By: Average Wear Rate***		
MSD-01.13A-01T (BR/SE)	11	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-04V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-06V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-10N	30	3.824	1.822	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-08E	2	3.747	1.785	382.2	0.563	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-03E	2	3.537	1.685	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-01T	11	3.364	1.603	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-02P	61	2.581	1.230	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-09P	52	2.489	1.186	382.2	0.553	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-07P	58	2.115	1.008	382.2	0.533	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-05P	58	2.103	1.002	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-01T (D/S)	11	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.13B HDR to MSEP TK 33B***								***Sorted By: Average Wear Rate***		
MSD-01.13B-01T (BR/SE)	11	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-04V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-06V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-10N	30	3.824	1.822	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-03E	2	3.537	1.685	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-08E	2	3.537	1.685	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-01T	11	3.364	1.603	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-02P	61	2.581	1.230	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-09P	52	2.390	1.139	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-05P	58	2.103	1.002	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-07P	58	2.103	1.002	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-01T (D/S)	11	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:07:21AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 8.247

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.11A_1 MSEP 33A to HDR***									***Sorted By: Flow Order***	
MSD-01.11A-01N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-02T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-02T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-03P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11A_2 MSEP 33A to HDR***									***Sorted By: Flow Order***	
MSD-01.11A-04N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-08P	61	1.009	0.481	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11A_3 MSEP 33A to HDR***									***Sorted By: Flow Order***	
MSD-01.11A-05N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-06T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-06T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11A-07P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11B_1 MSEP 33B to HDR***									***Sorted By: Flow Order***	
MSD-01.11B-01N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-02T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-02T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-03P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11B_2 MSEP 33B to HDR***									***Sorted By: Flow Order***	
MSD-01.11B-04N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-08P	61	1.009	0.481	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.11B_3 MSEP 33B to HDR***									***Sorted By: Flow Order***	
MSD-01.11B-05N	31	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-06T (BR/SE)	10	1.494	0.712	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-06T (D/S)	10	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.11B-07P	60	1.121	0.534	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***									***Sorted By: Flow Order***	

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.12A MSEP 33A DR HDR***									***Sorted By: Flow Order***	
MSD-01.12A-01T	12	1.532	0.730	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12A-01T (BR/SE)	12	1.270	0.605	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12A-01T (D/S)	12	2.759	1.314	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12A-02P	62	1.346	0.641	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.12B MSEP 33B DR HDR***									***Sorted By: Flow Order***	
MSD-01.12B-01T	12	1.532	0.730	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12B-01T (BR/SE)	12	1.270	0.605	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12B-01T (D/S)	12	2.759	1.314	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.12B-02P	62	1.346	0.641	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.13A HDR to MSEP TK 33A***									***Sorted By: Flow Order***	
MSD-01.13A-01T (D/S)	11	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-01T	11	3.364	1.603	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-01T (BR/SE)	11	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-02P	61	2.581	1.230	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-03E	2	3.537	1.685	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-04V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-05P	58	2.103	1.002	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-06V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-07P	58	2.115	1.008	382.2	0.533	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-08E	2	3.747	1.785	382.2	0.563	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-09P	52	2.489	1.186	382.2	0.553	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13A-10N	30	3.824	1.822	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.13B HDR to MSEP TK 33B***									***Sorted By: Flow Order***	
MSD-01.13B-01T (D/S)	11	1.868	0.890	382.2	0.177	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-01T	11	3.364	1.603	382.2	0.351	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-01T (BR/SE)	11	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-02P	61	2.581	1.230	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-03E	2	3.537	1.685	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-04V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-05P	58	2.103	1.002	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-06V	25	4.780	2.277	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-07P	58	2.103	1.002	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-08E	2	3.537	1.685	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-09P	52	2.390	1.139	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD
MSD-01.13B-10N	30	3.824	1.822	382.2	0.529	0.0	12.750	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:07:21AM

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 8.247

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.11A_1 MSEP 33A to HDR**					***Sorted By:Remaining Life***		
MSD-01.11A-01N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-02T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-02T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11A-03P	0.250	0.224	0.106	0.106	1,942,576	No	203,584
===>Grouped by Line: **MSD-01.11A_2 MSEP 33A to HDR**					***Sorted By:Remaining Life***		
MSD-01.11A-04N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-08P	0.250	0.227	0.106	0.106	2,205,893	No	203,584
===>Grouped by Line: **MSD-01.11A_3 MSEP 33A to HDR**					***Sorted By:Remaining Life***		
MSD-01.11A-06T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-05N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-06T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11A-07P	0.250	0.224	0.106	0.106	1,942,576	No	203,584
===>Grouped by Line: **MSD-01.11B_1 MSEP 33B to HDR**					***Sorted By:Remaining Life***		
MSD-01.11B-01N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-02T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-02T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11B-03P	0.250	0.224	0.106	0.106	1,942,576	No	203,584
===>Grouped by Line: **MSD-01.11B_2 MSEP 33B to HDR**					***Sorted By:Remaining Life***		
MSD-01.11B-04N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-08P	0.250	0.227	0.106	0.106	2,205,893	No	203,584
===>Grouped by Line: **MSD-01.11B_3 MSEP 33B to HDR**					***Sorted By:Remaining Life***		
MSD-01.11B-06T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-05N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-06T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11B-07P	0.250	0.224	0.106	0.106	1,942,576	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.12A MSEP 33A DR HDR**				***Sorted By:Remaining Life***		
MSD-01.12A-01T (D/S)	0.000	0.186	0.106	0.106	535,494	No	203,584
MSD-01.12A-01T	0.250	0.214	0.106	0.106	1,306,760	No	203,584
MSD-01.12A-02P	0.250	0.219	0.106	0.106	1,546,416	No	203,584
MSD-01.12A-01T (BR/SE)	0.000	0.220	0.106	0.106	1,663,769	No	203,584
===>Grouped by Line:	**MSD-01.12B MSEP 33B DR HDR**				***Sorted By:Remaining Life***		
MSD-01.12B-01T (D/S)	0.000	0.186	0.106	0.106	535,494	No	203,584
MSD-01.12B-01T	0.250	0.214	0.106	0.106	1,306,760	No	203,584
MSD-01.12B-02P	0.250	0.219	0.106	0.106	1,546,416	No	203,584
MSD-01.12B-01T (BR/SE)	0.000	0.220	0.106	0.106	1,663,769	No	203,584
===>Grouped by Line:	**MSD-01.13A HDR to MSEP TK 33A**				***Sorted By:Remaining Life***		
MSD-01.13A-04V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13A-06V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13A-10N	0.250	0.161	0.106	0.106	267,239	No	203,584
MSD-01.13A-01T	0.250	0.172	0.106	0.106	362,193	No	203,584
MSD-01.13A-08E	0.437	0.235	0.106	0.106	632,897	Yes	203,584
MSD-01.13A-02P	0.250	0.210	0.106	0.106	744,102	Yes	203,584
MSD-01.13A-05P	0.250	0.201	0.106	0.106	835,492	No	203,584
MSD-01.13A-09P	0.382	0.229	0.106	0.106	909,769	Yes	203,584
MSD-01.13A-01T (BR/SE)	0.000	0.346	0.106	0.106	925,248	Yes	203,584
MSD-01.13A-07P	0.268	0.219	0.106	0.106	985,092	Yes	203,584
MSD-01.13A-01T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.13A-03E	0.250	0.345	0.106	0.106	1,243,760	Yes	203,584
===>Grouped by Line:	**MSD-01.13B HDR to MSEP TK 33B**				***Sorted By:Remaining Life***		
MSD-01.13B-04V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13B-06V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13B-10N	0.250	0.161	0.106	0.106	267,239	No	203,584
MSD-01.13B-08E	0.250	0.168	0.106	0.106	323,552	No	203,584
MSD-01.13B-01T (BR/SE)	0.000	0.276	0.106	0.106	653,978	No	203,584
MSD-01.13B-09P	0.250	0.194	0.106	0.106	683,958	No	203,584
MSD-01.13B-02P	0.250	0.218	0.106	0.106	801,913	Yes	203,584
MSD-01.13B-05P	0.250	0.201	0.106	0.106	835,492	No	203,584
MSD-01.13B-07P	0.250	0.201	0.106	0.106	835,492	No	203,584
MSD-01.13B-03E	0.250	0.320	0.106	0.106	1,113,872	Yes	203,584
MSD-01.13B-01T (D/S)	0.000	0.294	0.106	0.106	1,850,889	No	203,584
MSD-01.13B-01T	0.250	0.517	0.106	0.106	2,251,103	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 8.247

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.11A_1 MSEP 33A to HDR**					***Sorted By:Flow Order***		
MSD-01.11A-01N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-02T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11A-02T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-03P	0.250	0.224	0.106	0.106	1,942,576	No	203,584
===>Grouped by Line: **MSD-01.11A_2 MSEP 33A to HDR**					***Sorted By:Flow Order***		
MSD-01.11A-04N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-08P	0.250	0.227	0.106	0.106	2,205,893	No	203,584
===>Grouped by Line: **MSD-01.11A_3 MSEP 33A to HDR**					***Sorted By:Flow Order***		
MSD-01.11A-05N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-06T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11A-06T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11A-07P	0.250	0.224	0.106	0.106	1,942,576	No	203,584
===>Grouped by Line: **MSD-01.11B_1 MSEP 33B to HDR**					***Sorted By:Flow Order***		
MSD-01.11B-01N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-02T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11B-02T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-03P	0.250	0.224	0.106	0.106	1,942,576	No	203,584
===>Grouped by Line: **MSD-01.11B_2 MSEP 33B to HDR**					***Sorted By:Flow Order***		
MSD-01.11B-04N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-08P	0.250	0.227	0.106	0.106	2,205,893	No	203,584
===>Grouped by Line: **MSD-01.11B_3 MSEP 33B to HDR**					***Sorted By:Flow Order***		
MSD-01.11B-05N	0.250	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-06T (BR/SE)	0.000	0.215	0.106	0.106	1,350,111	No	203,584
MSD-01.11B-06T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.11B-07P	0.250	0.224	0.106	0.106	1,942,576	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD-01.12A MSEP 33A DR HDR**				***Sorted By:Flow Order***		
MSD-01.12A-01T	0.250	0.214	0.106	0.106	1,306,760	No	203,584
MSD-01.12A-01T (BR/SE)	0.000	0.220	0.106	0.106	1,663,769	No	203,584
MSD-01.12A-01T (D/S)	0.000	0.186	0.106	0.106	535,494	No	203,584
MSD-01.12A-02P	0.250	0.219	0.106	0.106	1,546,416	No	203,584
===>Grouped by Line:	**MSD-01.12B MSEP 33B DR HDR**				***Sorted By:Flow Order***		
MSD-01.12B-01T	0.250	0.214	0.106	0.106	1,306,760	No	203,584
MSD-01.12B-01T (BR/SE)	0.000	0.220	0.106	0.106	1,663,769	No	203,584
MSD-01.12B-01T (D/S)	0.000	0.186	0.106	0.106	535,494	No	203,584
MSD-01.12B-02P	0.250	0.219	0.106	0.106	1,546,416	No	203,584
===>Grouped by Line:	**MSD-01.13A HDR to MSEP TK 33A**				***Sorted By:Flow Order***		
MSD-01.13A-01T (D/S)	0.000	0.207	0.106	0.106	994,633	No	203,584
MSD-01.13A-01T	0.250	0.172	0.106	0.106	362,193	No	203,584
MSD-01.13A-01T (BR/SE)	0.000	0.346	0.106	0.106	925,248	Yes	203,584
MSD-01.13A-02P	0.250	0.210	0.106	0.106	744,102	Yes	203,584
MSD-01.13A-03E	0.250	0.345	0.106	0.106	1,243,760	Yes	203,584
MSD-01.13A-04V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13A-05P	0.250	0.201	0.106	0.106	835,492	No	203,584
MSD-01.13A-06V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13A-07P	0.268	0.219	0.106	0.106	985,092	Yes	203,584
MSD-01.13A-08E	0.437	0.235	0.106	0.106	632,897	Yes	203,584
MSD-01.13A-09P	0.382	0.229	0.106	0.106	909,769	Yes	203,584
MSD-01.13A-10N	0.250	0.161	0.106	0.106	267,239	No	203,584
===>Grouped by Line:	**MSD-01.13B HDR to MSEP TK 33B**				***Sorted By:Flow Order***		
MSD-01.13B-01T (D/S)	0.000	0.294	0.106	0.106	1,850,889	No	203,584
MSD-01.13B-01T	0.250	0.517	0.106	0.106	2,251,103	Yes	203,584
MSD-01.13B-01T (BR/SE)	0.000	0.276	0.106	0.106	653,978	No	203,584
MSD-01.13B-02P	0.250	0.218	0.106	0.106	801,913	Yes	203,584
MSD-01.13B-03E	0.250	0.320	0.106	0.106	1,113,872	Yes	203,584
MSD-01.13B-04V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13B-05P	0.250	0.201	0.106	0.106	835,492	No	203,584
MSD-01.13B-06V	0.250	0.139	0.113	0.113	99,540	No	203,584
MSD-01.13B-07P	0.250	0.201	0.106	0.106	835,492	No	203,584
MSD-01.13B-08E	0.250	0.168	0.106	0.106	323,552	No	203,584
MSD-01.13B-09P	0.250	0.194	0.106	0.106	683,958	No	203,584
MSD-01.13B-10N	0.250	0.161	0.106	0.106	267,239	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: MSD: MS 33 TO MSDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 8.247

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**MSD-01.13A HDR to MSEP TK 33A**											***Sorted By: Flow Order***
MSD-01.13A-01T (BR/SE)	0.000	85.2	148.0	85.2	148.0	0.372	GW	92,205	164.8	372.0	25.9	92,205
MSD-01.13A-02P	0.250	46.0	46.0	46.0	46.0	0.224	GW	92,205	204.0	224.0	14.0	92,205
MSD-01.13A-03E	0.250	63.0	89.0	63.0	89.0	0.364	GW	92,205	187.0	364.0	19.2	92,205
MSD-01.13A-07P	0.268	35.2	32.0	35.2	32.0	0.268	ER	0	218.9	268.0	49.1	78,649
MSD-01.13A-08E	0.437	83.6	127.0	83.6	127.0	0.238	MT	186,592	353.4	238.0	3.5	186,592
MSD-01.13A-09P	0.382	55.5	36.0	55.5	36.0	0.231	MT	186,592	326.5	231.0	2.3	186,592
===>Grouped by Line:	**MSD-01.13B HDR to MSEP TK 33B**											***Sorted By: Flow Order***
MSD-01.13B-01T	0.250	66.6	65.0	66.6	65.0	0.529	MT	137,201	183.4	529.0	11.6	137,201
MSD-01.13B-02P	0.250	51.1	48.0	51.1	48.0	0.227	GW	137,201	198.9	227.0	8.9	137,201
MSD-01.13B-03E	0.250	70.0	111.0	70.0	111.0	0.332	GW	137,201	180.0	332.0	12.2	137,201

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 1:59:27PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 4.355

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.10A-25N	30	7.466	3.557	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.9A-01N	31	5.600	2.668	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10A-26P_2	9	2.053	0.978	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-06V	25	0.031	0.036	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-22E	2	0.024	0.027	382.2	2.221	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-03E	2	0.024	0.027	382.2	2.210	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-08E	2	0.024	0.027	382.2	2.207	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-05E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-12E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-14E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-16E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-18E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-20E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-24E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-10E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-01E (D/S)	16	0.019	0.022	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-21P	52	0.016	0.018	382.2	2.188	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-09P	52	0.016	0.018	382.2	2.210	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-23P	52	0.016	0.018	382.2	2.204	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-04P	52	0.016	0.018	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-13P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-15P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-17P	52	0.016	0.018	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-19P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-07P	58	0.014	0.016	382.2	2.186	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-11P	51	0.014	0.016	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-02P	66	0.013	0.015	382.2	2.202	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.9A-03T (D/S)	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.9A-03T	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9A-02P	61	0.010	0.012	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10A-01E	16	0.009	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9A-04P	65	0.008	0.009	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10A-26P_1	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-26P_3	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-27P	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.10B-27N	30	7.466	3.557	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-11E	2	6.906	3.290	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-13E	2	6.906	3.290	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.9B-01N	31	5.600	2.668	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10B-12P	52	4.666	2.223	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-14P	52	4.666	2.223	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-28P	9	2.053	0.978	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-29P_1	9	2.053	0.978	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-05V	25	0.031	0.036	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-07E	2	0.024	0.027	382.2	2.238	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-25E	2	0.024	0.027	382.2	2.220	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-02E	4	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-04E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-09E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-23E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-15E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-17E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-19E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-21E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-03P	54	0.020	0.023	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-01E (D/S)	16	0.019	0.022	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-26P	52	0.016	0.018	382.2	2.182	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-08P	52	0.016	0.018	382.2	2.204	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-24P	52	0.016	0.018	382.2	2.198	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-10P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-06P	58	0.014	0.016	382.2	2.195	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-16P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-18P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.10B-20P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-22P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.9B-03T (D/S)	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-03T	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-02P	61	0.010	0.012	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10B-01E	16	0.009	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-04P	65	0.008	0.009	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10B-29P_2	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-30P	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 1:59:27PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 4.355

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***									***Sorted By: Flow Order***	
MSD-01.9A-01N	31	5.600	2.668	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9A-02P	61	0.010	0.012	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9A-03T	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9A-03T (D/S)	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9A-04P	65	0.008	0.009	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10A-01E	16	0.009	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10A-01E (D/S)	16	0.019	0.022	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-02P	66	0.013	0.015	382.2	2.202	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-03E	2	0.024	0.027	382.2	2.210	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-04P	52	0.016	0.018	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-05E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-06V	25	0.031	0.036	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-07P	58	0.014	0.016	382.2	2.186	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-08E	2	0.024	0.027	382.2	2.207	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-09P	52	0.016	0.018	382.2	2.210	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-10E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-11P	51	0.014	0.016	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-12E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-13P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-26P_1	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-26P_2	9	2.053	0.978	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-26P_3	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-14E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-15P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-16E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-17P	52	0.016	0.018	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-18E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-19P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9A TK 32A to HD TK***									***Sorted By: Flow Order***	
MSD-01.10A-27P	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-20E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-21P	52	0.016	0.018	382.2	2.188	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-22E	2	0.024	0.027	382.2	2.221	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-23P	52	0.016	0.018	382.2	2.204	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-24E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10A-25N	30	7.466	3.557	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***									***Sorted By: Flow Order***	
MSD-01.9B-01N	31	5.600	2.668	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-02P	61	0.010	0.012	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-03T	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-03T (D/S)	15	0.011	0.013	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.9B-04P	65	0.008	0.009	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10B-01E	16	0.009	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.10B-01E (D/S)	16	0.019	0.022	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-02E	4	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-03P	54	0.020	0.023	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-04E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-05V	25	0.031	0.036	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-06P	58	0.014	0.016	382.2	2.195	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-07E	2	0.024	0.027	382.2	2.238	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-08P	52	0.016	0.018	382.2	2.204	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-09E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-10P	52	0.016	0.018	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-28P	9	2.053	0.978	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-11E	2	6.906	3.290	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-12P	52	4.666	2.223	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-13E	2	6.906	3.290	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-14P	52	4.666	2.223	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-29P_1	9	2.053	0.978	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-29P_2	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-15E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-16P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-17E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-18P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-19E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.9B TK 32B to HD TK***									***Sorted By: Flow Order***	
MSD-01.10B-20P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-21E	1	0.021	0.024	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-22P	51	0.014	0.016	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-30P	9	0.007	0.008	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-23E	2	0.023	0.026	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-24P	52	0.016	0.018	382.2	2.198	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-25E	2	0.024	0.027	382.2	2.220	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-26P	52	0.016	0.018	382.2	2.182	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.10B-27N	30	7.466	3.557	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 1:59:27PM

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 4.355

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.9A-01N	0.322	0.192	0.071	0.071	395,416	No	203,584
MSD-01.10A-25N	0.280	0.229	0.055	0.055	427,928	Yes	203,584
MSD-01.10A-26P_2	0.280	0.232	0.055	0.055	1,589,054	No	203,584
MSD-01.10A-06V	0.280	0.280	0.059	0.059	54,059,796	No	95,673
MSD-01.10A-05E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-12E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-14E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-16E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-18E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-20E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-24E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-08E	0.307	0.307	0.047	0.047	84,455,440	No	95,673
MSD-01.10A-03E	0.309	0.309	0.047	0.047	85,000,464	No	95,673
MSD-01.10A-10E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10A-22E	0.317	0.317	0.047	0.047	87,165,072	No	95,673
MSD-01.10A-01E (D/S)	0.000	0.280	0.047	0.047	91,854,208	No	95,673
MSD-01.9A-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10A-26P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-26P_3	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-27P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-04P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-13P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-15P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-17P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-19P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-23P	0.289	0.289	0.055	0.055	113,879,656	No	95,673
MSD-01.10A-09P	0.293	0.293	0.055	0.055	115,541,376	No	95,673
MSD-01.10A-21P	0.294	0.294	0.055	0.055	115,955,360	No	95,673
MSD-01.10A-11P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10A-07P	0.293	0.293	0.055	0.055	131,308,432	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10A-02P	0.304	0.304	0.055	0.055	150,100,288	No	95,673
MSD-01.9A-03T	0.322	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9A-03T (D/S)	0.000	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9A-02P	0.322	0.322	0.071	0.071	189,141,456	No	95,673
MSD-01.10A-01E	0.000	0.322	0.061	0.061	212,550,112	No	95,673
===>Grouped by Line: **MSD-01.9B TK 32B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10B-27N	0.280	0.106	0.055	0.055	127,202	No	203,584
MSD-01.10B-13E	0.280	0.120	0.055	0.055	172,161	No	203,584
MSD-01.10B-11E	0.280	0.188	0.055	0.055	355,084	Yes	203,584
MSD-01.9B-01N	0.322	0.192	0.071	0.071	395,416	No	203,584
MSD-01.10B-14P	0.280	0.172	0.055	0.055	459,900	No	203,584
MSD-01.10B-12P	0.280	0.209	0.055	0.055	608,317	Yes	203,584
MSD-01.10B-28P	0.280	0.232	0.055	0.055	1,589,054	No	203,584
MSD-01.10B-29P_1	0.280	0.232	0.055	0.055	1,589,054	No	203,584
MSD-01.10B-05V	0.280	0.280	0.059	0.059	54,059,796	No	95,673
MSD-01.10B-02E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-04E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-09E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-23E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-03P	0.280	0.280	0.055	0.055	86,002,664	No	95,673
MSD-01.10B-15E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-17E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-19E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-21E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-25E	0.316	0.316	0.047	0.047	86,895,848	No	95,673
MSD-01.10B-07E	0.328	0.328	0.047	0.047	90,101,112	No	95,673
MSD-01.10B-01E (D/S)	0.000	0.280	0.047	0.047	91,854,208	No	95,673
MSD-01.9B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10B-29P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-30P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-10P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10B-24P	0.285	0.285	0.055	0.055	112,208,656	No	95,673
MSD-01.10B-08P	0.289	0.289	0.055	0.055	113,879,656	No	95,673
MSD-01.10B-26P	0.290	0.290	0.055	0.055	114,295,952	No	95,673
MSD-01.10B-16P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-18P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-20P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-22P	0.280	0.280	0.055	0.055	125,132,864	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD-01.9B TK 32B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.10B-06P	0.299	0.299	0.055	0.055	134,121,200	No	95,673
MSD-01.9B-03T	0.322	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9B-03T (D/S)	0.000	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9B-02P	0.322	0.322	0.071	0.071	189,141,456	No	95,673
MSD-01.10B-01E	0.000	0.322	0.061	0.061	212,550,112	No	95,673

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 4.355

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Flow Order***		
MSD-01.9A-01N	0.322	0.192	0.071	0.071	395,416	No	203,584
MSD-01.9A-02P	0.322	0.322	0.071	0.071	189,141,456	No	95,673
MSD-01.9A-03T	0.322	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9A-03T (D/S)	0.000	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9A-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10A-01E	0.000	0.322	0.061	0.061	212,550,112	No	95,673
MSD-01.10A-01E (D/S)	0.000	0.280	0.047	0.047	91,854,208	No	95,673
MSD-01.10A-02P	0.304	0.304	0.055	0.055	150,100,288	No	95,673
MSD-01.10A-03E	0.309	0.309	0.047	0.047	85,000,464	No	95,673
MSD-01.10A-04P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-05E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-06V	0.280	0.280	0.059	0.059	54,059,796	No	95,673
MSD-01.10A-07P	0.293	0.293	0.055	0.055	131,308,432	No	95,673
MSD-01.10A-08E	0.307	0.307	0.047	0.047	84,455,440	No	95,673
MSD-01.10A-09P	0.293	0.293	0.055	0.055	115,541,376	No	95,673
MSD-01.10A-10E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10A-11P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10A-12E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-13P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-26P_1	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-26P_2	0.280	0.232	0.055	0.055	1,589,054	No	203,584
MSD-01.10A-26P_3	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-14E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-15P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-16E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-17P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-18E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-19P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10A-27P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10A-20E	0.280	0.280	0.047	0.047	76,945,352	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.9A TK 32A to HD TK**					***Sorted By:Flow Order***		
MSD-01.10A-21P	0.294	0.294	0.055	0.055	115,955,360	No	95,673
MSD-01.10A-22E	0.317	0.317	0.047	0.047	87,165,072	No	95,673
MSD-01.10A-23P	0.289	0.289	0.055	0.055	113,879,656	No	95,673
MSD-01.10A-24E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10A-25N	0.280	0.229	0.055	0.055	427,928	Yes	203,584
===>Grouped by Line: **MSD-01.9B TK 32B to HD TK**					***Sorted By:Flow Order***		
MSD-01.9B-01N	0.322	0.192	0.071	0.071	395,416	No	203,584
MSD-01.9B-02P	0.322	0.322	0.071	0.071	189,141,456	No	95,673
MSD-01.9B-03T	0.322	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9B-03T (D/S)	0.000	0.322	0.071	0.071	170,218,928	No	95,673
MSD-01.9B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.10B-01E	0.000	0.322	0.061	0.061	212,550,112	No	95,673
MSD-01.10B-01E (D/S)	0.000	0.280	0.047	0.047	91,854,208	No	95,673
MSD-01.10B-02E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-03P	0.280	0.280	0.055	0.055	86,002,664	No	95,673
MSD-01.10B-04E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-05V	0.280	0.280	0.059	0.059	54,059,796	No	95,673
MSD-01.10B-06P	0.299	0.299	0.055	0.055	134,121,200	No	95,673
MSD-01.10B-07E	0.328	0.328	0.047	0.047	90,101,112	No	95,673
MSD-01.10B-08P	0.289	0.289	0.055	0.055	113,879,656	No	95,673
MSD-01.10B-09E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-10P	0.280	0.280	0.055	0.055	110,106,872	No	95,673
MSD-01.10B-28P	0.280	0.232	0.055	0.055	1,589,054	No	203,584
MSD-01.10B-11E	0.280	0.188	0.055	0.055	355,084	Yes	203,584
MSD-01.10B-12P	0.280	0.209	0.055	0.055	608,317	Yes	203,584
MSD-01.10B-13E	0.280	0.120	0.055	0.055	172,161	No	203,584
MSD-01.10B-14P	0.280	0.172	0.055	0.055	459,900	No	203,584
MSD-01.10B-29P_1	0.280	0.232	0.055	0.055	1,589,054	No	203,584
MSD-01.10B-29P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.10B-15E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-16P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-17E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-18P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-19E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-20P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-21E	0.280	0.280	0.047	0.047	86,282,216	No	95,673
MSD-01.10B-22P	0.280	0.280	0.055	0.055	125,132,864	No	95,673
MSD-01.10B-30P	0.280	0.280	0.055	0.055	100,000,000	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD-01.9B TK 32B to HD TK**					***Sorted By:Flow Order***		
MSD-01.10B-23E	0.280	0.280	0.047	0.047	76,945,352	No	95,673
MSD-01.10B-24P	0.285	0.285	0.055	0.055	112,208,656	No	95,673
MSD-01.10B-25E	0.316	0.316	0.047	0.047	86,895,848	No	95,673
MSD-01.10B-26P	0.290	0.290	0.055	0.055	114,295,952	No	95,673
MSD-01.10B-27N	0.280	0.106	0.055	0.055	127,202	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: MSD: MSDT 32 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 4.355

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**MSD-01.9A TK 32A to HD TK**											***Sorted By: Flow Order***
MSD-01.10A-03E	0.309	116.9	103.0	0.0	0.0	0.309	ER	107,911	309.0	309.0	0.3	0
MSD-01.10A-07P	0.293	68.8	48.0	0.0	0.0	0.293	ER	107,911	293.0	293.0	0.2	0
MSD-01.10A-08E	0.307	116.7	166.0	0.0	0.0	0.307	ER	107,911	307.0	307.0	0.3	0
MSD-01.10A-22E	0.317	125.9	158.0	0.0	0.0	0.317	ER	107,911	317.0	317.0	0.3	0
MSD-01.10A-24E	0.280	117.0	224.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.3	0
MSD-01.10A-25N	0.280	124.1	111.0	124.1	111.0	0.278	GW	78,649	155.9	278.0	49.4	78,649
===>Grouped by Line:	**MSD-01.9B TK 32B to HD TK**											***Sorted By: Flow Order***
MSD-01.10B-01E	0.000	49.9	86.0	0.0	0.0	0.322	ER	107,911	322.0	322.0	0.1	0
MSD-01.10B-01E (D/S)	0.000	103.1	119.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.10B-02E	0.280	123.1	102.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.3	0
MSD-01.10B-03P	0.280	106.4	135.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.10B-04E	0.280	123.1	82.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.3	0
MSD-01.10B-06P	0.299	69.1	70.0	0.0	0.0	0.299	ER	107,911	299.0	299.0	0.2	0
MSD-01.10B-07E	0.328	118.3	83.0	0.0	0.0	0.328	ER	107,911	328.0	328.0	0.3	0
MSD-01.10B-08P	0.289	78.0	78.0	0.0	0.0	0.289	ER	107,911	289.0	289.0	0.2	0
MSD-01.10B-11E	0.280	132.7	93.0	132.7	93.0	0.216	GW	121,025	147.3	216.0	27.8	121,025
MSD-01.10B-12P	0.280	89.7	70.0	89.7	70.0	0.228	GW	121,025	190.3	228.0	18.8	121,025
MSD-01.10B-25E	0.316	117.4	136.0	0.0	0.0	0.316	ER	107,911	316.0	316.0	0.3	0

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 2:41:15PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.770

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14A TK 33A to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.15A-20N	30	6.463	3.079	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.14A-01N	31	4.848	2.310	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15A-02V	25	0.027	0.031	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-04E	2	0.021	0.024	382.2	2.258	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-13E	2	0.021	0.024	382.2	2.247	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-15E	2	0.021	0.024	382.2	2.242	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-05E	4	0.021	0.024	382.2	2.229	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-09E	2	0.020	0.023	382.2	2.199	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-11E	2	0.020	0.023	382.2	2.182	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-07E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-17E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-19E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-06P	54	0.017	0.020	382.2	2.198	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-01E (D/S)	16	0.017	0.019	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-10P	52	0.014	0.016	382.2	2.205	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-16P	52	0.014	0.016	382.2	2.173	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-14P	52	0.014	0.016	382.2	2.169	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-08P	52	0.014	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-18P	52	0.014	0.015	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-12P	52	0.013	0.015	382.2	2.179	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-03P	58	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.14A-03T (D/S)	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-03T	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-02P	61	0.009	0.010	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15A-01E	16	0.008	0.009	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-04P	65	0.007	0.007	382.2	1.257	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15A-22P	9	0.006	0.007	382.2	2.169	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-21P	9	0.006	0.007	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.15B-29N	30	6.463	3.079	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-13E	2	5.979	2.848	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-15E	2	5.979	2.848	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.14B-01N	31	4.848	2.310	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15B-12P_2	52	4.040	1.925	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-14P	52	4.040	1.925	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-16P	52	4.040	1.925	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-30P	9	1.777	0.847	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-31P_1	9	1.777	0.847	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-05V	25	0.027	0.031	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-27E	2	0.021	0.024	382.2	2.258	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-07E	4	0.020	0.023	382.2	2.210	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-02E	4	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-04E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-09E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-25E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-11E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-17E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-19E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-21E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-23E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-08P	54	0.018	0.020	382.2	2.219	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-03P	54	0.017	0.020	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-01E (D/S)	16	0.017	0.019	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-28P	52	0.014	0.016	382.2	2.170	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-10P	52	0.014	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-26P	52	0.014	0.015	382.2	2.188	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-12P_1	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-18P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-20P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-22P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-24P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-06P	58	0.012	0.014	382.2	2.146	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.14B-03T (D/S)	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14B-03T	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14B-02P	61	0.009	0.010	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15B-01E	16	0.008	0.009	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***								***Sorted By: Average Wear Rate***		
MSD-01.14B-04P	65	0.007	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15B-31P_2	9	0.006	0.007	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-32P	9	0.006	0.007	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 2:41:15PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.770

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14A TK 33A to HD TK***									***Sorted By: Flow Order***	
MSD-01.14A-01N	31	4.848	2.310	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-02P	61	0.009	0.010	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-03T	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-03T (D/S)	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14A-04P	65	0.007	0.007	382.2	1.257	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15A-01E	16	0.008	0.009	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15A-01E (D/S)	16	0.017	0.019	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-02V	25	0.027	0.031	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-03P	58	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-04E	2	0.021	0.024	382.2	2.258	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-05E	4	0.021	0.024	382.2	2.229	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-06P	54	0.017	0.020	382.2	2.198	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-07E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-08P	52	0.014	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-21P	9	0.006	0.007	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-09E	2	0.020	0.023	382.2	2.199	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-10P	52	0.014	0.016	382.2	2.205	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-11E	2	0.020	0.023	382.2	2.182	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-12P	52	0.013	0.015	382.2	2.179	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-13E	2	0.021	0.024	382.2	2.247	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-14P	52	0.014	0.016	382.2	2.169	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-22P	9	0.006	0.007	382.2	2.169	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-15E	2	0.021	0.024	382.2	2.242	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-16P	52	0.014	0.016	382.2	2.173	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-17E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-18P	52	0.014	0.015	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-19E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15A-20N	30	6.463	3.079	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***									***Sorted By: Flow Order***	
MSD-01.14B-01N	31	4.848	2.310	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14B-02P	61	0.009	0.010	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14B-03T	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14B-03T (D/S)	15	0.010	0.011	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.14B-04P	65	0.007	0.007	382.2	1.255	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15B-01E	16	0.008	0.009	382.2	1.251	0.0	8.625	6.935	0.000	73.20	ARD
MSD-01.15B-01E (D/S)	16	0.017	0.019	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-02E	4	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-03P	54	0.017	0.020	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-04E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-05V	25	0.027	0.031	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-06P	58	0.012	0.014	382.2	2.146	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-07E	4	0.020	0.023	382.2	2.210	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-08P	54	0.018	0.020	382.2	2.219	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-09E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-10P	52	0.014	0.015	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-11E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-12P_1	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-12P_2	52	4.040	1.925	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-30P	9	1.777	0.847	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-13E	2	5.979	2.848	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-14P	52	4.040	1.925	382.2	2.191	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-15E	2	5.979	2.848	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-16P	52	4.040	1.925	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-31P_1	9	1.777	0.847	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-31P_2	9	0.006	0.007	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-17E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-18P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-19E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-20P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-21E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-22P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-23E	1	0.018	0.020	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-24P	51	0.012	0.014	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-32P	9	0.006	0.007	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-25E	2	0.020	0.023	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-01.14B TK 33B to HD TK***									***Sorted By: Flow Order***	
MSD-01.15B-26P	52	0.014	0.015	382.2	2.188	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-27E	2	0.021	0.024	382.2	2.258	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-28P	52	0.014	0.016	382.2	2.170	0.0	6.625	6.935	0.000	73.20	ARD
MSD-01.15B-29N	30	6.463	3.079	382.2	2.168	0.0	6.625	6.935	0.000	73.20	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 2:41:15PM

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.770

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14A TK 33A to HD TK**					***Sorted By:Remaining Life***		
MSD-01.14A-01N	0.322	0.209	0.071	0.071	523,021	No	203,584
MSD-01.15A-20N	0.280	0.245	0.055	0.055	541,615	Yes	203,584
MSD-01.15A-02V	0.280	0.280	0.059	0.059	62,457,708	No	95,673
MSD-01.15A-07E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15A-17E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15A-19E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15A-11E	0.290	0.290	0.047	0.047	92,144,168	No	95,673
MSD-01.15A-09E	0.302	0.302	0.047	0.047	95,986,120	No	95,673
MSD-01.14A-04P	0.324	0.324	0.071	0.071	100,000,000	No	95,673
MSD-01.15A-21P	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-22P	0.281	0.281	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-06P	0.285	0.285	0.055	0.055	101,251,760	No	95,673
MSD-01.15A-05E	0.322	0.322	0.047	0.047	102,245,984	No	95,673
MSD-01.15A-15E	0.331	0.331	0.047	0.047	105,004,800	No	95,673
MSD-01.15A-13E	0.334	0.334	0.047	0.047	105,916,440	No	95,673
MSD-01.15A-01E (D/S)	0.000	0.280	0.047	0.047	106,114,208	No	95,673
MSD-01.15A-04E	0.341	0.341	0.047	0.047	108,028,096	No	95,673
MSD-01.15A-12P	0.272	0.272	0.055	0.055	123,278,576	No	95,673
MSD-01.15A-08P	0.280	0.280	0.055	0.055	127,197,936	No	95,673
MSD-01.15A-18P	0.280	0.280	0.055	0.055	127,197,936	No	95,673
MSD-01.15A-14P	0.281	0.281	0.055	0.055	127,684,848	No	95,673
MSD-01.15A-16P	0.284	0.284	0.055	0.055	129,141,520	No	95,673
MSD-01.15A-10P	0.306	0.306	0.055	0.055	139,639,952	No	95,673
MSD-01.15A-03P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.14A-03T (D/S)	0.000	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14A-03T	0.322	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14A-02P	0.322	0.322	0.071	0.071	218,491,152	No	95,673
MSD-01.15A-01E	0.000	0.322	0.061	0.061	245,530,592	No	95,673
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD-01.14B TK 33B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.15B-15E	0.280	0.174	0.055	0.055	366,277	Yes	203,584
MSD-01.15B-13E	0.280	0.214	0.055	0.055	489,290	Yes	203,584
MSD-01.14B-01N	0.322	0.209	0.071	0.071	523,021	No	203,584
MSD-01.15B-29N	0.280	0.248	0.055	0.055	550,149	Yes	203,584
MSD-01.15B-12P_2	0.280	0.186	0.055	0.055	597,507	No	203,584
MSD-01.15B-14P	0.280	0.207	0.055	0.055	691,387	Yes	203,584
MSD-01.15B-16P	0.280	0.258	0.055	0.055	923,513	Yes	203,584
MSD-01.15B-30P	0.280	0.239	0.055	0.055	1,901,798	No	203,584
MSD-01.15B-31P_1	0.280	0.239	0.055	0.055	1,901,798	No	203,584
MSD-01.15B-05V	0.280	0.280	0.059	0.059	62,457,708	No	95,673
MSD-01.15B-02E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-04E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-09E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-25E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-07E	0.309	0.309	0.047	0.047	98,197,408	No	95,673
MSD-01.15B-03P	0.280	0.280	0.055	0.055	99,355,064	No	95,673
MSD-01.15B-11E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-17E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-19E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-21E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-23E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.14B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.15B-31P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-32P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-01E (D/S)	0.000	0.280	0.047	0.047	106,114,208	No	95,673
MSD-01.15B-08P	0.299	0.299	0.055	0.055	106,493,008	No	95,673
MSD-01.15B-27E	0.341	0.341	0.047	0.047	108,028,096	No	95,673
MSD-01.15B-26P	0.278	0.278	0.055	0.055	126,222,136	No	95,673
MSD-01.15B-10P	0.280	0.280	0.055	0.055	127,197,936	No	95,673
MSD-01.15B-28P	0.282	0.282	0.055	0.055	128,171,056	No	95,673
MSD-01.15B-06P	0.265	0.265	0.055	0.055	136,163,424	No	95,673
MSD-01.15B-12P_1	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-18P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-20P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-22P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-24P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.14B-03T	0.322	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14B-03T (D/S)	0.000	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14B-02P	0.322	0.322	0.071	0.071	218,491,152	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD-01.14B TK 33B to HD TK**					***Sorted By:Remaining Life***		
MSD-01.15B-01E	0.000	0.322	0.061	0.061	245,530,592	No	95,673

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.770

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14A TK 33A to HD TK**					***Sorted By:Flow Order***		
MSD-01.14A-01N	0.322	0.209	0.071	0.071	523,021	No	203,584
MSD-01.14A-02P	0.322	0.322	0.071	0.071	218,491,152	No	95,673
MSD-01.14A-03T	0.322	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14A-03T (D/S)	0.000	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14A-04P	0.324	0.324	0.071	0.071	100,000,000	No	95,673
MSD-01.15A-01E	0.000	0.322	0.061	0.061	245,530,592	No	95,673
MSD-01.15A-01E (D/S)	0.000	0.280	0.047	0.047	106,114,208	No	95,673
MSD-01.15A-02V	0.280	0.280	0.059	0.059	62,457,708	No	95,673
MSD-01.15A-03P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15A-04E	0.341	0.341	0.047	0.047	108,028,096	No	95,673
MSD-01.15A-05E	0.322	0.322	0.047	0.047	102,245,984	No	95,673
MSD-01.15A-06P	0.285	0.285	0.055	0.055	101,251,760	No	95,673
MSD-01.15A-07E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15A-08P	0.280	0.280	0.055	0.055	127,197,936	No	95,673
MSD-01.15A-21P	0.000	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-09E	0.302	0.302	0.047	0.047	95,986,120	No	95,673
MSD-01.15A-10P	0.306	0.306	0.055	0.055	139,639,952	No	95,673
MSD-01.15A-11E	0.290	0.290	0.047	0.047	92,144,168	No	95,673
MSD-01.15A-12P	0.272	0.272	0.055	0.055	123,278,576	No	95,673
MSD-01.15A-13E	0.334	0.334	0.047	0.047	105,916,440	No	95,673
MSD-01.15A-14P	0.281	0.281	0.055	0.055	127,684,848	No	95,673
MSD-01.15A-22P	0.281	0.281	0.055	0.055	100,000,000	No	95,673
MSD-01.15A-15E	0.331	0.331	0.047	0.047	105,004,800	No	95,673
MSD-01.15A-16P	0.284	0.284	0.055	0.055	129,141,520	No	95,673
MSD-01.15A-17E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15A-18P	0.280	0.280	0.055	0.055	127,197,936	No	95,673
MSD-01.15A-19E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15A-20N	0.280	0.245	0.055	0.055	541,615	Yes	203,584
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Flow Order***		
MSD-01.14B-01N	0.322	0.209	0.071	0.071	523,021	No	203,584
MSD-01.14B-02P	0.322	0.322	0.071	0.071	218,491,152	No	95,673
MSD-01.14B-03T	0.322	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14B-03T (D/S)	0.000	0.322	0.071	0.071	196,633,648	No	95,673
MSD-01.14B-04P	0.322	0.322	0.071	0.071	100,000,000	No	95,673
MSD-01.15B-01E	0.000	0.322	0.061	0.061	245,530,592	No	95,673
MSD-01.15B-01E (D/S)	0.000	0.280	0.047	0.047	106,114,208	No	95,673
MSD-01.15B-02E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-03P	0.280	0.280	0.055	0.055	99,355,064	No	95,673
MSD-01.15B-04E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-05V	0.280	0.280	0.059	0.059	62,457,708	No	95,673
MSD-01.15B-06P	0.265	0.265	0.055	0.055	136,163,424	No	95,673
MSD-01.15B-07E	0.309	0.309	0.047	0.047	98,197,408	No	95,673
MSD-01.15B-08P	0.299	0.299	0.055	0.055	106,493,008	No	95,673
MSD-01.15B-09E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-10P	0.280	0.280	0.055	0.055	127,197,936	No	95,673
MSD-01.15B-11E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-12P_1	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-12P_2	0.280	0.186	0.055	0.055	597,507	No	203,584
MSD-01.15B-30P	0.280	0.239	0.055	0.055	1,901,798	No	203,584
MSD-01.15B-13E	0.280	0.214	0.055	0.055	489,290	Yes	203,584
MSD-01.15B-14P	0.280	0.207	0.055	0.055	691,387	Yes	203,584
MSD-01.15B-15E	0.280	0.174	0.055	0.055	366,277	Yes	203,584
MSD-01.15B-16P	0.280	0.258	0.055	0.055	923,513	Yes	203,584
MSD-01.15B-31P_1	0.280	0.239	0.055	0.055	1,901,798	No	203,584
MSD-01.15B-31P_2	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-17E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-18P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-19E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-20P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-21E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-22P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-23E	0.280	0.280	0.047	0.047	99,677,976	No	95,673
MSD-01.15B-24P	0.280	0.280	0.055	0.055	144,554,528	No	95,673
MSD-01.15B-32P	0.280	0.280	0.055	0.055	100,000,000	No	95,673
MSD-01.15B-25E	0.280	0.280	0.047	0.047	88,892,920	No	95,673
MSD-01.15B-26P	0.278	0.278	0.055	0.055	126,222,136	No	95,673
MSD-01.15B-27E	0.341	0.341	0.047	0.047	108,028,096	No	95,673
MSD-01.15B-28P	0.282	0.282	0.055	0.055	128,171,056	No	95,673

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-01.14B TK 33B to HD TK**					***Sorted By:Flow Order***		
MSD-01.15B-29N	0.280	0.248	0.055	0.055	550,149	Yes	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: MSD: MSDT 33 TO HDT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.770

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**MSD-01.14A TK 33A to HD TK**											***Sorted By: Flow Order***
MSD-01.15A-01E	0.000	40.3	74.5	0.0	0.0	0.322	ER	107,911	322.0	322.0	0.1	0
MSD-01.15A-01E (D/S)	0.000	83.3	138.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.15A-04E	0.341	103.2	157.0	0.0	0.0	0.341	ER	107,911	341.0	341.0	0.2	0
MSD-01.15A-05E	0.322	102.0	102.0	0.0	0.0	0.322	ER	107,911	322.0	322.0	0.2	0
MSD-01.15A-09E	0.302	100.7	75.0	0.0	0.0	0.302	ER	107,911	302.0	302.0	0.2	0
MSD-01.15A-11E	0.290	100.0	121.0	0.0	0.0	0.290	ER	107,911	290.0	290.0	0.2	0
MSD-01.15A-13E	0.334	110.2	151.0	0.0	0.0	0.334	ER	107,911	334.0	334.0	0.2	0
MSD-01.15A-15E	0.331	110.0	84.0	0.0	0.0	0.331	ER	107,911	331.0	331.0	0.2	0
MSD-01.15A-17E	0.280	99.4	61.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.15A-18P	0.280	67.2	164.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.1	0
MSD-01.15A-19E	0.280	102.6	227.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.15A-20N	0.280	107.4	64.0	107.4	64.0	0.288	GW	78,649	172.6	288.0	42.8	78,649
===>Grouped by Line:	**MSD-01.14B TK 33B to HD TK**											***Sorted By: Flow Order***
MSD-01.15B-01E	0.000	43.2	84.0	0.0	0.0	0.322	ER	107,911	322.0	322.0	0.1	0
MSD-01.15B-01E (D/S)	0.000	89.3	127.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.15B-02E	0.280	106.5	49.0	0.0	0.0	0.280	ER	107,911	280.0	280.0	0.2	0
MSD-01.15B-06P	0.265	58.6	58.0	0.0	0.0	0.265	ER	107,911	265.0	265.0	0.1	0
MSD-01.15B-07E	0.309	101.2	94.0	0.0	0.0	0.309	ER	107,911	309.0	309.0	0.2	0
MSD-01.15B-13E	0.280	114.9	94.0	114.9	94.0	0.238	GW	121,025	165.1	238.0	24.1	121,025
MSD-01.15B-14P	0.280	77.6	71.0	77.6	71.0	0.223	GW	121,025	202.4	223.0	16.3	121,025
MSD-01.15B-15E	0.280	114.9	120.0	114.9	120.0	0.198	GW	121,025	165.1	198.0	24.1	121,025
MSD-01.15B-16P	0.280	77.6	49.0	77.6	49.0	0.274	GW	121,025	202.4	274.0	16.3	121,025
MSD-01.15B-27E	0.341	103.2	150.0	0.0	0.0	0.341	ER	107,911	341.0	341.0	0.2	0
MSD-01.15B-29N	0.280	107.4	79.0	107.4	79.0	0.291	GW	78,649	172.6	291.0	42.8	78,649

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:08:31AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-MS Drain Tank 31A to DCT***								***Sorted By: Average Wear Rate***		
TEMP24	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 31B to DCT***								***Sorted By: Average Wear Rate***		
TEMP27	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32A to DCT***								***Sorted By: Average Wear Rate***		
TEMP25	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32B to DCT***								***Sorted By: Average Wear Rate***		
TEMP28	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33A to DCT***								***Sorted By: Average Wear Rate***		
TEMP26	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33B to DCT***								***Sorted By: Average Wear Rate***		
TEMP29	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:08:31AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD-MS Drain Tank 31A to DCT***									***Sorted By: Flow Order***	
TEMP24	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 31B to DCT***									***Sorted By: Flow Order***	
TEMP27	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32A to DCT***									***Sorted By: Flow Order***	
TEMP25	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 32B to DCT***									***Sorted By: Flow Order***	
TEMP28	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33A to DCT***									***Sorted By: Flow Order***	
TEMP26	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD
===>Grouped by Line:	***MSD-MS Drain Tank 33B to DCT***									***Sorted By: Flow Order***	
TEMP29	31	7.025	1.960	384.8	4.748	0.0	6.625	6.923	0.000	73.21	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:08:31AM

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-MS Drain Tank 31A to DCT**					***Sorted By:Remaining Life***		
TEMP24	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 31B to DCT**					***Sorted By:Remaining Life***		
TEMP27	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32A to DCT**					***Sorted By:Remaining Life***		
TEMP25	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32B to DCT**					***Sorted By:Remaining Life***		
TEMP28	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33A to DCT**					***Sorted By:Remaining Life***		
TEMP26	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33B to DCT**					***Sorted By:Remaining Life***		
TEMP29	0.000	0.117	0.055	0.055	276,658	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: MSD: MSDT TO DCT
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD-MS Drain Tank 31A to DCT**					***Sorted By:Flow Order***		
TEMP24	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 31B to DCT**					***Sorted By:Flow Order***		
TEMP27	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32A to DCT**					***Sorted By:Flow Order***		
TEMP25	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 32B to DCT**					***Sorted By:Flow Order***		
TEMP28	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33A to DCT**					***Sorted By:Flow Order***		
TEMP26	0.000	0.117	0.055	0.055	276,658	No	203,584
===>Grouped by Line: **MSD-MS Drain Tank 33B to DCT**					***Sorted By:Flow Order***		
TEMP29	0.000	0.117	0.055	0.055	276,658	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name:
Ending Period:
Total Plant Operating Hours:
WRA Data Option:
Line Correction Factor:

CHECWORKS SFA Version:
Duty Factor (Global) :

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected

===>Grouped by Line: ***Sorted By: Flow Order***

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 10:09:00AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.643

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.1 PRESEP 1B DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.2-10O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-09V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-02.1-01T (BR/SE)	10	5.325	2.121	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-01.2-04E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-08E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-05P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-02.1-01T (D/S)	10	2.637	1.050	387.3	0.606	0.0	16.000	6.911	0.000	73.20	ARD
PD-01.2-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.1-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-01.3 PRESEP 1A DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.4-10O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-09V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-04E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-08E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-05P	51	2.534	1.009	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.3-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.5 PRESEP 2B DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.6-14O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-13V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-04E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-08E	4	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-10E	4	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-12E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-09P	54	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-11P	54	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-05P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.5-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-01.7 PRESEP 2A DR to HDR***								***Sorted By: Average Wear Rate***		
PD-01.8-14O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-13V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-04E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-08E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-10E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-12E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-05P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-09P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-11P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.7-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-02.2 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.2-01T (BR/SE)	12	4.526	1.803	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.2-01T (D/S)	12	3.925	1.563	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.2 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.4-22T (D/S)	15	2.872	1.144	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-22T	15	2.872	1.144	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.2-01T	12	2.162	0.861	387.3	0.606	0.0	16.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-02.3 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.3-01T (D/S)	12	5.562	2.216	387.3	1.825	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.3-01T (BR/SE)	12	4.526	1.803	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.3-01T	12	3.925	1.563	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.4-20O	6	43.587	19.431	387.3	22.335	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-30V	21	10.918	10.899	387.3	8.992	0.0	8.625	6.911	0.000	73.20	ARD
PD-02.4-21N	30	7.934	3.160	387.3	2.809	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-01T (D/S)	12	7.123	2.837	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-12E	2	6.428	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-16E	2	6.428	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-18E	2	6.428	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-08E	1	5.733	2.284	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-10E	1	5.733	2.284	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-14E	1	5.733	2.284	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-01T	12	5.562	2.216	387.3	1.825	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-07P	54	5.560	2.215	387.3	2.438	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-01T (BR/SE)	12	4.526	1.803	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.4-13P	52	4.343	1.730	387.3	2.433	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-17P	52	4.343	1.730	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-19P	52	4.343	1.730	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-29R (D/S)	17	3.931	3.923	387.3	8.992	0.0	8.625	6.911	0.000	73.20	ARD
PD-02.4-09P	51	3.822	1.523	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-11P	51	3.822	1.523	387.3	2.433	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-15P	51	3.822	1.523	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-25T (BR/SE)	13	3.444	3.460	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-02E	4	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-28E	2	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-04E	2	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-06E	4	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-22E	2	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-03P	54	2.204	2.215	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-23R	18	1.929	1.938	387.3	2.450	0.0	16.000	6.911	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***								***Sorted By: Average Wear Rate***		
PD-02.4-29R	17	1.776	1.784	387.3	2.516	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-05P	52	1.722	1.730	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-27P	63	1.378	1.384	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-25T	13	1.059	1.064	387.3	0.681	0.0	30.000	6.911	0.000	73.20	ARD
PD-02.4-23R (D/S)	18	0.635	0.638	387.3	0.683	0.0	30.000	6.911	0.000	73.20	ARD
PD-02.4-24P	68	0.530	0.532	387.3	0.683	0.0	30.000	6.911	0.000	73.20	ARD
PD-02.4-31R	18	0.024	0.024	387.3	8.707	0.0	8.625	6.911	0.000	73.20	ARD
PD-02.4-31R (D/S)	18	0.008	0.008	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-32P	68	0.007	0.007	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-25T (D/S)	13	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	0.00	ARD
PD-02.4-26P	63	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	0.00	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:09:00AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.643

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.1 PRESEP 1B DR to HDR***									***Sorted By: Flow Order***	
PD-01.1-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.2-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.2-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-04E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-05P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-08E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-09V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.2-10O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
PD-02.1-01T (BR/SE)	10	5.325	2.121	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.1-01T (D/S)	10	2.637	1.050	387.3	0.606	0.0	16.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-01.3 PRESEP 1A DR to HDR***									***Sorted By: Flow Order***	
PD-01.3-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.4-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.4-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-04E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-05P	51	2.534	1.009	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-08E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-09V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.4-10O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-01.5 PRESEP 2B DR to HDR***									***Sorted By: Flow Order***	
PD-01.5-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.6-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.6-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-04E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-05P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-08E	4	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-09P	54	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-10E	4	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-11P	54	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-12E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-13V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.6-14O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-01.7 PRESEP 2A DR to HDR***									***Sorted By: Flow Order***	
PD-01.7-01N	31	0.003	0.001	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.8-01R	7	2.397	0.955	387.3	0.804	0.0	14.000	6.911	0.000	73.20	ARD
PD-01.8-01R (D/S)	7	3.686	1.468	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-02B	3	4.031	1.606	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-03P	53	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-04E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-05P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-06E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-07P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-08E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-09P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-10E	2	4.262	1.698	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-11P	52	2.880	1.147	387.3	1.417	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-12E	1	3.801	1.514	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-13V	25	5.759	2.294	387.3	1.410	0.0	10.750	6.911	0.000	73.20	ARD
PD-01.8-14O	6	21.816	9.434	387.3	6.460	0.0	10.750	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-02.2 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.2-01T (BR/SE)	12	4.526	1.803	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.2-01T (D/S)	12	3.925	1.563	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.2 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.4-22T	15	2.872	1.144	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-22T (D/S)	15	2.872	1.144	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.2-01T	12	2.162	0.861	387.3	0.606	0.0	16.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-02.3 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.3-01T (BR/SE)	12	4.526	1.803	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.3-01T (D/S)	12	5.562	2.216	387.3	1.825	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.3-01T	12	3.925	1.563	387.3	1.216	0.0	16.000	6.911	0.000	73.20	ARD
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.4-01T (BR/SE)	12	4.526	1.803	387.3	1.648	0.0	10.000	6.911	0.000	73.20	ARD
PD-02.4-01T	12	5.562	2.216	387.3	1.825	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-01T (D/S)	12	7.123	2.837	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-02E	4	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-03P	54	2.204	2.215	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-04E	2	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-05P	52	1.722	1.730	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-22E	2	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-23R	18	1.929	1.938	387.3	2.450	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-23R (D/S)	18	0.635	0.638	387.3	0.683	0.0	30.000	6.911	0.000	73.20	ARD
PD-02.4-24P	68	0.530	0.532	387.3	0.683	0.0	30.000	6.911	0.000	73.20	ARD
PD-02.4-25T	13	1.059	1.064	387.3	0.681	0.0	30.000	6.911	0.000	73.20	ARD
PD-02.4-25T (BR/SE)	13	3.444	3.460	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-27P	63	1.378	1.384	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-28E	2	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-06E	4	2.549	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-07P	54	5.560	2.215	387.3	2.438	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-08E	1	5.733	2.284	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-09P	51	3.822	1.523	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-10E	1	5.733	2.284	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-11P	51	3.822	1.523	387.3	2.433	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-12E	2	6.428	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-13P	52	4.343	1.730	387.3	2.433	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-14E	1	5.733	2.284	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-15P	51	3.822	1.523	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-16E	2	6.428	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-17P	52	4.343	1.730	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-18E	2	6.428	2.561	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***PD-02.4 PRESEP HDR to HD TK***									***Sorted By: Flow Order***	
PD-02.4-19P	52	4.343	1.730	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-29R	17	1.776	1.784	387.3	2.516	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-29R (D/S)	17	3.931	3.923	387.3	8.992	0.0	8.625	6.911	0.000	73.20	ARD
PD-02.4-30V	21	10.918	10.899	387.3	8.992	0.0	8.625	6.911	0.000	73.20	ARD
PD-02.4-31R	18	0.024	0.024	387.3	8.707	0.0	8.625	6.911	0.000	73.20	ARD
PD-02.4-31R (D/S)	18	0.008	0.008	387.3	2.435	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-32P	68	0.007	0.007	387.3	2.434	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-20O	6	43.587	19.431	387.3	22.335	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-21N	30	7.934	3.160	387.3	2.809	0.0	16.000	6.911	0.000	73.20	ARD
PD-02.4-25T (D/S)	13	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	0.00	ARD
PD-02.4-26P	63	0.000	0.000	387.3	0.000	0.0	30.000	0.000	0.000	0.00	ARD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 10:09:00AM

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.643

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.1 PRESEP 1B DR to HDR**					***Sorted By:Remaining Life***		
PD-01.2-10O	0.365	0.319	0.089	0.089	213,536	No	154,778
PD-01.2-09V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-02.1-01T (BR/SE)	0.000	0.271	0.083	0.083	777,009	No	154,778
PD-01.2-04E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.2-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.2-02B	0.365	0.294	0.089	0.089	1,117,058	No	154,778
PD-01.2-08E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.2-01R (D/S)	0.000	0.300	0.089	0.089	1,258,210	No	154,778
PD-02.1-01T (D/S)	0.000	0.328	0.132	0.132	1,634,259	No	154,778
PD-01.2-05P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.2-03P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.2-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.2-01R	0.000	0.333	0.116	0.116	1,988,145	No	154,778
PD-01.1-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line: **PD-01.3 PRESEP 1A DR to HDR**					***Sorted By:Remaining Life***		
PD-01.4-10O	0.380	0.147	0.089	0.089	54,285	No	154,778
PD-01.4-09V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.4-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.4-04E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.4-08E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.4-02B	0.365	0.342	0.089	0.089	1,382,646	Yes	154,778
PD-01.4-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.4-03P	0.365	0.331	0.089	0.089	1,849,611	Yes	154,778
PD-01.4-01R (D/S)	0.000	0.406	0.089	0.089	1,890,643	Yes	154,778
PD-01.4-05P	0.365	0.320	0.089	0.089	2,006,742	No	154,778
PD-01.4-01R	0.000	0.358	0.116	0.116	2,222,253	Yes	154,778
PD-01.3-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**PD-01.5 PRESEP 2B DR to HDR**				***Sorted By:Remaining Life***		
PD-01.6-14O	0.365	0.273	0.089	0.089	170,705	No	154,778
PD-01.6-13V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.6-04E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-08E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-10E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-02B	0.365	0.294	0.089	0.089	1,117,058	No	154,778
PD-01.6-01R (D/S)	0.000	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.6-09P	0.365	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.6-11P	0.365	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.6-12E	0.365	0.329	0.089	0.089	1,386,152	Yes	154,778
PD-01.6-03P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.6-05P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.6-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.6-01R	0.000	0.333	0.116	0.116	1,988,145	No	154,778
PD-01.5-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line:	**PD-01.7 PRESEP 2A DR to HDR**				***Sorted By:Remaining Life***		
PD-01.8-14O	0.365	0.146	0.089	0.089	53,356	No	154,778
PD-01.8-13V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.8-04E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-08E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-10E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-02B	0.365	0.294	0.089	0.089	1,117,058	No	154,778
PD-01.8-12E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.8-01R (D/S)	0.000	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.8-03P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-05P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-09P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-11P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-01R	0.000	0.333	0.116	0.116	1,988,145	No	154,778
PD-01.7-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
===>Grouped by Line:	**PD-02.2 PRESEP HDR to HD TK**				***Sorted By:Remaining Life***		
PD-02.2-01T (BR/SE)	0.000	0.304	0.083	0.083	1,072,453	No	154,778
PD-02.4-22T	0.375	0.324	0.132	0.132	1,468,906	No	154,778
PD-02.4-22T (D/S)	0.000	0.324	0.132	0.132	1,468,906	No	154,778
PD-02.2-01T (D/S)	0.000	0.456	0.132	0.132	1,812,823	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**PD-02.2 PRESEP HDR to HD TK**				***Sorted By:Remaining Life***		
PD-02.2-01T	0.375	0.440	0.132	0.132	3,131,285	No	154,778
===>Grouped by Line:	**PD-02.3 PRESEP HDR to HD TK**				***Sorted By:Remaining Life***		
PD-02.3-01T (BR/SE)	0.000	0.285	0.083	0.083	982,698	No	154,778
PD-02.3-01T (D/S)	0.000	0.415	0.132	0.132	1,117,502	No	154,778
PD-02.3-01T	0.375	0.493	0.132	0.132	2,018,087	No	154,778
===>Grouped by Line:	**PD-02.4 PRESEP HDR to HD TK**				***Sorted By:Remaining Life***		
PD-02.4-20O	0.421	0.172	0.132	0.132	17,868	No	154,778
PD-02.4-30V	0.000	0.239	0.076	0.076	130,854	No	66,383
PD-02.4-12E	0.375	0.261	0.132	0.132	441,203	No	154,778
PD-02.4-18E	0.375	0.261	0.132	0.132	441,203	No	154,778
PD-02.4-29R (D/S)	0.000	0.292	0.071	0.071	493,018	No	66,383
PD-02.4-08E	0.375	0.274	0.132	0.132	541,781	No	154,778
PD-02.4-10E	0.375	0.274	0.132	0.132	541,781	No	154,778
PD-02.4-14E	0.375	0.274	0.132	0.132	541,781	No	154,778
PD-02.4-25T (BR/SE)	0.000	0.349	0.132	0.132	547,948	No	66,383
PD-02.4-07P	0.375	0.277	0.132	0.132	570,854	No	154,778
PD-02.4-01T (D/S)	0.000	0.349	0.132	0.132	670,075	No	154,778
PD-02.4-16E	0.375	0.351	0.132	0.132	746,238	Yes	154,778
PD-02.4-02E	0.375	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-04E	0.375	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-22E	0.000	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-28E	0.000	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-06E	0.375	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-13P	0.375	0.298	0.132	0.132	839,490	No	154,778
PD-02.4-19P	0.375	0.298	0.132	0.132	839,490	No	154,778
PD-02.4-03P	0.375	0.358	0.132	0.132	893,338	No	66,383
PD-02.4-09P	0.375	0.307	0.132	0.132	1,006,952	No	154,778
PD-02.4-11P	0.375	0.307	0.132	0.132	1,006,952	No	154,778
PD-02.4-15P	0.375	0.307	0.132	0.132	1,006,952	No	154,778
PD-02.4-23R	0.000	0.360	0.132	0.132	1,030,397	No	66,383
PD-02.4-17P	0.375	0.339	0.132	0.132	1,047,916	Yes	154,778
PD-02.4-01T	0.375	0.407	0.132	0.132	1,084,349	No	154,778
PD-02.4-05P	0.375	0.362	0.132	0.132	1,161,974	No	66,383
PD-02.4-01T (BR/SE)	0.000	0.348	0.083	0.083	1,286,243	No	154,778
PD-02.4-27P	0.000	0.365	0.132	0.132	1,468,987	No	66,383
PD-02.4-29R	0.000	0.487	0.132	0.132	1,738,518	No	66,383
PD-02.4-21N	0.899	0.782	0.114	0.114	1,853,896	Yes	154,778
PD-02.4-25T	0.000	0.617	0.248	0.248	3,035,016	No	66,383

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Remaining Life***		
PD-02.4-23R (D/S)	0.000	0.620	0.248	0.248	5,102,413	No	66,383
PD-02.4-24P	0.000	0.621	0.248	0.248	6,136,111	No	66,383
PD-02.4-31R	0.000	0.277	0.071	0.071	75,846,880	No	66,383
PD-02.4-31R (D/S)	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-32P	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-25T (D/S)	0.000	0.625	0.248	0.248	100,000,000	No	0
PD-02.4-26P	0.000	0.625	0.248	0.248	100,000,000	No	0

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.643

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.1 PRESEP 1B DR to HDR**					***Sorted By:Flow Order***		
PD-01.1-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.2-01R	0.000	0.333	0.116	0.116	1,988,145	No	154,778
PD-01.2-01R (D/S)	0.000	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.2-02B	0.365	0.294	0.089	0.089	1,117,058	No	154,778
PD-01.2-03P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.2-04E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.2-05P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.2-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.2-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.2-08E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.2-09V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.2-10O	0.365	0.319	0.089	0.089	213,536	No	154,778
PD-02.1-01T (BR/SE)	0.000	0.271	0.083	0.083	777,009	No	154,778
PD-02.1-01T (D/S)	0.000	0.328	0.132	0.132	1,634,259	No	154,778
===>Grouped by Line: **PD-01.3 PRESEP 1A DR to HDR**					***Sorted By:Flow Order***		
PD-01.3-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.4-01R	0.000	0.358	0.116	0.116	2,222,253	Yes	154,778
PD-01.4-01R (D/S)	0.000	0.406	0.089	0.089	1,890,643	Yes	154,778
PD-01.4-02B	0.365	0.342	0.089	0.089	1,382,646	Yes	154,778
PD-01.4-03P	0.365	0.331	0.089	0.089	1,849,611	Yes	154,778
PD-01.4-04E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.4-05P	0.365	0.320	0.089	0.089	2,006,742	No	154,778
PD-01.4-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.4-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.4-08E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.4-09V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.4-10O	0.380	0.147	0.089	0.089	54,285	No	154,778
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-01.5 PRESEP 2B DR to HDR**					***Sorted By:Flow Order***		
PD-01.5-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.6-01R	0.000	0.333	0.116	0.116	1,988,145	No	154,778
PD-01.6-01R (D/S)	0.000	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.6-02B	0.365	0.294	0.089	0.089	1,117,058	No	154,778
PD-01.6-03P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.6-04E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-05P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.6-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.6-08E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-09P	0.365	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.6-10E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.6-11P	0.365	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.6-12E	0.365	0.329	0.089	0.089	1,386,152	Yes	154,778
PD-01.6-13V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.6-14O	0.365	0.273	0.089	0.089	170,705	No	154,778
===>Grouped by Line: **PD-01.7 PRESEP 2A DR to HDR**					***Sorted By:Flow Order***		
PD-01.7-01N	0.375	0.375	0.094	0.094	100,000,000	No	154,778
PD-01.8-01R	0.000	0.333	0.116	0.116	1,988,145	No	154,778
PD-01.8-01R (D/S)	0.000	0.300	0.089	0.089	1,258,210	No	154,778
PD-01.8-02B	0.365	0.294	0.089	0.089	1,117,058	No	154,778
PD-01.8-03P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-04E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-05P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-06E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-07P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-08E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-09P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-10E	0.365	0.290	0.089	0.089	1,035,673	No	154,778
PD-01.8-11P	0.365	0.314	0.089	0.089	1,719,306	No	154,778
PD-01.8-12E	0.365	0.298	0.089	0.089	1,208,308	No	154,778
PD-01.8-13V	0.365	0.263	0.095	0.095	641,273	No	154,778
PD-01.8-14O	0.365	0.146	0.089	0.089	53,356	No	154,778
===>Grouped by Line: **PD-02.2 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.2-01T (BR/SE)	0.000	0.304	0.083	0.083	1,072,453	No	154,778
PD-02.2-01T (D/S)	0.000	0.456	0.132	0.132	1,812,823	No	154,778
PD-02.4-22T	0.375	0.324	0.132	0.132	1,468,906	No	154,778

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-02.2 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.4-22T (D/S)	0.000	0.324	0.132	0.132	1,468,906	No	154,778
PD-02.2-01T	0.375	0.440	0.132	0.132	3,131,285	No	154,778
===>Grouped by Line: **PD-02.3 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.3-01T (BR/SE)	0.000	0.285	0.083	0.083	982,698	No	154,778
PD-02.3-01T (D/S)	0.000	0.415	0.132	0.132	1,117,502	No	154,778
PD-02.3-01T	0.375	0.493	0.132	0.132	2,018,087	No	154,778
===>Grouped by Line: **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.4-01T (BR/SE)	0.000	0.348	0.083	0.083	1,286,243	No	154,778
PD-02.4-01T	0.375	0.407	0.132	0.132	1,084,349	No	154,778
PD-02.4-01T (D/S)	0.000	0.349	0.132	0.132	670,075	No	154,778
PD-02.4-02E	0.375	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-03P	0.375	0.358	0.132	0.132	893,338	No	66,383
PD-02.4-04E	0.375	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-05P	0.375	0.362	0.132	0.132	1,161,974	No	66,383
PD-02.4-22E	0.000	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-23R	0.000	0.360	0.132	0.132	1,030,397	No	66,383
PD-02.4-23R (D/S)	0.000	0.620	0.248	0.248	5,102,413	No	66,383
PD-02.4-24P	0.000	0.621	0.248	0.248	6,136,111	No	66,383
PD-02.4-25T	0.000	0.617	0.248	0.248	3,035,016	No	66,383
PD-02.4-25T (BR/SE)	0.000	0.349	0.132	0.132	547,948	No	66,383
PD-02.4-27P	0.000	0.365	0.132	0.132	1,468,987	No	66,383
PD-02.4-28E	0.000	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-06E	0.375	0.356	0.132	0.132	763,687	No	66,383
PD-02.4-07P	0.375	0.277	0.132	0.132	570,854	No	154,778
PD-02.4-08E	0.375	0.274	0.132	0.132	541,781	No	154,778
PD-02.4-09P	0.375	0.307	0.132	0.132	1,006,952	No	154,778
PD-02.4-10E	0.375	0.274	0.132	0.132	541,781	No	154,778
PD-02.4-11P	0.375	0.307	0.132	0.132	1,006,952	No	154,778
PD-02.4-12E	0.375	0.261	0.132	0.132	441,203	No	154,778
PD-02.4-13P	0.375	0.298	0.132	0.132	839,490	No	154,778
PD-02.4-14E	0.375	0.274	0.132	0.132	541,781	No	154,778
PD-02.4-15P	0.375	0.307	0.132	0.132	1,006,952	No	154,778
PD-02.4-16E	0.375	0.351	0.132	0.132	746,238	Yes	154,778
PD-02.4-17P	0.375	0.339	0.132	0.132	1,047,916	Yes	154,778
PD-02.4-18E	0.375	0.261	0.132	0.132	441,203	No	154,778
PD-02.4-19P	0.375	0.298	0.132	0.132	839,490	No	154,778
PD-02.4-29R	0.000	0.487	0.132	0.132	1,738,518	No	66,383

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-02.4 PRESEP HDR to HD TK**					***Sorted By:Flow Order***		
PD-02.4-29R (D/S)	0.000	0.292	0.071	0.071	493,018	No	66,383
PD-02.4-30V	0.000	0.239	0.076	0.076	130,854	No	66,383
PD-02.4-31R	0.000	0.277	0.071	0.071	75,846,880	No	66,383
PD-02.4-31R (D/S)	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-32P	0.000	0.375	0.132	0.132	100,000,000	No	66,383
PD-02.4-20O	0.421	0.172	0.132	0.132	17,868	No	154,778
PD-02.4-21N	0.899	0.782	0.114	0.114	1,853,896	Yes	154,778
PD-02.4-25T (D/S)	0.000	0.625	0.248	0.248	100,000,000	No	0
PD-02.4-26P	0.000	0.625	0.248	0.248	100,000,000	No	0

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: PD: PRESEPRTR DRAINS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.643

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**PD-01.3 PRESEP 1A DR to HDR**											***Sorted By: Flow Order***
PD-01.4-01R	0.000	32.5	40.0	32.5	40.0	0.368	GW	121,025	342.5	368.0	9.8	121,025
PD-01.4-01R (D/S)	0.000	50.0	50.0	50.0	50.0	0.421	GW	121,025	315.0	421.0	15.1	121,025
PD-01.4-02B	0.365	54.7	39.0	54.7	39.0	0.359	GW	121,025	310.3	359.0	16.5	121,025
PD-01.4-03P	0.365	39.1	47.0	39.1	47.0	0.343	GW	121,025	325.9	343.0	11.8	121,025
===>Grouped by Line:	**PD-01.5 PRESEP 2B DR to HDR**											***Sorted By: Flow Order***
PD-01.6-12E	0.365	55.7	53.0	55.7	53.0	0.340	GW	137,201	309.3	340.0	11.4	137,201
===>Grouped by Line:	**PD-02.4 PRESEP HDR to HD TK**											***Sorted By: Flow Order***
PD-02.4-02E	0.375	80.2	154.0	0.0	0.0	0.375	ER	137,201	375.0	375.0	19.3	0
PD-02.4-16E	0.375	80.2	44.0	80.2	44.0	0.384	GW	107,911	294.8	384.0	33.4	107,911
PD-02.4-17P	0.375	54.2	67.0	54.2	67.0	0.362	GW	107,911	320.8	362.0	22.6	107,911
PD-02.4-21N	0.899	107.6	84.0	107.6	84.0	0.815	GW	121,025	791.4	815.0	32.6	121,025

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 3:09:15PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.231

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_1 RH 31A to TK 31A***								***Sorted By: Average Wear Rate***		
RHD01.1A-01N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-03N	30	4.858	2.765	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-02P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.1A-35F	6	7.387	4.204	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-04N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-02E	2	4.615	2.627	489.8	7.247	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-06E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-08E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-43E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-10E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-12E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-45E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-47E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-16E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-18E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-20E	4	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-29E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-31E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-33E	4	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2A-01R (D/S)	17	4.363	2.433	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.1A-25E	3	4.251	2.419	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-27E	3	4.251	2.419	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-39E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-41E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-14E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-04E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-22E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.1A-24E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-34P_1	54	3.997	2.275	489.8	7.257	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-21P_1	54	3.886	2.212	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.1A-02R	18	3.785	3.785	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.1A-37T (D/S)	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-37T	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-05P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-07P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-09P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-44P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-11P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-13P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-46P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-48P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2A-01R	17	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-17P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-19P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-03P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-26P	53	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-28P_1	53	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-30P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-32P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-40P	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-42P_1	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-15P	51	2.672	1.521	489.8	7.790	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-05P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-23P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-38P	65	2.429	1.383	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.1A-02R (D/S)	18	2.074	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-01P	68	2.071	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-36P	56	1.477	0.841	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-34P_2	9	1.374	0.782	489.8	7.257	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-07P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-42P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-09P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-44P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-13P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.1A-21P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-28P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.1A-01V	24	0.022	0.012	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.1B_1 RH 31B to TK 31B***								***Sorted By: Average Wear Rate***		
RHD01.1B-01N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-03N	30	4.858	2.765	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-02P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.1B-14F	6	7.387	4.204	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-04N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-30E	4	4.615	2.627	489.8	7.247	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2B-01R (D/S)	17	4.554	2.540	489.8	17.209	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.1B-35E	4	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-06E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-37E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-08E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-39E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-12E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-41E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-43E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-16E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-45E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-18E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-49E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-51E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-22E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-24E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-26E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-02E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-28E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-32E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-10E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-47E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-20E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-04E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-31P	54	3.981	2.266	489.8	7.226	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.1B-36P	54	3.886	2.212	489.8	7.790	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.1B-02R	18	3.661	3.785	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.1B-34T (D/S)	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-34T	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-05P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-52P	52	3.124	1.778	489.8	7.262	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-29P	52	3.118	1.775	489.8	9.386	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-07P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-38P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-09P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-40P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-13P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-42P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-44P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-17P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-46P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-19P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-50P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-23P	52	3.036	1.728	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2B-01R	17	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-25P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-27P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-03P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-33P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-11P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-48P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-21P_1	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-05P	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-01P	68	2.071	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.1B-02R (D/S)	18	2.011	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-15P	56	1.477	0.841	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-38P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-42P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-21P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-27P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.1B-01V	24	0.022	0.012	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 3:09:15PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.231

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_1 RH 31A to TK 31A***									***Sorted By: Flow Order***	
RHD01.1A-01N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-02P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-03N	30	4.858	2.765	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***									***Sorted By: Flow Order***	
RHD01.1A-04N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-05P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-06E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-07P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-07P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-08E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-09P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-09P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-10E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-11P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-12E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-13P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-13P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-14E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-15P	51	2.672	1.521	489.8	7.790	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-16E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-17P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-18E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-19P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-20E	4	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-21P_1	54	3.886	2.212	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-21P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-22E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***									***Sorted By: Flow Order***	
RHD01.1A-23P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-24E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-25E	3	4.251	2.419	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-26P	53	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-27E	3	4.251	2.419	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-28P_1	53	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-28P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-29E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-30P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-31E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-32P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-33E	4	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-34P_1	54	3.997	2.275	489.8	7.257	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-34P_2	9	1.374	0.782	489.8	7.257	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-35F	6	7.387	4.204	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-36P	56	1.477	0.841	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-37T	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-37T (D/S)	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-38P	65	2.429	1.383	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-39E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-40P	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-41E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-42P_1	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-42P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-43E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-44P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-44P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-45E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-46P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-47E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1A-48P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2A-01R	17	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2A-01R (D/S)	17	4.363	2.433	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.1A-01V	24	0.022	0.012	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.1A-02R	18	3.785	3.785	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.1A-02R (D/S)	18	2.074	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1A_2 TK 31A to A HDR***									***Sorted By: Flow Order***	
RHD02.2A-01P	68	2.071	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-02E	2	4.615	2.627	489.8	7.247	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-03P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-04E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2A-05P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.1B_1 RH 31B to TK 31B***									***Sorted By: Flow Order***	
RHD01.1B-01N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-02P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-03N	30	4.858	2.765	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***									***Sorted By: Flow Order***	
RHD01.1B-04N	31	6.072	3.456	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-05P	61	3.279	1.866	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-06E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-07P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-08E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-09P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-10E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-11P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-12E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-13P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-14F	6	7.387	4.204	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-15P	56	1.477	0.841	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-16E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-17P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-18E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-19P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-20E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-21P_1	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-21P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-22E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-23P	52	3.036	1.728	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-24E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-25P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-26E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-27P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-27P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***									***Sorted By: Flow Order***	
RHD01.1B-28E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-29P	52	3.118	1.775	489.8	9.386	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-30E	4	4.615	2.627	489.8	7.247	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-31P	54	3.981	2.266	489.8	7.226	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-32E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-33P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-34T	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-34T (D/S)	15	3.643	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-35E	4	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-36P	54	3.886	2.212	489.8	7.790	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-37E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-38P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-38P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-39E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-40P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-41E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-42P_1	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-42P_2	9	1.336	0.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-43E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-44P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-45E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-46P	52	3.036	1.728	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-47E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-48P	51	2.672	1.521	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-49E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-50P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-51E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.1B-52P	52	3.124	1.778	489.8	7.262	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2B-01R	17	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.2B-01R (D/S)	17	4.554	2.540	489.8	17.209	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.1B-01V	24	0.022	0.012	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.1B-02R	18	3.661	3.785	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.1B-02R (D/S)	18	2.011	2.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-01P	68	2.071	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-02E	2	4.494	2.558	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-03P	52	3.036	1.728	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.1B_2 TK 31B to B HDR***									***Sorted By: Flow Order***	
RHD02.2B-04E	1	4.008	2.281	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.2B-05P	51	2.672	1.521	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 3:09:15PM

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.231

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_1 RH 31A to TK 31A**					***Sorted By:Remaining Life***		
RHD01.1A-03N	0.432	0.362	0.233	0.233	408,248	Yes	203,584
RHD01.1A-02P	0.432	0.358	0.233	0.233	587,040	Yes	203,584
RHD01.1A-01N	0.432	0.523	0.233	0.233	736,381	Yes	203,584
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Remaining Life***		
RHD01.1A-35F	0.432	0.260	0.233	0.233	57,224	No	203,584
RHD01.2A-01R (D/S)	0.000	0.236	0.158	0.158	278,778	No	203,584
RHD02.2A-02E	0.473	0.320	0.233	0.233	290,468	Yes	203,584
RHD01.1A-31E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-33E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-29E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-18E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-20E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-16E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-12E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-10E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-08E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-06E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-43E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-45E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-47E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-04N	0.432	0.365	0.233	0.233	334,459	No	203,584
RHD01.1A-25E	0.432	0.333	0.233	0.233	363,330	No	203,584
RHD01.1A-27E	0.432	0.333	0.233	0.233	363,330	No	203,584
RHD02.1A-02R	0.000	0.330	0.158	0.158	396,877	No	16,992
RHD01.1A-39E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-22E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-24E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-14E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-41E	0.432	0.339	0.233	0.233	407,027	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Remaining Life***		
RHD01.1A-21P_1	0.432	0.342	0.233	0.233	430,924	No	203,584
RHD01.1A-37T	0.432	0.347	0.233	0.233	483,498	No	203,584
RHD01.1A-37T (D/S)	0.000	0.347	0.233	0.233	483,498	No	203,584
RHD02.2A-03P	0.432	0.334	0.233	0.233	514,668	Yes	203,584
RHD02.2A-04E	0.432	0.376	0.233	0.233	550,756	Yes	203,584
RHD01.1A-34P_1	0.475	0.382	0.233	0.233	574,758	No	203,584
RHD01.1A-32P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-30P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-19P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-17P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-13P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-26P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-28P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-11P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-09P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-07P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-44P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-46P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-48P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.2A-01R	0.000	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-05P	0.432	0.375	0.233	0.233	669,302	Yes	203,584
RHD01.1A-40P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-23P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-15P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-42P_1	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD02.2A-05P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD02.1A-02R (D/S)	0.000	0.428	0.233	0.233	824,183	No	16,992
RHD02.2A-01P	0.432	0.400	0.233	0.233	847,775	No	134,852
RHD01.1A-38P	0.432	0.376	0.233	0.233	904,085	No	203,584
RHD01.1A-36P	0.462	0.416	0.233	0.233	1,904,526	Yes	203,584
RHD01.1A-28P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-21P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-13P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-09P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-07P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-42P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-44P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-34P_2	0.475	0.443	0.233	0.233	2,354,860	No	203,584
RHD02.1A-01V	0.337	0.501	0.132	0.132	259,003,488	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-01.1B_1 RH 31B to TK 31B**				***Sorted By:Remaining Life***		
RHD01.1B-01N	0.432	0.291	0.233	0.233	147,028	No	203,584
RHD01.1B-03N	0.432	0.319	0.233	0.233	273,204	No	203,584
RHD01.1B-02P	0.432	0.356	0.233	0.233	576,961	No	203,584
===>Grouped by Line:	**RHD-01.1B_2 TK 31B to B HDR**				***Sorted By:Remaining Life***		
RHD01.1B-14F	0.432	0.260	0.233	0.233	57,224	No	203,584
RHD01.1B-04N	0.432	0.291	0.233	0.233	147,028	No	203,584
RHD01.1B-49E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-06E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-08E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-12E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-18E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-22E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-24E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-26E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-28E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-32E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-35E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-37E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-43E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-45E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD02.1B-02R	0.000	0.302	0.158	0.158	334,020	No	82,559
RHD01.1B-30E	0.473	0.346	0.233	0.233	378,629	Yes	203,584
RHD01.1B-47E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD02.2B-04E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1B-10E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1B-20E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1B-16E	0.432	0.356	0.233	0.233	423,374	Yes	203,584
RHD01.1B-36P	0.432	0.342	0.233	0.233	430,924	No	203,584
RHD02.2B-02E	0.432	0.360	0.233	0.233	434,141	Yes	203,584
RHD01.1B-41E	0.432	0.366	0.233	0.233	454,691	Yes	203,584
RHD01.1B-39E	0.432	0.367	0.233	0.233	458,116	Yes	203,584
RHD01.1B-34T	0.432	0.347	0.233	0.233	483,498	No	203,584
RHD01.1B-34T (D/S)	0.000	0.347	0.233	0.233	483,498	No	203,584
RHD01.1B-51E	0.432	0.396	0.233	0.233	559,532	Yes	203,584
RHD01.1B-05P	0.432	0.356	0.233	0.233	576,961	No	203,584
RHD01.2B-01R (D/S)	0.401	0.335	0.158	0.158	611,276	Yes	203,584
RHD01.1B-31P	0.469	0.391	0.233	0.233	611,810	Yes	203,584
RHD02.2B-03P	0.432	0.355	0.233	0.233	620,132	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Remaining Life***		
RHD01.1B-46P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-50P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-07P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-09P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-13P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-19P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-23P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-25P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-27P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-33P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-38P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-44P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD02.1B-02R (D/S)	0.000	0.413	0.233	0.233	761,107	No	82,559
RHD01.1B-48P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD02.2B-05P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1B-11P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1B-21P_1	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1B-29P	0.473	0.401	0.233	0.233	827,533	No	203,584
RHD01.1B-52P	0.476	0.403	0.233	0.233	839,983	Yes	203,584
RHD02.2B-01P	0.432	0.400	0.233	0.233	847,775	No	134,852
RHD01.1B-40P	0.432	0.406	0.233	0.233	878,652	Yes	203,584
RHD01.1B-17P	0.432	0.417	0.233	0.233	934,331	Yes	203,584
RHD01.1B-42P_1	0.432	0.421	0.233	0.233	954,687	Yes	203,584
RHD01.2B-01R	0.000	0.452	0.233	0.233	1,110,356	Yes	203,584
RHD01.1B-15P	0.432	0.418	0.233	0.233	1,931,010	Yes	203,584
RHD01.1B-21P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-27P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-38P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-42P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD02.1B-01V	0.337	0.596	0.132	0.132	325,783,360	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.231

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1A_1 RH 31A to TK 31A**					***Sorted By:Flow Order***		
RHD01.1A-01N	0.432	0.523	0.233	0.233	736,381	Yes	203,584
RHD01.1A-02P	0.432	0.358	0.233	0.233	587,040	Yes	203,584
RHD01.1A-03N	0.432	0.362	0.233	0.233	408,248	Yes	203,584
===>Grouped by Line: **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Flow Order***		
RHD01.1A-04N	0.432	0.365	0.233	0.233	334,459	No	203,584
RHD01.1A-05P	0.432	0.375	0.233	0.233	669,302	Yes	203,584
RHD01.1A-06E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-07P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-07P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-08E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-09P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-09P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-10E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-11P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-12E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-13P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-13P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-14E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-15P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-16E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-17P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-18E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-19P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-20E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-21P_1	0.432	0.342	0.233	0.233	430,924	No	203,584
RHD01.1A-21P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-22E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-23P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-24E	0.432	0.339	0.233	0.233	407,027	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-01.1A_2 TK 31A to A HDR**					***Sorted By:Flow Order***		
RHD01.1A-25E	0.432	0.333	0.233	0.233	363,330	No	203,584
RHD01.1A-26P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-27E	0.432	0.333	0.233	0.233	363,330	No	203,584
RHD01.1A-28P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-28P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-29E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-30P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-31E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-32P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-33E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-34P_1	0.475	0.382	0.233	0.233	574,758	No	203,584
RHD01.1A-34P_2	0.475	0.443	0.233	0.233	2,354,860	No	203,584
RHD01.1A-35F	0.432	0.260	0.233	0.233	57,224	No	203,584
RHD01.1A-36P	0.462	0.416	0.233	0.233	1,904,526	Yes	203,584
RHD01.1A-37T	0.432	0.347	0.233	0.233	483,498	No	203,584
RHD01.1A-37T (D/S)	0.000	0.347	0.233	0.233	483,498	No	203,584
RHD01.1A-38P	0.432	0.376	0.233	0.233	904,085	No	203,584
RHD01.1A-39E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-40P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-41E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1A-42P_1	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1A-42P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-43E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-44P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-44P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1A-45E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-46P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1A-47E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1A-48P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.2A-01R	0.000	0.361	0.233	0.233	651,733	No	203,584
RHD01.2A-01R (D/S)	0.000	0.236	0.158	0.158	278,778	No	203,584
RHD02.1A-01V	0.337	0.501	0.132	0.132	259,003,488	No	203,584
RHD02.1A-02R	0.000	0.330	0.158	0.158	396,877	No	16,992
RHD02.1A-02R (D/S)	0.000	0.428	0.233	0.233	824,183	No	16,992
RHD02.2A-01P	0.432	0.400	0.233	0.233	847,775	No	134,852
RHD02.2A-02E	0.473	0.320	0.233	0.233	290,468	Yes	203,584
RHD02.2A-03P	0.432	0.334	0.233	0.233	514,668	Yes	203,584
RHD02.2A-04E	0.432	0.376	0.233	0.233	550,756	Yes	203,584
RHD02.2A-05P	0.432	0.370	0.233	0.233	789,379	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.1B_1 RH 31B to TK 31B**					***Sorted By:Flow Order***		
RHD01.1B-01N	0.432	0.291	0.233	0.233	147,028	No	203,584
RHD01.1B-02P	0.432	0.356	0.233	0.233	576,961	No	203,584
RHD01.1B-03N	0.432	0.319	0.233	0.233	273,204	No	203,584
===>Grouped by Line: **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Flow Order***		
RHD01.1B-04N	0.432	0.291	0.233	0.233	147,028	No	203,584
RHD01.1B-05P	0.432	0.356	0.233	0.233	576,961	No	203,584
RHD01.1B-06E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-07P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-08E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-09P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-10E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1B-11P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1B-12E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-13P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-14F	0.432	0.260	0.233	0.233	57,224	No	203,584
RHD01.1B-15P	0.432	0.418	0.233	0.233	1,931,010	Yes	203,584
RHD01.1B-16E	0.432	0.356	0.233	0.233	423,374	Yes	203,584
RHD01.1B-17P	0.432	0.417	0.233	0.233	934,331	Yes	203,584
RHD01.1B-18E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-19P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-20E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1B-21P_1	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1B-21P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-22E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-23P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-24E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-25P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-26E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-27P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-27P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-28E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-29P	0.473	0.401	0.233	0.233	827,533	No	203,584
RHD01.1B-30E	0.473	0.346	0.233	0.233	378,629	Yes	203,584
RHD01.1B-31P	0.469	0.391	0.233	0.233	611,810	Yes	203,584
RHD01.1B-32E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-33P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-34T	0.432	0.347	0.233	0.233	483,498	No	203,584
RHD01.1B-34T (D/S)	0.000	0.347	0.233	0.233	483,498	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-01.1B_2 TK 31B to B HDR**					***Sorted By:Flow Order***		
RHD01.1B-35E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-36P	0.432	0.342	0.233	0.233	430,924	No	203,584
RHD01.1B-37E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-38P_1	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-38P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-39E	0.432	0.367	0.233	0.233	458,116	Yes	203,584
RHD01.1B-40P	0.432	0.406	0.233	0.233	878,652	Yes	203,584
RHD01.1B-41E	0.432	0.366	0.233	0.233	454,691	Yes	203,584
RHD01.1B-42P_1	0.432	0.421	0.233	0.233	954,687	Yes	203,584
RHD01.1B-42P_2	0.432	0.401	0.233	0.233	1,936,436	No	203,584
RHD01.1B-43E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-44P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-45E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-46P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-47E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD01.1B-48P	0.432	0.370	0.233	0.233	789,379	No	203,584
RHD01.1B-49E	0.432	0.328	0.233	0.233	324,356	No	203,584
RHD01.1B-50P	0.432	0.361	0.233	0.233	651,733	No	203,584
RHD01.1B-51E	0.432	0.396	0.233	0.233	559,532	Yes	203,584
RHD01.1B-52P	0.476	0.403	0.233	0.233	839,983	Yes	203,584
RHD01.2B-01R	0.000	0.452	0.233	0.233	1,110,356	Yes	203,584
RHD01.2B-01R (D/S)	0.401	0.335	0.158	0.158	611,276	Yes	203,584
RHD02.1B-01V	0.337	0.596	0.132	0.132	325,783,360	No	203,584
RHD02.1B-02R	0.000	0.302	0.158	0.158	334,020	No	82,559
RHD02.1B-02R (D/S)	0.000	0.413	0.233	0.233	761,107	No	82,559
RHD02.2B-01P	0.432	0.400	0.233	0.233	847,775	No	134,852
RHD02.2B-02E	0.432	0.360	0.233	0.233	434,141	Yes	203,584
RHD02.2B-03P	0.432	0.355	0.233	0.233	620,132	Yes	203,584
RHD02.2B-04E	0.432	0.339	0.233	0.233	407,027	No	203,584
RHD02.2B-05P	0.432	0.370	0.233	0.233	789,379	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: RHD: RH 31 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.231

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-01.1A_1 RH 31A to TK 31A**											***Sorted By: Flow Order***
RHD01.1A-01N	0.432	109.5	127.0	109.5	127.0	0.555	GW	121,025	322.5	555.0	31.6	121,025
RHD01.1A-02P	0.432	59.1	88.0	59.1	88.0	0.375	GW	121,025	372.9	375.0	17.1	121,025
RHD01.1A-03N	0.432	87.6	70.0	87.6	70.0	0.387	GW	121,025	344.4	387.0	25.3	121,025
===>Grouped by Line:	**RHD-01.1A_2 TK 31A to A HDR**											***Sorted By: Flow Order***
RHD01.1A-05P	0.432	56.7	37.0	56.7	37.0	0.395	GW	107,911	375.3	395.0	19.5	107,911
RHD01.1A-36P	0.462	21.0	33.0	21.0	33.0	0.429	GW	78,649	441.0	429.0	13.3	78,649
RHD02.1A-02R	0.000	63.4	58.0	0.0	0.0	0.337	ER	186,592	337.0	337.0	7.3	0
RHD02.1A-02R (D/S)	0.000	34.2	119.0	0.0	0.0	0.432	ER	186,592	432.0	432.0	4.0	0
RHD02.2A-02E	0.473	97.2	98.0	97.2	98.0	0.330	MT	170,123	375.8	330.0	10.0	170,123
RHD02.2A-03P	0.432	64.0	134.0	64.0	134.0	0.341	MT	170,123	368.0	341.0	6.6	170,123
RHD02.2A-04E	0.432	84.4	66.0	84.4	66.0	0.385	MT	170,123	347.6	385.0	8.7	170,123
===>Grouped by Line:	**RHD-01.1B_2 TK 31B to B HDR**											***Sorted By: Flow Order***
RHD01.1B-15P	0.432	29.6	55.0	29.6	55.0	0.423	GW	153,469	402.4	423.0	4.8	153,469
RHD01.1B-16E	0.432	89.9	162.0	89.9	162.0	0.371	GW	153,469	342.1	371.0	14.5	153,469
RHD01.1B-17P	0.432	60.8	41.0	60.8	41.0	0.427	GW	153,469	371.2	427.0	9.8	153,469
RHD01.1B-30E	0.473	102.2	59.0	102.2	59.0	0.388	GW	78,649	407.3	388.0	41.6	186,592
RHD01.1B-31P	0.469	56.6	42.0	56.6	42.0	0.427	GW	78,649	412.4	427.0	35.9	78,649
RHD01.1B-39E	0.432	81.1	74.0	81.1	74.0	0.390	GW	121,025	350.9	390.0	23.4	121,025
RHD01.1B-40P	0.432	54.8	73.0	54.8	73.0	0.422	GW	121,025	377.2	422.0	15.8	121,025
RHD01.1B-41E	0.432	81.1	57.0	81.1	57.0	0.389	GW	121,025	350.9	389.0	23.4	121,025
RHD01.1B-42P_1	0.432	54.8	67.0	54.8	67.0	0.437	GW	121,025	377.2	437.0	15.8	121,025
RHD01.1B-51E	0.432	77.7	51.0	77.7	51.0	0.423	GW	107,911	354.3	423.0	26.8	107,911
RHD01.1B-52P	0.476	54.0	54.0	54.0	54.0	0.422	GW	107,911	422.0	422.0	18.6	107,911
RHD01.2B-01R	0.000	52.5	47.0	52.5	47.0	0.470	GW	107,911	379.5	470.0	18.1	107,911
RHD01.2B-01R (D/S)	0.401	79.2	52.0	79.2	52.0	0.362	GW	107,911	321.8	362.0	26.6	107,911
RHD02.2B-02E	0.432	81.1	83.0	81.1	83.0	0.383	GW	121,025	350.9	383.0	23.4	121,025

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-01.1B_2 TK 31B to B HDR**											***Sorted By: Flow Order***
RHD02.2B-03P	0.432	54.8	126.0	54.8	126.0	0.371	GW	121,025	377.2	371.0	15.8	121,025

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/4/2010 9:56:21AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.281

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_1 RH 32A to TK 32A***								***Sorted By: Average Wear Rate***		
RHD01.3A-01N	31	8.932	5.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-03N	30	7.146	4.067	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-02P	61	4.823	2.745	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.8A-01R (D/S)	7	11.408	6.363	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.5A-03F	6	10.865	6.184	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.8A-02P	57	9.147	5.101	489.8	16.750	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.3A-04N	31	8.932	5.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-02E	2	6.788	3.864	489.8	7.247	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.3A-02R	18	6.756	5.567	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.7A-04E	2	6.722	3.826	489.8	7.170	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-06E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-08E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-10E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-12E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-14E	4	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7A-02E	4	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.8A-01R	7	6.252	3.559	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-04E	1	5.895	3.355	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7A-03P	54	5.716	3.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-15R	18	5.002	2.847	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-05R	18	5.002	2.847	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-05P	61	4.823	2.745	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-07P	52	4.466	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-09P	52	4.466	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-11P	52	4.466	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-13P	52	4.466	2.542	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-03P	52	4.466	2.542	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***								***Sorted By: Average Wear Rate***		
RHD02.4A-05P	51	3.930	2.237	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.6A-04E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-06E	4	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-08E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-10E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-12E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-14E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.3A-02R (D/S)	18	3.656	3.050	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-02P	67	3.573	2.034	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-06L (D/S)	10	3.481	1.981	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4A-06L	10	3.481	1.981	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6A-07P	54	3.394	1.932	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.5A-01R (D/S)	17	3.215	1.830	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7A-01R (D/S)	17	3.215	1.830	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.6A-02T (D/S)	15	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.3A-15R (D/S)	18	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.5A-05R (D/S)	18	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-02T	15	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.4A-01P	68	3.047	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.6A-05P	52	2.651	1.509	489.8	5.119	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-09P	52	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-11P	52	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-13P	52	2.651	1.509	489.8	11.023	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.4A-01P_1	68	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-15P_1	52	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.5A-01R	17	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.7A-01R	17	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-01P	68	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.5A-04P	56	2.173	1.237	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.6A-03P_1	65	2.121	1.207	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7A-01P	60	2.088	1.189	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6A-03P_2	9	1.167	0.664	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.4A-01P_2	9	1.167	0.664	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-15P_2	9	1.167	0.664	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.3A-01V	24	0.033	0.018	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/4/2010 9:56:21AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.281

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_1 RH 32A to TK 32A***									***Sorted By: Flow Order***	
RHD01.3A-01N	31	8.932	5.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-02P	61	4.823	2.745	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-03N	30	7.146	4.067	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***									***Sorted By: Flow Order***	
RHD01.3A-04N	31	8.932	5.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-05P	61	4.823	2.745	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-06E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-07P	52	4.466	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-08E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-09P	52	4.466	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-10E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-11P	52	4.466	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-12E	2	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-13P	52	4.466	2.542	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-14E	4	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-15R	18	5.002	2.847	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3A-15R (D/S)	18	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.4A-01P_1	68	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.4A-01P_2	9	1.167	0.664	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.5A-01R	17	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.5A-01R (D/S)	17	3.215	1.830	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-02P	67	3.573	2.034	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-03F	6	10.865	6.184	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-04P	56	2.173	1.237	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-05R	18	5.002	2.847	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5A-05R (D/S)	18	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-01P	68	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3A_2 TK 32A to A HDR***									***Sorted By: Flow Order***	
RHD01.6A-02T	15	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-02T (D/S)	15	3.182	1.811	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-03P_1	65	2.121	1.207	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-03P_2	9	1.167	0.664	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-04E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-05P	52	2.651	1.509	489.8	5.119	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-06E	4	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-07P	54	3.394	1.932	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-08E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-09P	52	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-10E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-11P	52	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-12E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-13P	52	2.651	1.509	489.8	11.023	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-14E	2	3.924	2.234	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-15P_1	52	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.6A-15P_2	9	1.167	0.664	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.7A-01R	17	2.651	1.509	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.7A-01R (D/S)	17	3.215	1.830	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7A-02E	4	6.610	3.762	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7A-03P	54	5.716	3.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7A-04E	2	6.722	3.826	489.8	7.170	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.8A-01R	7	6.252	3.559	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.8A-01R (D/S)	7	11.408	6.363	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.8A-02P	57	9.147	5.101	489.8	16.750	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3A-01V	24	0.033	0.018	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3A-02R	18	6.756	5.567	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3A-02R (D/S)	18	3.656	3.050	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-01P	68	3.047	2.542	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-02E	2	6.788	3.864	489.8	7.247	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-03P	52	4.466	2.542	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-04E	1	5.895	3.355	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-05P	51	3.930	2.237	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.4A-06L	10	3.481	1.981	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4A-06L (D/S)	10	3.481	1.981	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.7A-01P	60	2.088	1.189	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/4/2010 9:56:21AM

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.281

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_1 RH 32A to TK 32A**					***Sorted By:Remaining Life***		
RHD01.3A-01N	0.432	0.224	0.233	0.233	-14,552	No	203,584
RHD01.3A-03N	0.432	0.266	0.233	0.233	71,230	No	203,584
RHD01.3A-02P	0.432	0.369	0.233	0.233	432,838	Yes	203,584
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Remaining Life***		
RHD01.5A-03F	0.432	0.179	0.233	0.233	-77,044	No	203,584
RHD01.3A-04N	0.432	0.224	0.233	0.233	-14,552	No	203,584
RHD02.3A-02R	0.000	0.222	0.158	0.158	100,007	Yes	134,852
RHD02.3A-02R (D/S)	0.000	0.269	0.233	0.233	104,770	No	134,852
RHD01.3A-06E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-08E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-10E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-12E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-14E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.7A-02E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD02.4A-04E	0.432	0.295	0.233	0.233	162,210	No	203,584
RHD01.7A-03P	0.432	0.299	0.233	0.233	178,457	No	203,584
RHD01.8A-02P	0.376	0.265	0.158	0.158	182,675	Yes	203,584
RHD01.8A-01R (D/S)	0.000	0.312	0.158	0.158	212,249	Yes	203,584
RHD01.3A-15R	0.000	0.316	0.233	0.233	255,047	No	203,584
RHD01.3A-05P	0.432	0.320	0.233	0.233	277,740	No	203,584
RHD02.4A-02E	0.473	0.358	0.233	0.233	283,285	No	203,584
RHD01.7A-04E	0.458	0.358	0.233	0.233	286,407	Yes	203,584
RHD01.3A-07P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-09P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-11P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-13P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD02.4A-03P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.8A-01R	0.000	0.373	0.233	0.233	344,349	Yes	203,584
RHD01.6A-04E	0.500	0.409	0.303	0.303	414,323	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Remaining Life***		
RHD01.6A-06E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-08E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-10E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-12E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-14E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD02.4A-05P	0.432	0.341	0.233	0.233	422,154	No	203,584
RHD02.4A-01P	0.432	0.385	0.233	0.233	524,617	No	134,852
RHD01.6A-07P	0.500	0.421	0.303	0.303	534,948	No	203,584
RHD01.5A-02P	0.432	0.362	0.233	0.233	554,273	Yes	203,584
RHD01.3A-15R (D/S)	0.000	0.426	0.303	0.303	594,456	No	203,584
RHD01.6A-02T	0.500	0.426	0.303	0.303	594,456	No	203,584
RHD01.6A-02T (D/S)	0.000	0.426	0.303	0.303	594,456	No	203,584
RHD01.7A-01R (D/S)	0.000	0.357	0.233	0.233	595,449	No	203,584
RHD02.4A-06L (D/S)	0.000	0.513	0.378	0.378	598,065	No	203,584
RHD01.5A-05R	0.000	0.459	0.233	0.233	696,879	Yes	203,584
RHD02.4A-06L	0.594	0.553	0.378	0.378	776,360	Yes	203,584
RHD01.4A-01P_1	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-05P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-09P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-11P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-13P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-15P_1	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.7A-01R	0.000	0.438	0.303	0.303	784,883	No	203,584
RHD01.5A-05R (D/S)	0.000	0.470	0.303	0.303	808,122	Yes	203,584
RHD01.5A-01R	0.000	0.456	0.303	0.303	884,390	No	203,584
RHD01.6A-01P	0.500	0.458	0.303	0.303	895,999	Yes	203,584
RHD01.5A-01R (D/S)	0.000	0.452	0.233	0.233	1,049,247	No	203,584
RHD01.6A-03P_1	0.500	0.451	0.303	0.303	1,070,523	No	203,584
RHD01.5A-04P	0.432	0.406	0.233	0.233	1,223,341	Yes	203,584
RHD02.7A-01P	0.594	0.545	0.378	0.378	1,235,226	No	203,584
RHD01.4A-01P_2	0.500	0.473	0.303	0.303	2,239,051	No	203,584
RHD01.6A-03P_2	0.500	0.473	0.303	0.303	2,239,051	No	203,584
RHD01.6A-15P_2	0.500	0.473	0.303	0.303	2,239,051	No	203,584
RHD02.3A-01V	0.337	0.318	0.132	0.132	88,591,264	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.281

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_1 RH 32A to TK 32A**					***Sorted By:Flow Order***		
RHD01.3A-01N	0.432	0.224	0.233	0.233	-14,552	No	203,584
RHD01.3A-02P	0.432	0.369	0.233	0.233	432,838	Yes	203,584
RHD01.3A-03N	0.432	0.266	0.233	0.233	71,230	No	203,584
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Flow Order***		
RHD01.3A-04N	0.432	0.224	0.233	0.233	-14,552	No	203,584
RHD01.3A-05P	0.432	0.320	0.233	0.233	277,740	No	203,584
RHD01.3A-06E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-07P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-08E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-09P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-10E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-11P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-12E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-13P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD01.3A-14E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.3A-15R	0.000	0.316	0.233	0.233	255,047	No	203,584
RHD01.3A-15R (D/S)	0.000	0.426	0.303	0.303	594,456	No	203,584
RHD01.4A-01P_1	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.4A-01P_2	0.500	0.473	0.303	0.303	2,239,051	No	203,584
RHD01.5A-01R	0.000	0.456	0.303	0.303	884,390	No	203,584
RHD01.5A-01R (D/S)	0.000	0.452	0.233	0.233	1,049,247	No	203,584
RHD01.5A-02P	0.432	0.362	0.233	0.233	554,273	Yes	203,584
RHD01.5A-03F	0.432	0.179	0.233	0.233	-77,044	No	203,584
RHD01.5A-04P	0.432	0.406	0.233	0.233	1,223,341	Yes	203,584
RHD01.5A-05R	0.000	0.459	0.233	0.233	696,879	Yes	203,584
RHD01.5A-05R (D/S)	0.000	0.470	0.303	0.303	808,122	Yes	203,584
RHD01.6A-01P	0.500	0.458	0.303	0.303	895,999	Yes	203,584
RHD01.6A-02T	0.500	0.426	0.303	0.303	594,456	No	203,584
RHD01.6A-02T (D/S)	0.000	0.426	0.303	0.303	594,456	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3A_2 TK 32A to A HDR**					***Sorted By:Flow Order***		
RHD01.6A-03P_1	0.500	0.451	0.303	0.303	1,070,523	No	203,584
RHD01.6A-03P_2	0.500	0.473	0.303	0.303	2,239,051	No	203,584
RHD01.6A-04E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-05P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-06E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-07P	0.500	0.421	0.303	0.303	534,948	No	203,584
RHD01.6A-08E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-09P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-10E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-11P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-12E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-13P	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-14E	0.500	0.409	0.303	0.303	414,323	No	203,584
RHD01.6A-15P_1	0.500	0.438	0.303	0.303	784,883	No	203,584
RHD01.6A-15P_2	0.500	0.473	0.303	0.303	2,239,051	No	203,584
RHD01.7A-01R	0.000	0.438	0.303	0.303	784,883	No	203,584
RHD01.7A-01R (D/S)	0.000	0.357	0.233	0.233	595,449	No	203,584
RHD01.7A-02E	0.432	0.278	0.233	0.233	106,006	No	203,584
RHD01.7A-03P	0.432	0.299	0.233	0.233	178,457	No	203,584
RHD01.7A-04E	0.458	0.358	0.233	0.233	286,407	Yes	203,584
RHD01.8A-01R	0.000	0.373	0.233	0.233	344,349	Yes	203,584
RHD01.8A-01R (D/S)	0.000	0.312	0.158	0.158	212,249	Yes	203,584
RHD01.8A-02P	0.376	0.265	0.158	0.158	182,675	Yes	203,584
RHD02.3A-01V	0.337	0.318	0.132	0.132	88,591,264	No	203,584
RHD02.3A-02R	0.000	0.222	0.158	0.158	100,007	Yes	134,852
RHD02.3A-02R (D/S)	0.000	0.269	0.233	0.233	104,770	No	134,852
RHD02.4A-01P	0.432	0.385	0.233	0.233	524,617	No	134,852
RHD02.4A-02E	0.473	0.358	0.233	0.233	283,285	No	203,584
RHD02.4A-03P	0.432	0.328	0.233	0.233	328,574	No	203,584
RHD02.4A-04E	0.432	0.295	0.233	0.233	162,210	No	203,584
RHD02.4A-05P	0.432	0.341	0.233	0.233	422,154	No	203,584
RHD02.4A-06L	0.594	0.553	0.378	0.378	776,360	Yes	203,584
RHD02.4A-06L (D/S)	0.000	0.513	0.378	0.378	598,065	No	203,584
RHD02.7A-01P	0.594	0.545	0.378	0.378	1,235,226	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: RHD: RH 32A TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.281

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-01.3A_1 RH 32A to TK 32A**											***Sorted By: Flow Order***
RHD01.3A-02P	0.432	101.6	60.0	101.6	60.0	0.379	MT	170,123	330.4	379.0	10.5	170,123
===>Grouped by Line:	**RHD-01.3A_2 TK 32A to A HDR**											***Sorted By: Flow Order***
RHD01.5A-02P	0.432	67.6	83.0	67.6	83.0	0.377	GW	137,201	364.4	377.0	15.5	137,201
RHD01.5A-04P	0.432	41.1	53.0	41.1	53.0	0.415	GW	137,201	390.9	415.0	9.4	137,201
RHD01.5A-05R	0.000	94.6	57.0	94.6	57.0	0.481	MT	137,201	337.4	481.0	21.6	137,201
RHD01.5A-05R (D/S)	0.000	60.2	67.0	60.2	67.0	0.484	MT	137,201	439.8	484.0	13.8	137,201
RHD01.6A-01P	0.500	50.1	65.0	50.1	65.0	0.469	GW	137,201	449.9	469.0	11.5	137,201
RHD01.7A-04E	0.458	116.2	60.0	116.2	60.0	0.398	GW	107,911	341.8	398.0	40.0	107,911
RHD01.8A-01R	0.000	108.1	133.0	108.1	133.0	0.410	MT	107,911	323.9	410.0	37.2	107,911
RHD01.8A-01R (D/S)	0.000	198.5	135.0	198.5	135.0	0.379	MT	107,911	138.5	379.0	66.7	107,911
RHD01.8A-02P	0.376	159.1	97.0	159.1	97.0	0.318	MT	107,911	216.9	318.0	53.4	107,911
RHD02.3A-02R	0.000	45.7	100.0	45.7	100.0	0.243	MT	170,123	254.3	243.0	21.3	107,911
RHD02.4A-06L	0.594	73.3	65.0	73.3	65.0	0.561	MT	170,123	520.7	561.0	7.6	170,123

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/3/2010 4:45:50PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.932

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_1 RH 32B to TK 32B***								***Sorted By: Average Wear Rate***		
RHD01.3B-01N	31	7.983	4.544	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-03N	30	6.387	3.635	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-02P	61	4.311	2.454	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.5B-03F	6	9.711	5.527	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-04N	31	7.983	4.544	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-06E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-08E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-10E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-12E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-14E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-16E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-18E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.9B-01R (D/S)	17	5.736	3.199	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3B-02R	18	4.938	4.976	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.7B-03R	18	4.471	2.545	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-20R	18	4.471	2.545	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-05R	18	4.471	2.545	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-05P	61	4.311	2.454	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-07P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-09P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-11P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-13P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-15P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-17P	52	3.992	2.272	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-19P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-02P	67	3.248	1.848	489.8	7.170	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7B-02P	67	3.193	1.818	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.7B-01R (D/S)	17	2.874	1.636	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-01R (D/S)	17	2.874	1.636	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.6B-19E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-04E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-06E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-02E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-02E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-06E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-08E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-10E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-11E	4	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-13E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-15E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-02E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-04E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-06E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-04E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-12P	54	1.991	1.133	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.5B-04P	56	1.942	1.105	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.6B-17T (D/S)	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-21T (D/S)	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.7B-03R (D/S)	18	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-21T	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.3B-20R (D/S)	18	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.5B-05R (D/S)	18	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-17T	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-01P	68	1.580	0.899	489.8	2.524	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.7B-01R	17	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-20P_1	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-01P_1	68	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-05P	52	1.555	0.885	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.9B-01R	17	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.4B-01P_1	68	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-03P	52	1.555	0.885	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.5B-01R	17	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-03P_1	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-07P	52	1.555	0.885	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.6B-09P_1	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-14P	52	1.555	0.885	489.8	3.172	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-16P	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-07P	51	1.377	0.784	489.8	2.496	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-03P	51	1.369	0.779	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-05P	51	1.369	0.779	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-05P	51	1.369	0.779	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-18P	65	1.244	0.708	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-22P_1	65	1.244	0.708	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-01P	68	1.061	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.3B-02R (D/S)	18	1.054	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-22P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-20P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-01P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.4B-01P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-03P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-09P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.3B-01V	24	0.029	0.016	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 4:45:50PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.932

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_1 RH 32B to TK 32B***									***Sorted By: Flow Order***	
RHD01.3B-01N	31	7.983	4.544	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-02P	61	4.311	2.454	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-03N	30	6.387	3.635	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***									***Sorted By: Flow Order***	
RHD01.3B-04N	31	7.983	4.544	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-05P	61	4.311	2.454	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-06E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-07P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-08E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-09P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-10E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-11P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-12E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-13P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-14E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-15P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-16E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-17P	52	3.992	2.272	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-18E	2	5.908	3.363	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-19P	52	3.992	2.272	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-20R	18	4.471	2.545	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.3B-20R (D/S)	18	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.4B-01P_1	68	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.4B-01P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.5B-01R	17	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.5B-01R (D/S)	17	2.874	1.636	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-02P	67	3.248	1.848	489.8	7.170	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***									***Sorted By: Flow Order***	
RHD01.5B-03F	6	9.711	5.527	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-04P	56	1.942	1.105	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-05R	18	4.471	2.545	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.5B-05R (D/S)	18	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-01P	68	1.580	0.899	489.8	2.524	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-02E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-03P_1	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-03P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-04E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-05P	51	1.369	0.779	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-06E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-07P	52	1.555	0.885	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-08E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-09P_1	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-09P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-10E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-11E	4	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-12P	54	1.991	1.133	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-13E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-14P	52	1.555	0.885	489.8	3.172	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-15E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-16P	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-17T	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-17T (D/S)	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-18P	65	1.244	0.708	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-19E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-20P_1	52	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-20P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-21T	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-21T (D/S)	15	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-22P_1	65	1.244	0.708	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.6B-22P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.7B-01R	17	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.7B-01R (D/S)	17	2.874	1.636	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7B-02P	67	3.193	1.818	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.7B-03R	18	4.471	2.545	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.3B_2 TK 32B to B HDR***									***Sorted By: Flow Order***	
RHD01.7B-03R (D/S)	18	1.867	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-01P_1	68	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-01P_2	9	0.684	0.390	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-02E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-03P	51	1.369	0.779	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-04E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-05P	52	1.555	0.885	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.8B-06E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.9B-01R	17	1.555	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD01.9B-01R (D/S)	17	5.736	3.199	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3B-01V	24	0.029	0.016	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3B-02R	18	4.938	4.976	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.3B-02R (D/S)	18	1.054	1.062	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-01P	68	1.061	0.885	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-02E	2	2.302	1.310	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-03P	52	1.555	0.885	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-04E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-05P	51	1.369	0.779	489.8	12.437	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-06E	1	2.053	1.169	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.4B-07P	51	1.377	0.784	489.8	2.496	3.9	10.750	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/3/2010 4:45:50PM

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.932

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_1 RH 32B to TK 32B**					***Sorted By:Remaining Life***		
RHD01.3B-03N	0.432	0.383	0.233	0.233	362,236	Yes	203,584
RHD01.3B-02P	0.432	0.365	0.233	0.233	473,152	Yes	203,584
RHD01.3B-01N	0.432	0.742	0.233	0.233	982,455	Yes	203,584
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Remaining Life***		
RHD01.5B-03F	0.432	0.206	0.233	0.233	-42,289	No	203,584
RHD01.3B-06E	0.432	0.333	0.233	0.233	260,373	Yes	203,584
RHD01.3B-16E	0.432	0.334	0.233	0.233	264,166	Yes	203,584
RHD01.3B-04N	0.432	0.375	0.233	0.233	274,870	Yes	203,584
RHD01.3B-08E	0.432	0.373	0.233	0.233	364,580	Yes	203,584
RHD01.3B-10E	0.432	0.373	0.233	0.233	366,194	Yes	203,584
RHD01.3B-14E	0.432	0.378	0.233	0.233	379,220	Yes	203,584
RHD01.3B-12E	0.432	0.395	0.233	0.233	423,509	Yes	203,584
RHD01.3B-18E	0.432	0.396	0.233	0.233	425,688	Yes	203,584
RHD01.9B-01R (D/S)	0.000	0.323	0.158	0.158	450,797	Yes	203,584
RHD02.3B-02R	0.000	0.442	0.158	0.158	500,258	No	50,115
RHD01.3B-19P	0.432	0.365	0.233	0.233	510,367	Yes	203,584
RHD01.3B-09P	0.432	0.370	0.233	0.233	529,604	Yes	203,584
RHD01.3B-15P	0.432	0.376	0.233	0.233	550,809	Yes	203,584
RHD01.3B-07P	0.432	0.377	0.233	0.233	556,594	Yes	203,584
RHD01.3B-17P	0.432	0.377	0.233	0.233	556,636	Yes	203,584
RHD01.3B-13P	0.432	0.381	0.233	0.233	570,088	Yes	203,584
RHD01.3B-05P	0.432	0.393	0.233	0.233	572,905	Yes	203,584
RHD01.3B-11P	0.432	0.388	0.233	0.233	597,077	Yes	203,584
RHD01.7B-02P	0.432	0.358	0.233	0.233	602,069	No	203,584
RHD01.3B-20R	0.000	0.424	0.233	0.233	657,104	Yes	203,584
RHD01.5B-01R (D/S)	0.000	0.365	0.233	0.233	708,707	No	203,584
RHD01.7B-01R (D/S)	0.000	0.365	0.233	0.233	708,707	No	203,584
RHD01.5B-02P	0.458	0.383	0.233	0.233	709,232	No	203,584
RHD01.7B-03R	0.000	0.516	0.233	0.233	975,982	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Remaining Life***		
RHD02.4B-01P	0.594	0.480	0.378	0.378	1,013,438	No	134,852
RHD01.7B-03R (D/S)	0.000	0.504	0.378	0.378	1,039,116	Yes	203,584
RHD01.6B-06E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-11E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-08E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-10E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-13E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-15E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-19E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.8B-04E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-04E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD01.8B-02E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD02.4B-04E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD02.4B-06E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD01.6B-02E	0.594	0.570	0.378	0.378	1,281,627	Yes	203,584
RHD01.6B-12P	0.594	0.548	0.378	0.378	1,313,120	No	203,584
RHD01.5B-04P	0.475	0.408	0.233	0.233	1,385,581	Yes	203,584
RHD01.6B-17T	0.594	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-17T (D/S)	0.000	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-21T	0.594	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-21T (D/S)	0.000	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-03P_1	0.594	0.532	0.378	0.378	1,524,897	Yes	203,584
RHD02.4B-02E	0.000	0.626	0.378	0.378	1,662,015	Yes	203,584
RHD01.8B-01P_1	0.594	0.548	0.378	0.378	1,680,846	Yes	203,584
RHD01.4B-01P_1	0.594	0.548	0.378	0.378	1,682,560	Yes	203,584
RHD01.6B-07P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.5B-01R	0.000	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-09P_1	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-14P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-16P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-20P_1	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.7B-01R	0.000	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.8B-05P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD02.4B-03P	0.594	0.560	0.378	0.378	1,801,295	Yes	203,584
RHD01.6B-01P	0.634	0.566	0.378	0.378	1,831,680	Yes	203,584
RHD01.9B-01R	0.000	0.571	0.378	0.378	1,913,843	Yes	203,584
RHD01.8B-06E	0.594	0.681	0.378	0.378	2,027,490	Yes	203,584
RHD01.6B-05P	0.594	0.562	0.378	0.378	2,072,574	No	203,584
RHD01.8B-03P	0.594	0.562	0.378	0.378	2,072,574	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Remaining Life***		
RHD02.4B-05P	0.594	0.562	0.378	0.378	2,072,574	No	203,584
RHD01.5B-05R	0.000	0.841	0.233	0.233	2,092,010	Yes	203,584
RHD02.4B-07P	0.609	0.577	0.378	0.378	2,226,085	No	203,584
RHD01.6B-18P	0.594	0.565	0.378	0.378	2,315,599	No	203,584
RHD01.6B-22P_1	0.594	0.565	0.378	0.378	2,315,599	No	203,584
RHD01.5B-05R (D/S)	0.000	0.722	0.378	0.378	2,837,343	Yes	203,584
RHD01.3B-20R (D/S)	0.000	0.723	0.378	0.378	2,848,236	Yes	203,584
RHD02.3B-02R (D/S)	0.000	0.799	0.378	0.378	3,472,004	No	50,115
RHD01.6B-03P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.4B-01P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.6B-09P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.6B-20P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.6B-22P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.8B-01P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD02.3B-01V	0.337	0.621	0.132	0.132	261,151,664	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.932

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_1 RH 32B to TK 32B**					***Sorted By:Flow Order***		
RHD01.3B-01N	0.432	0.742	0.233	0.233	982,455	Yes	203,584
RHD01.3B-02P	0.432	0.365	0.233	0.233	473,152	Yes	203,584
RHD01.3B-03N	0.432	0.383	0.233	0.233	362,236	Yes	203,584
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Flow Order***		
RHD01.3B-04N	0.432	0.375	0.233	0.233	274,870	Yes	203,584
RHD01.3B-05P	0.432	0.393	0.233	0.233	572,905	Yes	203,584
RHD01.3B-06E	0.432	0.333	0.233	0.233	260,373	Yes	203,584
RHD01.3B-07P	0.432	0.377	0.233	0.233	556,594	Yes	203,584
RHD01.3B-08E	0.432	0.373	0.233	0.233	364,580	Yes	203,584
RHD01.3B-09P	0.432	0.370	0.233	0.233	529,604	Yes	203,584
RHD01.3B-10E	0.432	0.373	0.233	0.233	366,194	Yes	203,584
RHD01.3B-11P	0.432	0.388	0.233	0.233	597,077	Yes	203,584
RHD01.3B-12E	0.432	0.395	0.233	0.233	423,509	Yes	203,584
RHD01.3B-13P	0.432	0.381	0.233	0.233	570,088	Yes	203,584
RHD01.3B-14E	0.432	0.378	0.233	0.233	379,220	Yes	203,584
RHD01.3B-15P	0.432	0.376	0.233	0.233	550,809	Yes	203,584
RHD01.3B-16E	0.432	0.334	0.233	0.233	264,166	Yes	203,584
RHD01.3B-17P	0.432	0.377	0.233	0.233	556,636	Yes	203,584
RHD01.3B-18E	0.432	0.396	0.233	0.233	425,688	Yes	203,584
RHD01.3B-19P	0.432	0.365	0.233	0.233	510,367	Yes	203,584
RHD01.3B-20R	0.000	0.424	0.233	0.233	657,104	Yes	203,584
RHD01.3B-20R (D/S)	0.000	0.723	0.378	0.378	2,848,236	Yes	203,584
RHD01.4B-01P_1	0.594	0.548	0.378	0.378	1,682,560	Yes	203,584
RHD01.4B-01P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.5B-01R	0.000	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.5B-01R (D/S)	0.000	0.365	0.233	0.233	708,707	No	203,584
RHD01.5B-02P	0.458	0.383	0.233	0.233	709,232	No	203,584
RHD01.5B-03F	0.432	0.206	0.233	0.233	-42,289	No	203,584
RHD01.5B-04P	0.475	0.408	0.233	0.233	1,385,581	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Flow Order***		
RHD01.5B-05R	0.000	0.841	0.233	0.233	2,092,010	Yes	203,584
RHD01.5B-05R (D/S)	0.000	0.722	0.378	0.378	2,837,343	Yes	203,584
RHD01.6B-01P	0.634	0.566	0.378	0.378	1,831,680	Yes	203,584
RHD01.6B-02E	0.594	0.570	0.378	0.378	1,281,627	Yes	203,584
RHD01.6B-03P_1	0.594	0.532	0.378	0.378	1,524,897	Yes	203,584
RHD01.6B-03P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.6B-04E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD01.6B-05P	0.594	0.562	0.378	0.378	2,072,574	No	203,584
RHD01.6B-06E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-07P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-08E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-09P_1	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-09P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.6B-10E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-11E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-12P	0.594	0.548	0.378	0.378	1,313,120	No	203,584
RHD01.6B-13E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-14P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-15E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-16P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-17T	0.594	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-17T (D/S)	0.000	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-18P	0.594	0.565	0.378	0.378	2,315,599	No	203,584
RHD01.6B-19E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.6B-20P_1	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.6B-20P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.6B-21T	0.594	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-21T (D/S)	0.000	0.551	0.378	0.378	1,424,507	No	203,584
RHD01.6B-22P_1	0.594	0.565	0.378	0.378	2,315,599	No	203,584
RHD01.6B-22P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.7B-01R	0.000	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.7B-01R (D/S)	0.000	0.365	0.233	0.233	708,707	No	203,584
RHD01.7B-02P	0.432	0.358	0.233	0.233	602,069	No	203,584
RHD01.7B-03R	0.000	0.516	0.233	0.233	975,982	No	203,584
RHD01.7B-03R (D/S)	0.000	0.504	0.378	0.378	1,039,116	Yes	203,584
RHD01.8B-01P_1	0.594	0.548	0.378	0.378	1,680,846	Yes	203,584
RHD01.8B-01P_2	0.594	0.578	0.378	0.378	4,502,824	No	203,584
RHD01.8B-02E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD01.8B-03P	0.594	0.562	0.378	0.378	2,072,574	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.3B_2 TK 32B to B HDR**					***Sorted By:Flow Order***		
RHD01.8B-04E	0.594	0.540	0.378	0.378	1,087,337	No	203,584
RHD01.8B-05P	0.594	0.558	0.378	0.378	1,780,944	No	203,584
RHD01.8B-06E	0.594	0.681	0.378	0.378	2,027,490	Yes	203,584
RHD01.9B-01R	0.000	0.571	0.378	0.378	1,913,843	Yes	203,584
RHD01.9B-01R (D/S)	0.000	0.323	0.158	0.158	450,797	Yes	203,584
RHD02.3B-01V	0.337	0.621	0.132	0.132	261,151,664	No	203,584
RHD02.3B-02R	0.000	0.442	0.158	0.158	500,258	No	50,115
RHD02.3B-02R (D/S)	0.000	0.799	0.378	0.378	3,472,004	No	50,115
RHD02.4B-01P	0.594	0.480	0.378	0.378	1,013,438	No	134,852
RHD02.4B-02E	0.000	0.626	0.378	0.378	1,662,015	Yes	203,584
RHD02.4B-03P	0.594	0.560	0.378	0.378	1,801,295	Yes	203,584
RHD02.4B-04E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD02.4B-05P	0.594	0.562	0.378	0.378	2,072,574	No	203,584
RHD02.4B-06E	0.594	0.546	0.378	0.378	1,262,490	No	203,584
RHD02.4B-07P	0.609	0.577	0.378	0.378	2,226,085	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: RHD: RH 32B TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 2.932

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-01.3B_1 RH 32B to TK 32B**											***Sorted By: Flow Order***
RHD01.3B-01N	0.432	127.0	84.0	127.0	84.0	0.801	GW	92,205	305.0	801.0	58.5	92,205
RHD01.3B-02P	0.432	68.6	50.0	68.6	50.0	0.397	GW	92,205	363.4	397.0	31.6	92,205
RHD01.3B-03N	0.432	101.6	66.0	101.6	66.0	0.430	GW	92,205	330.4	430.0	46.8	92,205
===>Grouped by Line:	**RHD-01.3B_2 TK 32B to B HDR**											***Sorted By: Flow Order***
RHD01.3B-04N	0.432	151.0	74.0	151.0	74.0	0.410	GW	137,201	281.0	410.0	34.6	137,201
RHD01.3B-05P	0.432	81.5	39.0	81.5	39.0	0.412	GW	137,201	350.5	412.0	18.7	137,201
RHD01.3B-06E	0.432	102.1	131.0	102.1	131.0	0.368	GW	107,911	329.9	368.0	35.2	107,911
RHD01.3B-07P	0.432	69.0	47.0	69.0	47.0	0.401	GW	107,911	363.0	401.0	23.8	107,911
RHD01.3B-08E	0.432	102.1	41.0	102.1	41.0	0.408	GW	107,911	329.9	408.0	35.2	107,911
RHD01.3B-09P	0.432	69.0	53.0	69.0	53.0	0.394	GW	107,911	363.0	394.0	23.8	107,911
RHD01.3B-10E	0.432	111.7	56.0	111.7	56.0	0.399	GW	137,201	320.3	399.0	25.6	137,201
RHD01.3B-11P	0.432	75.5	36.0	75.5	36.0	0.405	GW	137,201	356.5	405.0	17.3	137,201
RHD01.3B-12E	0.432	111.7	66.0	111.7	66.0	0.421	GW	137,201	320.3	421.0	25.6	137,201
RHD01.3B-13P	0.432	75.5	41.0	75.5	41.0	0.398	GW	137,201	356.5	398.0	17.3	137,201
RHD01.3B-14E	0.432	111.7	85.0	111.7	85.0	0.404	GW	137,201	320.3	404.0	25.6	137,201
RHD01.3B-15P	0.432	75.5	67.0	75.5	67.0	0.393	GW	137,201	356.5	393.0	17.3	137,201
RHD01.3B-16E	0.432	106.6	111.0	106.6	111.0	0.365	GW	121,025	325.4	365.0	30.7	121,025
RHD01.3B-17P	0.432	72.0	54.0	72.0	54.0	0.398	GW	121,025	360.0	398.0	20.8	121,025
RHD01.3B-18E	0.432	106.6	97.0	106.6	97.0	0.427	GW	121,025	325.4	427.0	30.7	121,025
RHD01.3B-19P	0.432	72.0	69.0	72.0	69.0	0.386	GW	121,025	360.0	386.0	20.8	121,025
RHD01.3B-20R	0.000	80.6	99.0	80.6	99.0	0.447	MT	121,025	351.4	447.0	23.3	121,025
RHD01.3B-20R (D/S)	0.000	33.7	104.0	33.7	104.0	0.733	GW	121,025	560.3	733.0	9.7	121,025
RHD01.4B-01P_1	0.594	28.1	59.0	28.1	59.0	0.556	GW	121,025	565.9	556.0	8.1	121,025
RHD01.5B-04P	0.475	38.9	49.0	38.9	49.0	0.414	GW	153,469	436.1	414.0	6.3	153,469
RHD01.5B-05R	0.000	89.5	111.0	89.5	111.0	0.855	GW	153,469	342.5	855.0	14.4	153,469
RHD01.5B-05R (D/S)	0.000	37.3	106.0	37.3	106.0	0.728	GW	153,469	556.7	728.0	6.0	153,469
RHD01.6B-01P	0.634	31.6	73.0	31.6	73.0	0.571	GW	153,469	602.4	571.0	5.1	153,469

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-01.3B_2 TK 32B to B HDR**											***Sorted By: Flow Order***
RHD01.6B-02E	0.594	46.1	86.0	46.1	86.0	0.577	GW	153,469	547.9	577.0	7.4	153,469
RHD01.6B-03P_1	0.594	31.1	132.0	31.1	132.0	0.537	GW	153,469	562.9	537.0	5.0	153,469
RHD01.7B-03R (D/S)	0.000	32.3	79.0	32.3	79.0	0.515	GW	107,911	561.7	515.0	11.1	107,911
RHD01.8B-01P_1	0.594	26.9	76.0	26.9	76.0	0.557	GW	107,911	567.1	557.0	9.3	107,911
RHD01.8B-06E	0.594	36.6	87.0	36.6	87.0	0.698	GW	92,205	557.4	698.0	16.9	92,205
RHD01.9B-01R	0.000	34.4	56.0	34.4	56.0	0.573	MT	186,592	559.6	573.0	1.7	186,592
RHD01.9B-01R (D/S)	0.000	127.1	81.0	127.1	81.0	0.329	MT	186,592	209.9	329.0	6.2	186,592
RHD02.3B-02R	0.000	55.4	72.0	0.0	0.0	0.452	MT	186,592	318.4	452.0	9.7	0
RHD02.4B-02E	0.000	51.0	146.0	51.0	146.0	0.629	MT	186,592	543.0	629.0	2.5	186,592
RHD02.4B-03P	0.594	28.1	56.0	28.1	56.0	0.568	GW	121,025	565.9	568.0	8.1	121,025

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 4:22:57PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.306

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_1 RH 33A to TK 33A***								***Sorted By: Average Wear Rate***		
RHD01.10A-01N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-03N	30	7.200	4.098	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-02P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.13A-01R (D/S)	7	11.496	6.412	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.10A-18F	6	10.948	6.232	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-04N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.5A-02R	18	6.808	5.610	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.12A-03E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-04E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-06E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-10E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-08E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-14E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-02E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-16E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.13A-01R	7	6.300	3.586	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-06E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-08E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-12E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-04E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-01T (D/S)	14	5.878	3.345	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12A-01T	14	5.878	3.345	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12A-05P	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-20R	18	5.040	2.869	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-05P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-07P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-11P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***								***Sorted By: Average Wear Rate***		
RHD01.10A-15P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-03P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-17P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-07P	51	3.960	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-09P	51	3.960	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-13P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.11A-01E	4	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11A-03E	2	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.5A-02R (D/S)	18	3.684	3.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-02P	64	3.600	2.049	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.11A-02P	54	3.420	1.946	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.10A-20R (D/S)	18	3.206	1.825	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.6A-01P	57	3.070	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.11A-04P	52	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.6A-05P	51	2.254	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-19P	56	2.190	1.246	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.5A-01V	24	0.033	0.018	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.10B_1 RH 33B to TK 33B***								***Sorted By: Average Wear Rate***		
RHD01.10B-01N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-03N	30	7.200	4.098	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-02P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.10B-26F	6	10.948	6.232	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-52T (D/S)	10	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-04N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-52T	10	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-54E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-08E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-56E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-10E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-58E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-12E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-60E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-14E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-62E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-15E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.10B-63E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-17E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-19E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-21E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-22E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-24E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-28E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-30E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-42E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-44E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-46E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-48E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-50E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12B-01R (D/S)	17	6.466	3.606	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD01.10B-06E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-32E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-34E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-36E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-38E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-40E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-13P_1	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-16P	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-23P	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-53P	60	5.400	3.074	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-64R	18	5.040	2.869	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-05P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-55P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-09P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-57P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-11P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-59P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-61P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-18P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-20P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-25P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-29P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-31P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***								***Sorted By: Average Wear Rate***		
RHD01.10B-43P	52	4.500	2.561	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-45P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-47P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-49P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-51P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-07P	51	3.960	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-33P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-35P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-37P_1	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-39P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-41P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.11B-02E	2	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-04E	2	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.6B-02P	54	3.467	1.973	489.8	10.997	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.10B-64R (D/S)	18	3.206	1.825	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-01P_1	68	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-03P	52	2.672	1.521	489.8	11.023	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-05P	52	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12B-01R	17	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.6B-01E	4	2.299	2.317	489.8	4.100	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.10B-27P	56	2.190	1.246	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-57P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-13P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-61P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-25P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-37P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-47P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.11B-01P_2	9	1.176	0.669	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.5B-01V	24	0.033	0.018	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 4:22:57PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.306

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_1 RH 33A to TK 33A***									***Sorted By: Flow Order***	
RHD01.10A-01N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-02P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-03N	30	7.200	4.098	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***									***Sorted By: Flow Order***	
RHD01.10A-04N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-05P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-06E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-07P	51	3.960	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-08E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-09P	51	3.960	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-10E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-11P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-12E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-13P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-14E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-15P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-16E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-17P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-18F	6	10.948	6.232	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-19P	56	2.190	1.246	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-20R	18	5.040	2.869	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10A-20R (D/S)	18	3.206	1.825	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11A-01E	4	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11A-02P	54	3.420	1.946	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11A-03E	2	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11A-04P	52	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12A-01T	14	5.878	3.345	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10A_2 TK 33A to A HDR***									***Sorted By: Flow Order***	
RHD01.12A-01T (D/S)	14	5.878	3.345	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12A-02P	64	3.600	2.049	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-03E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-04E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-05P	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-06E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-07P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.12A-08E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.13A-01R	7	6.300	3.586	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.13A-01R (D/S)	7	11.496	6.412	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.5A-01V	24	0.033	0.018	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.5A-02R	18	6.808	5.610	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.5A-02R (D/S)	18	3.684	3.074	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-01P	57	3.070	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-02E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-03P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-04E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.6A-05P	51	2.254	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.10B_1 RH 33B to TK 33B***									***Sorted By: Flow Order***	
RHD01.10B-01N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-02P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-03N	30	7.200	4.098	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***									***Sorted By: Flow Order***	
RHD01.10B-04N	31	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-05P	61	4.860	2.766	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-06E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-07P	51	3.960	2.254	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-08E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-09P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-10E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-11P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-12E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-13P_1	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-13P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-14E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-15E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***									***Sorted By: Flow Order***	
RHD01.10B-16P	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-17E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-18P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-19E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-20P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-21E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-22E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-23P	54	5.760	3.279	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-24E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-25P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-25P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-26F	6	10.948	6.232	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-27P	56	2.190	1.246	489.8	8.712	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-28E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-29P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-30E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-31P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-32E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-33P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-34E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-35P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-36E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-37P_1	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-37P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-38E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-39P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-40E	1	5.940	3.381	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-41P	51	3.960	2.254	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-42E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-43P	52	4.500	2.561	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-44E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-45P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-46E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-47P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-47P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-48E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-01.10B_2 TK 33B to B HDR***									***Sorted By: Flow Order***	
RHD01.10B-49P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-50E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-51P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-52T	10	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-52T (D/S)	10	9.000	5.123	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-53P	60	5.400	3.074	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-54E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-55P	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-56E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-57P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-57P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-58E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-59P	52	4.500	2.561	489.8	11.433	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-60E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-61P_1	52	4.500	2.561	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-61P_2	9	1.980	1.127	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-62E	2	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-63E	4	6.660	3.791	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-64R	18	5.040	2.869	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD01.10B-64R (D/S)	18	3.206	1.825	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-01P_1	68	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-01P_2	9	1.176	0.669	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-02E	2	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-03P	52	2.672	1.521	489.8	11.023	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-04E	2	3.954	2.251	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.11B-05P	52	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12B-01R	17	2.672	1.521	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD01.12B-01R (D/S)	17	6.466	3.606	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.5B-01V	24	0.033	0.018	489.8	16.071	3.9	4.500	6.413	0.000	37.79	HBD
RHD02.6B-01E	4	2.299	2.317	489.8	4.100	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.6B-02P	54	3.467	1.973	489.8	10.997	3.9	8.625	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 4:22:57PM

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.306

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10A_1 RH 33A to TK 33A**					***Sorted By:Remaining Life***		
RHD01.10A-01N	0.432	0.223	0.233	0.233	-17,158	No	203,584
RHD01.10A-03N	0.432	0.265	0.233	0.233	67,972	No	203,584
RHD01.10A-02P	0.432	0.319	0.233	0.233	272,914	No	203,584
===>Grouped by Line: **RHD-01.10A_2 TK 33A to A HDR**					***Sorted By:Remaining Life***		
RHD01.10A-18F	0.432	0.178	0.233	0.233	-79,692	No	203,584
RHD01.10A-04N	0.432	0.223	0.233	0.233	-17,158	No	203,584
RHD02.5A-02R (D/S)	0.000	0.248	0.233	0.233	43,869	Yes	134,852
RHD01.12A-03E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.12A-04E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.12A-06E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10A-16E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10A-14E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10A-10E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD02.5A-02R	0.000	0.228	0.158	0.158	108,362	No	134,852
RHD01.13A-01R (D/S)	0.000	0.265	0.158	0.158	145,724	Yes	203,584
RHD01.10A-06E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD02.6A-04E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10A-12E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10A-08E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.12A-05P	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD02.6A-02E	0.432	0.309	0.233	0.233	174,821	Yes	203,584
RHD01.10A-05P	0.432	0.319	0.233	0.233	272,914	No	203,584
RHD01.12A-08E	0.432	0.356	0.233	0.233	285,295	Yes	203,584
RHD01.10A-17P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.12A-07P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10A-15P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10A-11P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.12A-01T	0.000	0.427	0.303	0.303	324,223	No	203,584
RHD01.12A-01T (D/S)	0.000	0.439	0.303	0.303	355,645	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-01.10A_2 TK 33A to A HDR**				***Sorted By:Remaining Life***		
RHD01.11A-03E	0.500	0.408	0.303	0.303	408,459	No	203,584
RHD02.6A-03P	0.432	0.353	0.233	0.233	411,597	Yes	203,584
RHD01.10A-13P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10A-09P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10A-07P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.13A-01R	0.000	0.420	0.233	0.233	458,294	Yes	203,584
RHD02.6A-01P	0.432	0.385	0.233	0.233	519,404	No	134,852
RHD01.11A-01E	0.500	0.442	0.303	0.303	541,249	Yes	203,584
RHD01.11A-02P	0.500	0.432	0.303	0.303	579,585	Yes	203,584
RHD01.12A-02P	0.432	0.390	0.233	0.233	669,846	No	203,584
RHD01.10A-20R	0.000	0.460	0.233	0.233	692,694	No	203,584
RHD02.6A-05P	0.000	0.423	0.233	0.233	740,446	No	33,461
RHD01.11A-04P	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.10A-20R (D/S)	0.000	0.472	0.303	0.303	808,759	Yes	203,584
RHD01.10A-19P	0.432	0.399	0.233	0.233	1,167,166	Yes	203,584
RHD02.5A-01V	0.337	0.490	0.132	0.132	169,492,144	No	203,584
===>Grouped by Line:	**RHD-01.10B_1 RH 33B to TK 33B**				***Sorted By:Remaining Life***		
RHD01.10B-01N	0.432	0.348	0.233	0.233	197,543	Yes	203,584
RHD01.10B-03N	0.432	0.370	0.233	0.233	293,360	Yes	203,584
RHD01.10B-02P	0.432	0.365	0.233	0.233	418,581	Yes	203,584
===>Grouped by Line:	**RHD-01.10B_2 TK 33B to B HDR**				***Sorted By:Remaining Life***		
RHD01.10B-26F	0.432	0.178	0.233	0.233	-79,692	No	203,584
RHD01.10B-04N	0.432	0.223	0.233	0.233	-17,158	No	203,584
RHD01.12B-01R (D/S)	0.000	0.187	0.158	0.158	69,345	No	203,584
RHD01.10B-08E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-10E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-12E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-14E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-15E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-17E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-19E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-21E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-22E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-24E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-30E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-42E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-44E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-46E	0.432	0.277	0.233	0.233	102,484	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Remaining Life***		
RHD01.10B-48E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-50E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-54E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-56E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-58E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-60E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-62E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-63E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-06E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-32E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-34E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-36E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-38E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-40E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-13P_1	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.10B-16P	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.10B-23P	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.10B-64R	0.000	0.315	0.233	0.233	250,393	No	203,584
RHD01.10B-05P	0.432	0.319	0.233	0.233	272,914	No	203,584
RHD01.10B-09P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-11P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-18P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-20P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-25P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-31P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-43P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-45P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-47P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-49P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-51P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-55P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-57P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-59P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-61P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-52T (D/S)	0.000	0.430	0.233	0.233	337,763	Yes	203,584
RHD01.10B-52T	0.432	0.466	0.233	0.233	399,323	No	203,584
RHD01.11B-02E	0.500	0.408	0.303	0.303	408,459	No	203,584
RHD01.11B-04E	0.500	0.408	0.303	0.303	408,459	No	203,584
RHD01.10B-07P	0.432	0.340	0.233	0.233	416,230	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Remaining Life***		
RHD01.10B-33P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-35P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-37P_1	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-39P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-41P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-53P	0.432	0.380	0.233	0.233	418,855	Yes	203,584
RHD01.10B-28E	0.432	0.451	0.233	0.233	505,171	Yes	203,584
RHD01.10B-29P	0.432	0.394	0.233	0.233	552,644	Yes	203,584
RHD01.10B-64R (D/S)	0.000	0.425	0.303	0.303	587,224	No	203,584
RHD02.6B-02P	0.528	0.447	0.303	0.303	640,402	No	203,584
RHD01.11B-01P_1	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.11B-03P	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.11B-05P	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.12B-01R	0.000	0.438	0.303	0.303	776,205	No	203,584
RHD02.6B-01E	0.559	0.546	0.303	0.303	917,576	No	50,115
RHD01.10B-13P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-25P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-37P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-47P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-57P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-61P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-27P	0.432	0.435	0.233	0.233	1,420,199	Yes	203,584
RHD01.11B-01P_2	0.500	0.473	0.303	0.303	2,219,326	No	203,584
RHD02.5B-01V	0.337	0.552	0.132	0.132	198,908,816	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.306

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10A_1 RH 33A to TK 33A**					***Sorted By:Flow Order***		
RHD01.10A-01N	0.432	0.223	0.233	0.233	-17,158	No	203,584
RHD01.10A-02P	0.432	0.319	0.233	0.233	272,914	No	203,584
RHD01.10A-03N	0.432	0.265	0.233	0.233	67,972	No	203,584
===>Grouped by Line: **RHD-01.10A_2 TK 33A to A HDR**					***Sorted By:Flow Order***		
RHD01.10A-04N	0.432	0.223	0.233	0.233	-17,158	No	203,584
RHD01.10A-05P	0.432	0.319	0.233	0.233	272,914	No	203,584
RHD01.10A-06E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10A-07P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10A-08E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10A-09P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10A-10E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10A-11P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10A-12E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10A-13P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10A-14E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10A-15P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10A-16E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10A-17P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10A-18F	0.432	0.178	0.233	0.233	-79,692	No	203,584
RHD01.10A-19P	0.432	0.399	0.233	0.233	1,167,166	Yes	203,584
RHD01.10A-20R	0.000	0.460	0.233	0.233	692,694	No	203,584
RHD01.10A-20R (D/S)	0.000	0.472	0.303	0.303	808,759	Yes	203,584
RHD01.11A-01E	0.500	0.442	0.303	0.303	541,249	Yes	203,584
RHD01.11A-02P	0.500	0.432	0.303	0.303	579,585	Yes	203,584
RHD01.11A-03E	0.500	0.408	0.303	0.303	408,459	No	203,584
RHD01.11A-04P	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.12A-01T	0.000	0.427	0.303	0.303	324,223	No	203,584
RHD01.12A-01T (D/S)	0.000	0.439	0.303	0.303	355,645	No	203,584
RHD01.12A-02P	0.432	0.390	0.233	0.233	669,846	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-01.10A_2 TK 33A to A HDR**				***Sorted By:Flow Order***		
RHD01.12A-03E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.12A-04E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.12A-05P	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.12A-06E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.12A-07P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.12A-08E	0.432	0.356	0.233	0.233	285,295	Yes	203,584
RHD01.13A-01R	0.000	0.420	0.233	0.233	458,294	Yes	203,584
RHD01.13A-01R (D/S)	0.000	0.265	0.158	0.158	145,724	Yes	203,584
RHD02.5A-01V	0.337	0.490	0.132	0.132	169,492,144	No	203,584
RHD02.5A-02R	0.000	0.228	0.158	0.158	108,362	No	134,852
RHD02.5A-02R (D/S)	0.000	0.248	0.233	0.233	43,869	Yes	134,852
RHD02.6A-01P	0.432	0.385	0.233	0.233	519,404	No	134,852
RHD02.6A-02E	0.432	0.309	0.233	0.233	174,821	Yes	203,584
RHD02.6A-03P	0.432	0.353	0.233	0.233	411,597	Yes	203,584
RHD02.6A-04E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD02.6A-05P	0.000	0.423	0.233	0.233	740,446	No	33,461
===>Grouped by Line:	**RHD-01.10B_1 RH 33B to TK 33B**				***Sorted By:Flow Order***		
RHD01.10B-01N	0.432	0.348	0.233	0.233	197,543	Yes	203,584
RHD01.10B-02P	0.432	0.365	0.233	0.233	418,581	Yes	203,584
RHD01.10B-03N	0.432	0.370	0.233	0.233	293,360	Yes	203,584
===>Grouped by Line:	**RHD-01.10B_2 TK 33B to B HDR**				***Sorted By:Flow Order***		
RHD01.10B-04N	0.432	0.223	0.233	0.233	-17,158	No	203,584
RHD01.10B-05P	0.432	0.319	0.233	0.233	272,914	No	203,584
RHD01.10B-06E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-07P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-08E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-09P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-10E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-11P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-12E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-13P_1	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.10B-13P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-14E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-15E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-16P	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.10B-17E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-18P	0.432	0.327	0.233	0.233	323,361	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Flow Order***		
RHD01.10B-19E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-20P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-21E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-22E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-23P	0.432	0.298	0.233	0.233	174,384	No	203,584
RHD01.10B-24E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-25P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-25P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-26F	0.432	0.178	0.233	0.233	-79,692	No	203,584
RHD01.10B-27P	0.432	0.435	0.233	0.233	1,420,199	Yes	203,584
RHD01.10B-28E	0.432	0.451	0.233	0.233	505,171	Yes	203,584
RHD01.10B-29P	0.432	0.394	0.233	0.233	552,644	Yes	203,584
RHD01.10B-30E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-31P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-32E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-33P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-34E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-35P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-36E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-37P_1	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-37P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-38E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-39P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-40E	0.432	0.294	0.233	0.233	158,261	No	203,584
RHD01.10B-41P	0.432	0.340	0.233	0.233	416,230	No	203,584
RHD01.10B-42E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-43P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-44E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-45P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-46E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-47P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-47P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-48E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-49P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-50E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-51P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-52T	0.432	0.466	0.233	0.233	399,323	No	203,584
RHD01.10B-52T (D/S)	0.000	0.430	0.233	0.233	337,763	Yes	203,584
RHD01.10B-53P	0.432	0.380	0.233	0.233	418,855	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-01.10B_2 TK 33B to B HDR**					***Sorted By:Flow Order***		
RHD01.10B-54E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-55P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-56E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-57P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-57P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-58E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-59P	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-60E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-61P_1	0.432	0.327	0.233	0.233	323,361	No	203,584
RHD01.10B-61P_2	0.432	0.386	0.233	0.233	1,190,137	No	203,584
RHD01.10B-62E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-63E	0.432	0.277	0.233	0.233	102,484	No	203,584
RHD01.10B-64R	0.000	0.315	0.233	0.233	250,393	No	203,584
RHD01.10B-64R (D/S)	0.000	0.425	0.303	0.303	587,224	No	203,584
RHD01.11B-01P_1	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.11B-01P_2	0.500	0.473	0.303	0.303	2,219,326	No	203,584
RHD01.11B-02E	0.500	0.408	0.303	0.303	408,459	No	203,584
RHD01.11B-03P	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.11B-04E	0.500	0.408	0.303	0.303	408,459	No	203,584
RHD01.11B-05P	0.500	0.438	0.303	0.303	776,205	No	203,584
RHD01.12B-01R	0.000	0.438	0.303	0.303	776,205	No	203,584
RHD01.12B-01R (D/S)	0.000	0.187	0.158	0.158	69,345	No	203,584
RHD02.5B-01V	0.337	0.552	0.132	0.132	198,908,816	No	203,584
RHD02.6B-01E	0.559	0.546	0.303	0.303	917,576	No	50,115
RHD02.6B-02P	0.528	0.447	0.303	0.303	640,402	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: RHD: RH 33 TO HDR
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.306

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Meas.	In-Service Component Wear(mils) Prd. [1]	Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-01.10A_2 TK 33A to A HDR**											***Sorted By: Flow Order***
RHD01.10A-19P	0.432	43.8	62.0	43.8	62.0	0.406	GW	153,469	388.2	406.0	7.1	153,469
RHD01.10A-20R (D/S)	0.000	64.1	65.0	64.1	65.0	0.482	GW	153,469	435.9	482.0	10.4	153,469
RHD01.11A-01E	0.500	79.1	110.0	79.1	110.0	0.455	GW	153,469	420.9	455.0	12.8	153,469
RHD01.11A-02P	0.500	68.4	88.0	68.4	88.0	0.443	GW	153,469	431.6	443.0	11.1	153,469
RHD01.12A-08E	0.432	115.1	110.0	115.1	110.0	0.396	GW	107,911	316.9	396.0	39.7	107,911
RHD01.13A-01R	0.000	108.9	41.0	108.9	41.0	0.458	GW	107,911	323.1	458.0	37.5	107,911
RHD01.13A-01R (D/S)	0.000	200.0	180.0	200.0	180.0	0.332	MT	107,911	137.0	332.0	67.2	107,911
RHD02.5A-02R (D/S)	0.000	28.6	113.0	28.6	113.0	0.260	MT	170,123	387.0	260.0	11.7	121,025
RHD02.6A-02E	0.432	25.2	30.0	25.2	30.0	0.323	MT	170,123	291.7	323.0	14.5	170,123
RHD02.6A-03P	0.432	94.8	69.0	94.8	69.0	0.363	MT	170,123	337.2	363.0	9.8	170,123
===>Grouped by Line:	**RHD-01.10B_1 RH 33B to TK 33B**											***Sorted By: Flow Order***
RHD01.10B-01N	0.432	155.6	142.0	155.6	142.0	0.402	MT	107,911	276.4	402.0	53.6	107,911
RHD01.10B-02P	0.432	84.0	84.0	84.0	84.0	0.394	GW	107,911	348.0	394.0	29.0	107,911
RHD01.10B-03N	0.432	124.4	58.0	124.4	58.0	0.413	GW	107,911	307.6	413.0	42.9	107,911
===>Grouped by Line:	**RHD-01.10B_2 TK 33B to B HDR**											***Sorted By: Flow Order***
RHD01.10B-27P	0.432	43.8	31.0	43.8	31.0	0.442	GW	153,469	388.2	442.0	7.1	153,469
RHD01.10B-28E	0.432	133.3	180.0	133.3	180.0	0.473	MT	153,469	298.7	473.0	21.5	153,469
RHD01.10B-29P	0.432	90.0	98.0	90.0	98.0	0.409	GW	153,469	342.0	409.0	14.5	153,469
RHD01.10B-52T (D/S)	0.000	155.6	119.0	155.6	119.0	0.484	GW	107,911	276.4	484.0	53.6	107,911
RHD01.10B-53P	0.432	93.3	51.0	93.3	51.0	0.412	GW	107,911	338.7	412.0	32.2	107,911
RHD02.6B-01E	0.559	77.0	215.0	0.0	0.0	0.559	ER	153,469	559.0	559.0	13.2	0

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:07:22AM
AnalysisDate/Time: 2/8/2010 4:39:44PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.180

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.10A-11T	14	10.236	5.826	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-11T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.10A-03E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-05E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-07E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-09E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-01R (D/S)	7	5.955	3.390	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-11T (D/S)	14	5.654	3.218	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-02P	57	4.653	2.648	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-01R	7	4.275	2.434	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.10A-04P	51	4.094	2.330	489.8	16.051	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-06P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-08P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-10P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.10B-16T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.10B-14T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.10B-16T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-12V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-14T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-03E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-09E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-11E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-01R (D/S)	7	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-06P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-17R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.10B-02P_1	57	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-04P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-08P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-10P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11B-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10B-13P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-15P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-17R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10B-01R	7	2.362	1.344	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.10B-02P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.11A A HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.11A-19T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.11A-17T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.11A-19T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-15V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-17T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-03E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-08E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-10E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-12E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-14E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-01R (D/S)	7	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-06P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-09P_1	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-20R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-02P_1	57	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-04P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-11P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-13P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12A-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.11A-16P	58	3.954	2.250	489.8	7.330	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-01R	7	3.598	2.048	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.11A-18P	63	3.557	2.024	489.8	9.386	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-20R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.11A A HDR to FWH 36A***								***Sorted By: Average Wear Rate***		
RHD02.11A-02P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-09P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.12B B HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
RHD02.12B-11T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.12B-13T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.12B-13T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-09V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-11T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-02E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-06E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-08E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-03P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-14R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-05P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-07P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13B-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.12B-10P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-12P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-01P	64	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-14R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
RHD02.13A-14T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.13A-16T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.13A-16T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-12V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-14T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-02E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-09E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-11E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-03P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-06P_1	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-17R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***								***Sorted By: Average Wear Rate***		
RHD02.13A-08P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-10P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14A-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.13A-13P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-15P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-01P	64	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-17R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.13A-06P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.14B B HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
RHD02.14B-12T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.14B-12T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-08V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-10T (BR/SE)	13	6.101	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.14B-03P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-06P	54	5.541	3.154	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-10T	13	4.928	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-13R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15B-01N	30	3.979	2.265	489.8	3.829	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.14B-09P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-02E	4	3.647	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-11P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-01P	64	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-13R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.14B-14P	63	1.971	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
RHD02.15A-09T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.15A-07V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-09T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-06E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-11T (BR/SE)	13	6.101	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.15A-11T	13	4.928	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-12R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***								***Sorted By: Average Wear Rate***		
RHD02.15A-03P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-05P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.16A-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.15A-08P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-02E	2	3.647	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-01P	64	3.463	1.971	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-10P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-12R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.15A-13P	63	1.971	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.7B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.2B-06L (D/S)	12	7.630	4.343	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.2B-06L (BR/SE)	12	7.289	4.149	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.7B-02E	2	6.886	3.919	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-04E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-06E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-03P	52	4.653	2.648	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-07P	51	4.182	2.380	489.8	8.198	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-05P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-01P	62	3.722	2.119	489.8	16.051	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.8A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.6A-06L (BR/SE)	12	7.289	4.149	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.6A-06L (D/S)	12	5.008	2.851	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8A-02E	1	4.031	2.294	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.6A-06L	12	2.766	1.575	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8A-03P	51	2.687	1.530	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8A-01P	62	2.443	1.391	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.8B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.8B-06T	14	9.530	5.424	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-06T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.7B-08L (BR/SE)	12	7.419	4.223	489.8	9.528	3.9	8.000	6.413	0.000	37.79	HBD
RHD02.7B-08L (D/S)	12	7.104	4.044	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-06T (D/S)	14	6.719	3.824	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-02E	2	6.411	3.649	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-04E	4	6.411	3.649	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-05P	54	5.545	3.156	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-03P	52	4.332	2.466	489.8	9.871	3.9	10.750	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.8B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.8B-01P	62	3.486	1.984	489.8	7.678	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.7B-08L	12	2.778	1.581	489.8	2.492	3.9	10.750	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.9A TK A HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.9A-11T	14	9.530	5.424	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-11T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.2A-06L (BR/SE)	12	7.289	4.149	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.2A-06L (D/S)	12	7.104	4.044	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-11T (D/S)	14	6.719	3.824	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-07E	3	6.064	3.452	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-09E	3	6.064	3.452	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-02E	1	5.718	3.255	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-04E	1	5.718	3.255	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-06E	1	5.718	3.255	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.2A-06L	12	5.008	2.851	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-08P	53	4.332	2.466	489.8	8.440	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-10P	53	4.332	2.466	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-03P	51	3.812	2.170	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-05P	51	3.812	2.170	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-01P	62	3.465	1.972	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.9B TK B HDR to FWH 36***								***Sorted By: Average Wear Rate***		
RHD02.9B-02T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.9B-02T	14	6.719	3.824	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9B-02T (D/S)	14	3.711	2.112	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9B-01P	64	2.443	1.391	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 4:39:44PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.180

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.10A-01R	7	4.275	2.434	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.10A-01R (D/S)	7	5.955	3.390	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-02P	57	4.653	2.648	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-03E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-04P	51	4.094	2.330	489.8	16.051	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-05E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-06P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-07E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-08P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-09E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-10P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-11T	14	10.236	5.826	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-11T (D/S)	14	5.654	3.218	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.10A-11T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.10B-01R	7	2.362	1.344	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.10B-01R (D/S)	7	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-02P_1	57	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-02P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-03E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-04P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-06P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-08P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-09E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-10P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.10B B HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.10B-11E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-12V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-13P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-14T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-14T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.10B-15P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-16T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-16T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.10B-17R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.10B-17R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.11B-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.11A A HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.11A-01R	7	3.598	2.048	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.11A-01R (D/S)	7	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-02P_1	57	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-02P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-03E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-04P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-06P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-08E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-09P_1	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-09P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-10E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-11P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-12E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-13P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-14E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-15V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-16P	58	3.954	2.250	489.8	7.330	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-17T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-17T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.11A-18P	63	3.557	2.024	489.8	9.386	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-19T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-19T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.11A A HDR to FWH 36A***									***Sorted By: Flow Order***	
RHD02.11A-20R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.11A-20R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.12A-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.12B B HDR to FWH 36B***									***Sorted By: Flow Order***	
RHD02.12B-01P	64	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-02E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-03P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-05P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-06E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-07P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-08E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-09V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-10P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-11T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-11T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.12B-12P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-13T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-13T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.12B-14R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.12B-14R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.13B-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***									***Sorted By: Flow Order***	
RHD02.13A-01P	64	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-02E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-03P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-06P_1	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-06P_2	9	1.905	1.084	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-08P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-09E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-10P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-11E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-12V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.13A A HDR to FWH 36B***									***Sorted By: Flow Order***	
RHD02.13A-13P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-14T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-14T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.13A-15P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-16T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-16T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.13A-17R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.13A-17R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.14A-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.14B B HDR to FWH 36C***									***Sorted By: Flow Order***	
RHD02.14B-01P	64	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-02E	4	3.647	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-03P	54	5.541	3.154	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-05E	4	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-06P	54	5.541	3.154	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-07E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-08V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-09P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-10T	13	4.928	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-10T (BR/SE)	13	6.101	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.14B-11P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-12T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-12T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.14B-14P	63	1.971	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-13R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.14B-13R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.15B-01N	30	3.979	2.265	489.8	3.829	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***									***Sorted By: Flow Order***	
RHD02.15A-01P	64	3.463	1.971	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-02E	2	3.647	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-03P	52	4.329	2.464	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-04E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-05P	52	4.329	2.464	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-06E	2	6.407	3.647	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-07V	22	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.15A A HDR to FWH 36C***									***Sorted By: Flow Order***	
RHD02.15A-08P	58	3.809	2.168	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-09T	13	8.658	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-09T (BR/SE)	13	10.719	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.15A-10P	63	3.463	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-11T	13	4.928	4.928	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-11T (BR/SE)	13	6.101	6.101	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.15A-13P	63	1.971	1.971	489.8	9.116	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-12R	18	4.848	2.760	489.8	7.039	3.9	6.625	6.413	0.000	37.79	HBD
RHD02.15A-12R (D/S)	18	3.084	1.755	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.16A-01N	30	4.112	2.341	489.8	3.971	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.7B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.2B-06L (BR/SE)	12	7.289	4.149	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.2B-06L (D/S)	12	7.630	4.343	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-01P	62	3.722	2.119	489.8	16.051	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-02E	2	6.886	3.919	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-03P	52	4.653	2.648	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-04E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-05P	51	4.094	2.330	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-06E	1	6.142	3.496	489.8	8.011	3.9	8.625	6.413	0.000	37.79	HBD
RHD02.7B-07P	51	4.182	2.380	489.8	8.198	3.9	8.625	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.8A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.6A-06L (BR/SE)	12	7.289	4.149	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.6A-06L	12	2.766	1.575	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.6A-06L (D/S)	12	5.008	2.851	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8A-01P	62	2.443	1.391	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8A-02E	1	4.031	2.294	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8A-03P	51	2.687	1.530	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.8B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.7B-08L	12	2.778	1.581	489.8	2.492	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-06T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.7B-08L (BR/SE)	12	7.419	4.223	489.8	9.528	3.9	8.000	6.413	0.000	37.79	HBD
RHD02.7B-08L (D/S)	12	7.104	4.044	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-01P	62	3.486	1.984	489.8	7.678	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-02E	2	6.411	3.649	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-03P	52	4.332	2.466	489.8	9.871	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-04E	4	6.411	3.649	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***RHD-02.8B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.8B-05P	54	5.545	3.156	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-06T	14	9.530	5.424	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.8B-06T (D/S)	14	6.719	3.824	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.9A TK A HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.2A-06L (BR/SE)	12	7.289	4.149	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.9A-11T (D/S)	14	6.719	3.824	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-11T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.2A-06L	12	5.008	2.851	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.2A-06L (D/S)	12	7.104	4.044	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-01P	62	3.465	1.972	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-02E	1	5.718	3.255	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-03P	51	3.812	2.170	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-04E	1	5.718	3.255	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-05P	51	3.812	2.170	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-06E	1	5.718	3.255	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-07E	3	6.064	3.452	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-08P	53	4.332	2.466	489.8	8.440	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-09E	3	6.064	3.452	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-10P	53	4.332	2.466	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9A-11T	14	9.530	5.424	489.8	7.629	3.9	10.750	6.413	0.000	37.79	HBD
===>Grouped by Line:	***RHD-02.9B TK B HDR to FWH 36***									***Sorted By: Flow Order***	
RHD02.9B-02T (D/S)	14	3.711	2.112	489.8	2.480	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9B-02T (BR/SE)	14	7.504	4.271	489.8	8.881	3.9	6.000	6.413	0.000	37.79	HBD
RHD02.9B-01P	64	2.443	1.391	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD
RHD02.9B-02T	14	6.719	3.824	489.8	5.045	3.9	10.750	6.413	0.000	37.79	HBD

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time: 2/8/2010 4:39:44PM

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.180

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10A TK A HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.10A-07E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-09E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-05E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-03E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-01R (D/S)	0.000	0.362	0.303	0.303	150,992	No	203,584
RHD02.10A-11T (D/S)	0.000	0.369	0.303	0.303	178,106	No	203,584
RHD02.10A-11T (BR/SE)	0.000	0.340	0.211	0.211	264,153	Yes	203,584
RHD02.10A-02P	0.500	0.392	0.303	0.303	293,420	No	203,584
RHD02.10A-11T	0.500	0.542	0.303	0.303	358,720	Yes	203,584
RHD02.10A-10P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-08P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-04P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-06P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-01R	0.000	0.495	0.378	0.378	420,376	No	203,584
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Remaining Life***		
RHD02.10B-12V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.10B-03E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-05E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-09E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-11E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-01R (D/S)	0.000	0.303	0.233	0.233	195,425	No	203,584
RHD02.10B-06P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.10B-17R	0.000	0.310	0.233	0.233	245,903	Yes	203,584
RHD02.10B-02P_1	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-04P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-08P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-10P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-16T (BR/SE)	0.000	0.486	0.211	0.211	395,213	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Remaining Life***		
RHD02.10B-14T (BR/SE)	0.000	0.495	0.211	0.211	408,135	Yes	203,584
RHD02.10B-13P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.10B-15P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.11B-01N	0.500	0.404	0.261	0.261	537,198	No	203,584
RHD02.10B-14T	0.432	0.544	0.233	0.233	553,864	Yes	203,584
RHD02.10B-16T	0.432	0.550	0.233	0.233	564,530	Yes	203,584
RHD02.10B-01R	0.000	0.539	0.378	0.378	1,050,881	No	203,584
RHD02.10B-02P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.10B-17R (D/S)	0.000	0.632	0.303	0.303	1,641,162	Yes	203,584
===>*Grouped by Line:* **RHD-02.11A A HDR to FWH 36A**					***Sorted By:Remaining Life***		
RHD02.11A-15V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.11A-03E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-05E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-08E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-10E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-12E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-14E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-01R (D/S)	0.000	0.303	0.233	0.233	195,425	No	203,584
RHD02.11A-06P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.11A-09P_1	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.11A-20R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.11A-19T (BR/SE)	0.000	0.411	0.211	0.211	287,532	Yes	203,584
RHD02.11A-17T (BR/SE)	0.000	0.446	0.211	0.211	337,784	No	203,584
RHD02.11A-02P_1	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-04P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-11P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-13P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-17T	0.432	0.466	0.233	0.233	415,209	Yes	203,584
RHD02.11A-19T	0.432	0.475	0.233	0.233	431,208	Yes	203,584
RHD02.11A-01R	0.000	0.416	0.303	0.303	484,267	No	203,584
RHD02.12A-01N	0.500	0.404	0.261	0.261	537,198	No	203,584
RHD02.11A-20R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.11A-16P	0.489	0.397	0.233	0.233	639,356	No	203,584
RHD02.11A-18P	0.473	0.390	0.233	0.233	681,413	No	203,584
RHD02.11A-02P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.11A-09P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
===>*Grouped by Line:* **RHD-02.12B B HDR to FWH 36B**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-02.12B B HDR to FWH 36B**				***Sorted By:Remaining Life***		
RHD02.12B-09V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.12B-04E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.12B-06E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.12B-08E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.12B-02E	0.432	0.296	0.233	0.233	151,829	Yes	203,584
RHD02.12B-03P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.12B-13T (BR/SE)	0.000	0.351	0.211	0.211	201,388	Yes	203,584
RHD02.12B-14R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.12B-05P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.12B-07P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.12B-11T (BR/SE)	0.000	0.500	0.211	0.211	415,314	Yes	203,584
RHD02.12B-10P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.12B-13T	0.432	0.511	0.233	0.233	495,202	Yes	203,584
RHD02.12B-01P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.12B-12P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.12B-11T	0.432	0.570	0.233	0.233	600,082	Yes	203,584
RHD02.12B-14R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.13B-01N	0.500	1.089	0.261	0.261	3,099,580	No	203,584
===>Grouped by Line:	**RHD-02.13A A HDR to FWH 36B**				***Sorted By:Remaining Life***		
RHD02.13A-12V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.13A-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.13A-09E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.13A-11E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.13A-16T (BR/SE)	0.000	0.328	0.211	0.211	168,366	Yes	203,584
RHD02.13A-05E	0.432	0.309	0.233	0.233	182,093	Yes	203,584
RHD02.13A-03P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.13A-17R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.13A-02E	0.432	0.361	0.233	0.233	307,972	Yes	203,584
RHD02.13A-14T (BR/SE)	0.000	0.429	0.211	0.211	313,376	Yes	203,584
RHD02.13A-16T	0.432	0.426	0.233	0.233	344,104	Yes	203,584
RHD02.13A-08P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.13A-10P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.13A-14T	0.432	0.470	0.233	0.233	422,319	Yes	203,584
RHD02.13A-06P_1	0.432	0.392	0.233	0.233	442,482	Yes	203,584
RHD02.13A-13P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.13A-04E	0.432	0.422	0.233	0.233	453,542	Yes	203,584
RHD02.13A-01P	0.432	0.341	0.233	0.233	482,644	Yes	203,584
RHD02.13A-15P	0.432	0.352	0.233	0.233	527,286	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-02.13A A HDR to FWH 36B**				***Sorted By:Remaining Life***		
RHD02.13A-17R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.13A-06P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.14A-01N	0.500	1.066	0.261	0.261	3,013,497	Yes	203,584
===>Grouped by Line:	**RHD-02.14B B HDR to FWH 36C**				***Sorted By:Remaining Life***		
RHD02.14B-08V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.14B-04E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.14B-05E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.14B-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.14B-03P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.14B-06P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.14B-12T (BR/SE)	0.000	0.380	0.211	0.211	242,349	Yes	203,584
RHD02.14B-13R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.14B-10T (BR/SE)	0.000	0.420	0.211	0.211	300,454	No	16,992
RHD02.14B-10T	0.000	0.422	0.233	0.233	336,993	No	16,992
RHD02.14B-02E	0.000	0.418	0.233	0.233	444,898	No	33,461
RHD02.14B-09P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.14B-12T	0.432	0.503	0.233	0.233	480,511	Yes	203,584
RHD02.14B-01P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.14B-11P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.14B-13R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.14B-14P	0.000	0.424	0.233	0.233	851,502	No	33,461
RHD02.15B-01N	0.432	1.089	0.261	0.261	3,204,315	Yes	203,584
===>Grouped by Line:	**RHD-02.15A A HDR to FWH 36C**				***Sorted By:Remaining Life***		
RHD02.15A-07V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.15A-04E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.15A-06E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.15A-12R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.15A-11T (BR/SE)	0.000	0.409	0.211	0.211	283,985	No	33,461
RHD02.15A-11T	0.000	0.413	0.233	0.233	320,524	No	33,461
RHD02.15A-09T (BR/SE)	0.000	0.444	0.211	0.211	334,912	Yes	203,584
RHD02.15A-03P	0.432	0.331	0.233	0.233	350,294	Yes	203,584
RHD02.15A-05P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.15A-08P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.15A-02E	0.000	0.431	0.233	0.233	476,126	No	33,461
RHD02.15A-09T	0.432	0.529	0.233	0.233	527,199	Yes	203,584
RHD02.15A-01P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.15A-10P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.15A-12R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-02.15A A HDR to FWH 36C**				***Sorted By:Remaining Life***		
RHD02.15A-13P	0.000	0.424	0.233	0.233	851,502	No	33,461
RHD02.16A-01N	0.500	1.066	0.261	0.261	3,013,497	Yes	203,584
===>Grouped by Line:	**RHD-02.7B TK B HDR to FWH 36**				***Sorted By:Remaining Life***		
RHD02.7B-02E	0.500	0.340	0.303	0.303	82,253	No	203,584
RHD02.7B-04E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.7B-06E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.7B-03P	0.500	0.392	0.303	0.303	293,420	No	203,584
RHD02.2B-06L (D/S)	0.000	0.473	0.303	0.303	341,696	No	203,584
RHD02.7B-05P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.7B-01P	0.500	0.413	0.303	0.303	456,194	No	203,584
RHD02.7B-07P	0.543	0.446	0.303	0.303	525,018	No	203,584
RHD02.2B-06L (BR/SE)	0.000	0.871	0.211	0.211	1,393,632	No	203,584
===>Grouped by Line:	**RHD-02.8A TK A HDR to FWH 36**				***Sorted By:Remaining Life***		
RHD02.6A-06L (BR/SE)	0.000	0.214	0.211	0.211	6,871	Yes	203,584
RHD02.6A-06L (D/S)	0.000	0.478	0.378	0.378	306,514	No	203,584
RHD02.8A-02E	0.594	0.500	0.378	0.378	467,530	No	203,584
RHD02.8A-03P	0.594	0.532	0.378	0.378	880,134	No	203,584
RHD02.6A-06L	0.594	0.553	0.378	0.378	974,256	Yes	203,584
RHD02.8A-01P	0.000	0.537	0.378	0.378	1,003,915	No	203,584
===>Grouped by Line:	**RHD-02.8B TK B HDR to FWH 36**				***Sorted By:Remaining Life***		
RHD02.8B-06T (D/S)	0.000	0.438	0.378	0.378	137,447	No	203,584
RHD02.8B-02E	0.594	0.445	0.378	0.378	161,198	No	203,584
RHD02.8B-04E	0.594	0.445	0.378	0.378	161,198	No	203,584
RHD02.7B-08L (D/S)	0.000	0.487	0.378	0.378	236,374	Yes	203,584
RHD02.8B-05P	0.594	0.465	0.378	0.378	242,273	No	203,584
RHD02.8B-06T	0.594	0.585	0.378	0.378	334,980	Yes	203,584
RHD02.8B-03P	0.594	0.493	0.378	0.378	410,259	No	203,584
RHD02.8B-01P	0.609	0.520	0.378	0.378	625,744	Yes	203,584
RHD02.8B-06T (BR/SE)	0.000	0.575	0.211	0.211	746,153	Yes	203,584
RHD02.7B-08L	0.605	0.534	0.378	0.378	864,686	Yes	203,584
RHD02.7B-08L (BR/SE)	0.000	1.113	0.281	0.281	1,725,881	No	203,584
===>Grouped by Line:	**RHD-02.9A TK A HDR to FWH 36**				***Sorted By:Remaining Life***		
RHD02.2A-06L (BR/SE)	0.000	0.263	0.211	0.211	109,156	No	203,584
RHD02.2A-06L (D/S)	0.000	0.429	0.378	0.378	110,576	No	203,584
RHD02.9A-11T (D/S)	0.000	0.438	0.378	0.378	137,447	No	203,584
RHD02.9A-07E	0.594	0.453	0.378	0.378	190,848	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **RHD-02.9A TK A HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.9A-09E	0.594	0.453	0.378	0.378	190,848	No	203,584
RHD02.9A-02E	0.594	0.461	0.378	0.378	224,092	No	203,584
RHD02.9A-04E	0.594	0.461	0.378	0.378	224,092	No	203,584
RHD02.9A-06E	0.594	0.461	0.378	0.378	224,092	No	203,584
RHD02.2A-06L	0.594	0.478	0.378	0.378	306,514	No	203,584
RHD02.9A-11T	0.594	0.629	0.378	0.378	406,039	Yes	203,584
RHD02.9A-08P	0.594	0.493	0.378	0.378	410,259	No	203,584
RHD02.9A-10P	0.594	0.493	0.378	0.378	410,259	No	203,584
RHD02.9A-03P	0.594	0.505	0.378	0.378	514,977	No	203,584
RHD02.9A-05P	0.594	0.505	0.378	0.378	514,977	No	203,584
RHD02.9A-11T (BR/SE)	0.000	0.487	0.211	0.211	565,659	Yes	203,584
RHD02.9A-01P	0.594	0.513	0.378	0.378	602,243	No	203,584
===>*Grouped by Line:* **RHD-02.9B TK B HDR to FWH 36**					***Sorted By:Remaining Life***		
RHD02.9B-02T (BR/SE)	0.000	0.258	0.211	0.211	95,818	No	203,584
RHD02.9B-02T	0.594	0.438	0.378	0.378	137,447	No	203,584
RHD02.9B-02T (D/S)	0.000	0.508	0.378	0.378	538,678	No	203,584
RHD02.9B-01P	0.594	0.537	0.378	0.378	1,003,915	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/10/2010 9:06:37AM
AnalysisDate/Time:

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.180

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10A TK A HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.10A-01R	0.000	0.495	0.378	0.378	420,376	No	203,584
RHD02.10A-01R (D/S)	0.000	0.362	0.303	0.303	150,992	No	203,584
RHD02.10A-02P	0.500	0.392	0.303	0.303	293,420	No	203,584
RHD02.10A-03E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-04P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-05E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-06P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-07E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-08P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-09E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.10A-10P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.10A-11T	0.500	0.542	0.303	0.303	358,720	Yes	203,584
RHD02.10A-11T (D/S)	0.000	0.369	0.303	0.303	178,106	No	203,584
RHD02.10A-11T (BR/SE)	0.000	0.340	0.211	0.211	264,153	Yes	203,584
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Flow Order***		
RHD02.10B-01R	0.000	0.539	0.378	0.378	1,050,881	No	203,584
RHD02.10B-01R (D/S)	0.000	0.303	0.233	0.233	195,425	No	203,584
RHD02.10B-02P_1	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-02P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.10B-03E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-04P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-05E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-06P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.10B-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-08P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-09E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-10P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.10B-11E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.10B-12V	0.432	0.231	0.200	0.200	54,013	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.10B B HDR to FWH 36A**					***Sorted By:Flow Order***		
RHD02.10B-13P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.10B-14T	0.432	0.544	0.233	0.233	553,864	Yes	203,584
RHD02.10B-14T (BR/SE)	0.000	0.495	0.211	0.211	408,135	Yes	203,584
RHD02.10B-15P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.10B-16T	0.432	0.550	0.233	0.233	564,530	Yes	203,584
RHD02.10B-16T (BR/SE)	0.000	0.486	0.211	0.211	395,213	Yes	203,584
RHD02.10B-17R	0.000	0.310	0.233	0.233	245,903	Yes	203,584
RHD02.10B-17R (D/S)	0.000	0.632	0.303	0.303	1,641,162	Yes	203,584
RHD02.11B-01N	0.500	0.404	0.261	0.261	537,198	No	203,584
===>Grouped by Line: **RHD-02.11A A HDR to FWH 36A**					***Sorted By:Flow Order***		
RHD02.11A-01R	0.000	0.416	0.303	0.303	484,267	No	203,584
RHD02.11A-01R (D/S)	0.000	0.303	0.233	0.233	195,425	No	203,584
RHD02.11A-02P_1	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-02P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.11A-03E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-04P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-05E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-06P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.11A-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-08E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-09P_1	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.11A-09P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.11A-10E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-11P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-12E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-13P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.11A-14E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.11A-15V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.11A-16P	0.489	0.397	0.233	0.233	639,356	No	203,584
RHD02.11A-17T	0.432	0.466	0.233	0.233	415,209	Yes	203,584
RHD02.11A-17T (BR/SE)	0.000	0.446	0.211	0.211	337,784	No	203,584
RHD02.11A-18P	0.473	0.390	0.233	0.233	681,413	No	203,584
RHD02.11A-19T	0.432	0.475	0.233	0.233	431,208	Yes	203,584
RHD02.11A-19T (BR/SE)	0.000	0.411	0.211	0.211	287,532	Yes	203,584
RHD02.11A-20R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.11A-20R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.12A-01N	0.500	0.404	0.261	0.261	537,198	No	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.12B B HDR to FWH 36B**					***Sorted By:Flow Order***		
RHD02.12B-01P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.12B-02E	0.432	0.296	0.233	0.233	151,829	Yes	203,584
RHD02.12B-03P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.12B-04E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.12B-05P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.12B-06E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.12B-07P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.12B-08E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.12B-09V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.12B-10P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.12B-11T	0.432	0.570	0.233	0.233	600,082	Yes	203,584
RHD02.12B-11T (BR/SE)	0.000	0.500	0.211	0.211	415,314	Yes	203,584
RHD02.12B-12P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.12B-13T	0.432	0.511	0.233	0.233	495,202	Yes	203,584
RHD02.12B-13T (BR/SE)	0.000	0.351	0.211	0.211	201,388	Yes	203,584
RHD02.12B-14R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.12B-14R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.13B-01N	0.500	1.089	0.261	0.261	3,099,580	No	203,584
===>Grouped by Line: **RHD-02.13A A HDR to FWH 36B**					***Sorted By:Flow Order***		
RHD02.13A-01P	0.432	0.341	0.233	0.233	482,644	Yes	203,584
RHD02.13A-02E	0.432	0.361	0.233	0.233	307,972	Yes	203,584
RHD02.13A-03P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.13A-04E	0.432	0.422	0.233	0.233	453,542	Yes	203,584
RHD02.13A-05E	0.432	0.309	0.233	0.233	182,093	Yes	203,584
RHD02.13A-06P_1	0.432	0.392	0.233	0.233	442,482	Yes	203,584
RHD02.13A-06P_2	0.432	0.388	0.233	0.233	1,251,347	No	203,584
RHD02.13A-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.13A-08P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.13A-09E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.13A-10P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.13A-11E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.13A-12V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.13A-13P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.13A-14T	0.432	0.470	0.233	0.233	422,319	Yes	203,584
RHD02.13A-14T (BR/SE)	0.000	0.429	0.211	0.211	313,376	Yes	203,584
RHD02.13A-15P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.13A-16T	0.432	0.426	0.233	0.233	344,104	Yes	203,584
RHD02.13A-16T (BR/SE)	0.000	0.328	0.211	0.211	168,366	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.13A A HDR to FWH 36B**					***Sorted By:Flow Order***		
RHD02.13A-17R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.13A-17R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.14A-01N	0.500	1.066	0.261	0.261	3,013,497	Yes	203,584
===>Grouped by Line: **RHD-02.14B B HDR to FWH 36C**					***Sorted By:Flow Order***		
RHD02.14B-01P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.14B-02E	0.000	0.418	0.233	0.233	444,898	No	33,461
RHD02.14B-03P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.14B-04E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.14B-05E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.14B-06P	0.432	0.303	0.233	0.233	195,425	No	203,584
RHD02.14B-07E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.14B-08V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.14B-09P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.14B-10T	0.000	0.422	0.233	0.233	336,993	No	16,992
RHD02.14B-10T (BR/SE)	0.000	0.420	0.211	0.211	300,454	No	16,992
RHD02.14B-11P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.14B-12T	0.432	0.503	0.233	0.233	480,511	Yes	203,584
RHD02.14B-12T (BR/SE)	0.000	0.380	0.211	0.211	242,349	Yes	203,584
RHD02.14B-14P	0.000	0.424	0.233	0.233	851,502	No	33,461
RHD02.14B-13R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.14B-13R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.15B-01N	0.432	1.089	0.261	0.261	3,204,315	Yes	203,584
===>Grouped by Line: **RHD-02.15A A HDR to FWH 36C**					***Sorted By:Flow Order***		
RHD02.15A-01P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.15A-02E	0.000	0.431	0.233	0.233	476,126	No	33,461
RHD02.15A-03P	0.432	0.331	0.233	0.233	350,294	Yes	203,584
RHD02.15A-04E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.15A-05P	0.432	0.331	0.233	0.233	350,294	No	203,584
RHD02.15A-06E	0.432	0.283	0.233	0.233	120,682	No	203,584
RHD02.15A-07V	0.432	0.231	0.200	0.200	54,013	No	203,584
RHD02.15A-08P	0.432	0.343	0.233	0.233	446,835	No	203,584
RHD02.15A-09T	0.432	0.529	0.233	0.233	527,199	Yes	203,584
RHD02.15A-09T (BR/SE)	0.000	0.444	0.211	0.211	334,912	Yes	203,584
RHD02.15A-10P	0.432	0.352	0.233	0.233	527,286	No	203,584
RHD02.15A-11T	0.000	0.413	0.233	0.233	320,524	No	33,461
RHD02.15A-11T (BR/SE)	0.000	0.409	0.211	0.211	283,985	No	33,461
RHD02.15A-13P	0.000	0.424	0.233	0.233	851,502	No	33,461

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**RHD-02.15A A HDR to FWH 36C**				***Sorted By:Flow Order***		
RHD02.15A-12R	0.000	0.319	0.233	0.233	274,440	No	203,584
RHD02.15A-12R (D/S)	0.000	0.428	0.303	0.303	624,591	No	203,584
RHD02.16A-01N	0.500	1.066	0.261	0.261	3,013,497	Yes	203,584
===>Grouped by Line:	**RHD-02.7B TK B HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.2B-06L (BR/SE)	0.000	0.871	0.211	0.211	1,393,632	No	203,584
RHD02.2B-06L (D/S)	0.000	0.473	0.303	0.303	341,696	No	203,584
RHD02.7B-01P	0.500	0.413	0.303	0.303	456,194	No	203,584
RHD02.7B-02E	0.500	0.340	0.303	0.303	82,253	No	203,584
RHD02.7B-03P	0.500	0.392	0.303	0.303	293,420	No	203,584
RHD02.7B-04E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.7B-05P	0.500	0.405	0.303	0.303	382,206	No	203,584
RHD02.7B-06E	0.500	0.357	0.303	0.303	135,578	No	203,584
RHD02.7B-07P	0.543	0.446	0.303	0.303	525,018	No	203,584
===>Grouped by Line:	**RHD-02.8A TK A HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.6A-06L (BR/SE)	0.000	0.214	0.211	0.211	6,871	Yes	203,584
RHD02.6A-06L	0.594	0.553	0.378	0.378	974,256	Yes	203,584
RHD02.6A-06L (D/S)	0.000	0.478	0.378	0.378	306,514	No	203,584
RHD02.8A-01P	0.000	0.537	0.378	0.378	1,003,915	No	203,584
RHD02.8A-02E	0.594	0.500	0.378	0.378	467,530	No	203,584
RHD02.8A-03P	0.594	0.532	0.378	0.378	880,134	No	203,584
===>Grouped by Line:	**RHD-02.8B TK B HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.7B-08L	0.605	0.534	0.378	0.378	864,686	Yes	203,584
RHD02.8B-06T (BR/SE)	0.000	0.575	0.211	0.211	746,153	Yes	203,584
RHD02.7B-08L (BR/SE)	0.000	1.113	0.281	0.281	1,725,881	No	203,584
RHD02.7B-08L (D/S)	0.000	0.487	0.378	0.378	236,374	Yes	203,584
RHD02.8B-01P	0.609	0.520	0.378	0.378	625,744	Yes	203,584
RHD02.8B-02E	0.594	0.445	0.378	0.378	161,198	No	203,584
RHD02.8B-03P	0.594	0.493	0.378	0.378	410,259	No	203,584
RHD02.8B-04E	0.594	0.445	0.378	0.378	161,198	No	203,584
RHD02.8B-05P	0.594	0.465	0.378	0.378	242,273	No	203,584
RHD02.8B-06T	0.594	0.585	0.378	0.378	334,980	Yes	203,584
RHD02.8B-06T (D/S)	0.000	0.438	0.378	0.378	137,447	No	203,584
===>Grouped by Line:	**RHD-02.9A TK A HDR to FWH 36**				***Sorted By:Flow Order***		
RHD02.2A-06L (BR/SE)	0.000	0.263	0.211	0.211	109,156	No	203,584
RHD02.9A-11T (D/S)	0.000	0.438	0.378	0.378	137,447	No	203,584
RHD02.9A-11T (BR/SE)	0.000	0.487	0.211	0.211	565,659	Yes	203,584

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1] Time to Tcrit (hrs)	Inspected	Comp. Actual Service Time (hrs)
===>Grouped by Line: **RHD-02.9A TK A HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.2A-06L	0.594	0.478	0.378	0.378	306,514	No	203,584
RHD02.2A-06L (D/S)	0.000	0.429	0.378	0.378	110,576	No	203,584
RHD02.9A-01P	0.594	0.513	0.378	0.378	602,243	No	203,584
RHD02.9A-02E	0.594	0.461	0.378	0.378	224,092	No	203,584
RHD02.9A-03P	0.594	0.505	0.378	0.378	514,977	No	203,584
RHD02.9A-04E	0.594	0.461	0.378	0.378	224,092	No	203,584
RHD02.9A-05P	0.594	0.505	0.378	0.378	514,977	No	203,584
RHD02.9A-06E	0.594	0.461	0.378	0.378	224,092	No	203,584
RHD02.9A-07E	0.594	0.453	0.378	0.378	190,848	No	203,584
RHD02.9A-08P	0.594	0.493	0.378	0.378	410,259	No	203,584
RHD02.9A-09E	0.594	0.453	0.378	0.378	190,848	No	203,584
RHD02.9A-10P	0.594	0.493	0.378	0.378	410,259	No	203,584
RHD02.9A-11T	0.594	0.629	0.378	0.378	406,039	Yes	203,584
===>Grouped by Line: **RHD-02.9B TK B HDR to FWH 36**					***Sorted By:Flow Order***		
RHD02.9B-02T (D/S)	0.000	0.508	0.378	0.378	538,678	No	203,584
RHD02.9B-02T (BR/SE)	0.000	0.258	0.211	0.211	95,818	No	203,584
RHD02.9B-01P	0.594	0.537	0.378	0.378	1,003,915	No	203,584
RHD02.9B-02T	0.594	0.438	0.378	0.378	137,447	No	203,584

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

6

Wear Report

Pass 2 Analysis Include Measured Wear

Company: Entergy Nuclear Operations, Inc.
Plant: Indian Point
Unit: 3
DB Name: IPEC3(v3).DB

Report Date/Time: 10-Feb-2010 9:06 am
AnalysisDate/Time: 10-Feb-2010 9:07 am

Run Name: RHD: RHD HDR TO HTRS
Ending Period: Cycle 16
Total Plant Operating Hours: 203,584
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.180

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-02.10A TK A HDR to FWH 36**										***Sorted By: Flow Order***	
RHD02.10A-11T	0.500	215.6	159.0	215.6	159.0	0.564	MT	170,123	284.4	564.0	22.3	170,123
RHD02.10A-11T (BR/SE)	0.000	158.1	316.0	158.1	316.0	0.356	MT	170,123	273.9	356.0	16.3	170,123
===>Grouped by Line:	**RHD-02.10B B HDR to FWH 36A**										***Sorted By: Flow Order***	
RHD02.10B-14T	0.432	191.7	178.0	191.7	178.0	0.554	MT	186,592	240.3	554.0	9.6	186,592
RHD02.10B-14T (BR/SE)	0.000	237.3	269.0	237.3	269.0	0.507	MT	186,592	194.7	507.0	11.8	186,592
RHD02.10B-16T	0.432	191.7	184.0	191.7	184.0	0.560	MT	186,592	240.3	560.0	9.6	186,592
RHD02.10B-16T (BR/SE)	0.000	237.3	221.0	237.3	221.0	0.498	MT	186,592	194.7	498.0	11.8	186,592
RHD02.10B-17R	0.000	97.0	112.0	97.0	112.0	0.326	GW	153,469	335.0	326.0	15.7	153,469
RHD02.10B-17R (D/S)	0.000	61.7	141.0	61.7	141.0	0.642	GW	153,469	438.3	642.0	10.0	153,469
===>Grouped by Line:	**RHD-02.11A A HDR to FWH 36A**										***Sorted By: Flow Order***	
RHD02.11A-17T	0.432	191.7	142.5	191.7	142.5	0.476	MT	186,592	240.3	476.0	9.6	186,592
RHD02.11A-19T	0.432	191.7	131.5	191.7	131.5	0.485	MT	186,592	240.3	485.0	9.6	186,592
RHD02.11A-19T (BR/SE)	0.000	237.3	189.0	237.3	189.0	0.423	MT	186,592	194.7	423.0	11.8	186,592
===>Grouped by Line:	**RHD-02.12B B HDR to FWH 36B**										***Sorted By: Flow Order***	
RHD02.12B-02E	0.432	135.0	122.0	135.0	122.0	0.310	MT	170,123	297.0	310.0	13.9	170,123
RHD02.12B-11T	0.432	191.7	249.0	191.7	249.0	0.580	MT	186,592	240.3	580.0	9.6	186,592
RHD02.12B-11T (BR/SE)	0.000	237.3	282.0	237.3	282.0	0.512	MT	186,592	194.7	512.0	11.8	186,592
RHD02.12B-13T	0.432	191.7	149.0	191.7	149.0	0.521	MT	186,592	240.3	521.0	9.6	186,592
RHD02.12B-13T (BR/SE)	0.000	237.3	207.0	237.3	207.0	0.363	MT	186,592	194.7	363.0	11.8	186,592
===>Grouped by Line:	**RHD-02.13A A HDR to FWH 36B**										***Sorted By: Flow Order***	
RHD02.13A-01P	0.432	73.0	83.0	73.0	83.0	0.349	MT	170,123	359.0	349.0	7.5	170,123
RHD02.13A-02E	0.432	135.0	64.0	135.0	64.0	0.375	MT	170,123	297.0	375.0	13.9	170,123
RHD02.13A-04E	0.432	115.6	45.0	115.6	45.0	0.455	GW	121,025	316.4	455.0	33.3	121,025
RHD02.13A-05E	0.432	115.6	86.0	115.6	86.0	0.342	GW	121,025	316.4	342.0	33.3	121,025

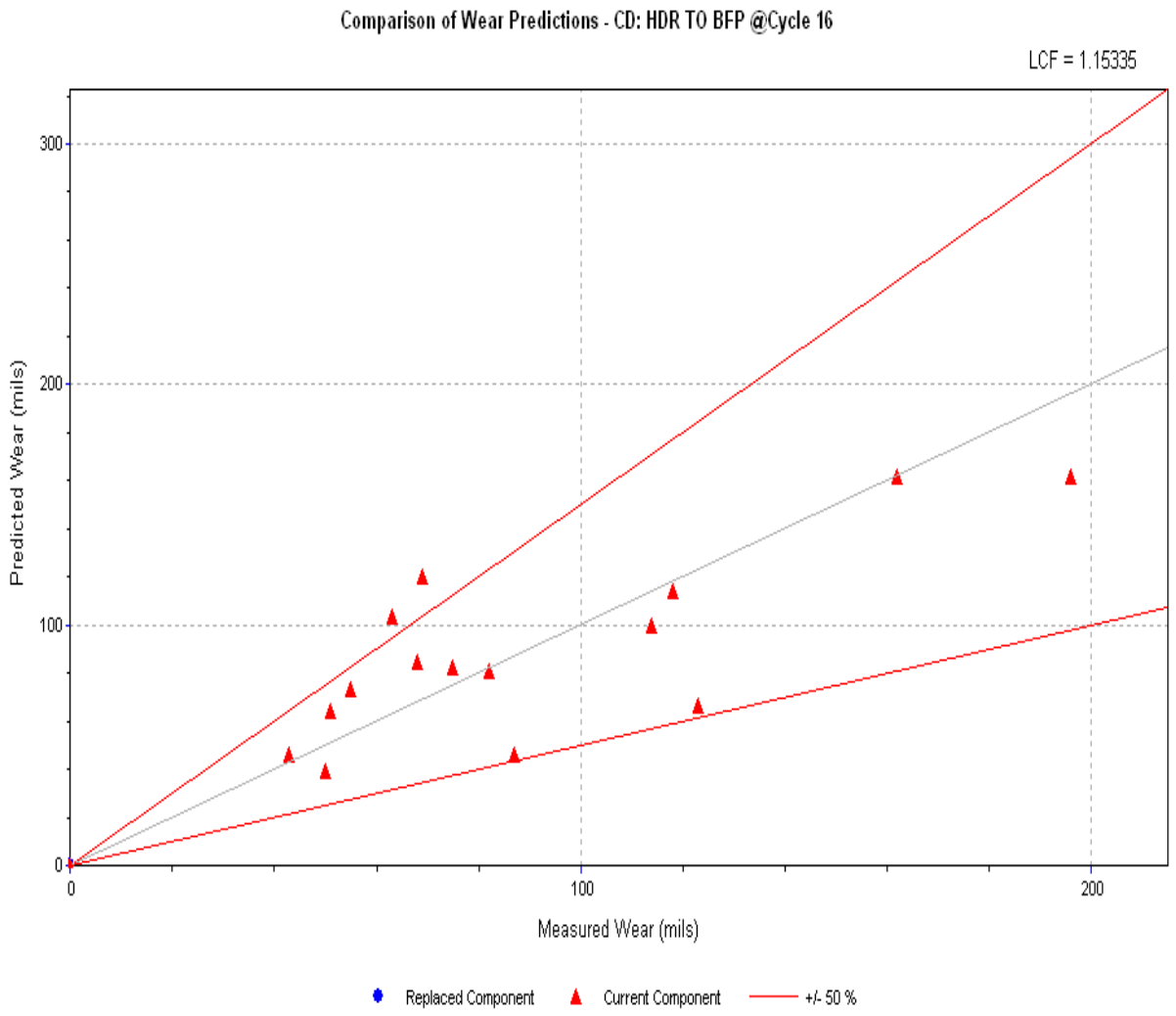
Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**RHD-02.13A A HDR to FWH 36B**										***Sorted By: Flow Order***	
RHD02.13A-06P_1	0.432	99.9	42.0	99.9	42.0	0.421	GW	121,025	332.1	421.0	28.8	121,025
RHD02.13A-14T	0.432	191.7	280.0	191.7	280.0	0.480	MT	186,592	240.3	480.0	9.6	186,592
RHD02.13A-14T (BR/SE)	0.000	237.3	373.0	237.3	373.0	0.441	MT	186,592	194.7	441.0	11.8	186,592
RHD02.13A-16T	0.432	191.7	183.0	191.7	183.0	0.436	MT	186,592	240.3	436.0	9.6	186,592
RHD02.13A-16T (BR/SE)	0.000	237.3	316.0	237.3	316.0	0.340	MT	186,592	194.7	340.0	11.8	186,592
RHD02.14A-01N	0.500	86.6	52.0	86.6	52.0	1.075	MT	170,123	413.4	1,075.0	8.9	170,123
===>Grouped by Line:	**RHD-02.14B B HDR to FWH 36C**										***Sorted By: Flow Order***	
RHD02.14B-02E	0.000	135.0	282.0	0.0	0.0	0.432	ER	170,123	432.0	432.0	13.9	0
RHD02.14B-10T	0.000	191.7	166.0	0.0	0.0	0.432	ER	186,592	432.0	432.0	9.6	0
RHD02.14B-10T (BR/SE)	0.000	237.3	320.0	0.0	0.0	0.432	ER	186,592	432.0	432.0	11.8	0
RHD02.14B-12T	0.432	182.4	215.0	182.4	215.0	0.522	MT	170,123	249.6	522.0	18.8	170,123
RHD02.14B-12T (BR/SE)	0.000	225.8	304.0	225.8	304.0	0.403	MT	170,123	206.2	403.0	23.3	170,123
RHD02.15B-01N	0.432	83.8	60.0	83.8	60.0	1.098	MT	170,123	348.2	1,098.0	8.7	170,123
===>Grouped by Line:	**RHD-02.15A A HDR to FWH 36C**										***Sorted By: Flow Order***	
RHD02.15A-02E	0.000	135.0	393.0	0.0	0.0	0.445	MT	170,123	432.0	445.0	13.9	0
RHD02.15A-03P	0.432	91.2	116.0	91.2	116.0	0.432	ER	0	331.4	432.0	100.6	170,123
RHD02.15A-09T	0.432	191.7	178.0	191.7	178.0	0.539	MT	186,592	240.3	539.0	9.6	186,592
RHD02.15A-09T (BR/SE)	0.000	237.3	237.0	237.3	237.0	0.456	MT	186,592	194.7	456.0	11.8	186,592
RHD02.16A-01N	0.500	86.6	52.0	86.6	52.0	1.075	MT	170,123	413.4	1,075.0	8.9	170,123
===>Grouped by Line:	**RHD-02.8A TK A HDR to FWH 36**										***Sorted By: Flow Order***	
RHD02.6A-06L (BR/SE)	0.000	153.6	206.0	153.6	206.0	0.230	MT	170,123	278.4	230.0	15.8	170,123
RHD02.6A-06L	0.594	58.3	71.0	58.3	71.0	0.559	MT	170,123	535.7	559.0	6.0	170,123
===>Grouped by Line:	**RHD-02.8B TK B HDR to FWH 36**										***Sorted By: Flow Order***	
RHD02.7B-08L	0.605	39.5	46.0	39.5	46.0	0.559	GW	78,649	565.5	559.0	25.0	78,649
RHD02.8B-06T (BR/SE)	0.000	158.1	95.0	158.1	95.0	0.591	MT	170,123	273.9	591.0	16.3	170,123
RHD02.7B-08L (D/S)	0.000	101.1	54.0	101.1	54.0	0.551	GW	78,649	492.9	551.0	64.0	78,649
RHD02.8B-01P	0.609	49.6	58.0	49.6	58.0	0.551	GW	78,649	559.4	551.0	31.4	78,649
RHD02.8B-06T	0.594	200.8	265.0	200.8	265.0	0.606	MT	170,123	393.2	606.0	20.7	170,123
===>Grouped by Line:	**RHD-02.9A TK A HDR to FWH 36**										***Sorted By: Flow Order***	
RHD02.9A-11T (BR/SE)	0.000	158.1	296.0	158.1	296.0	0.503	MT	170,123	273.9	503.0	16.3	170,123
RHD02.9A-11T	0.594	200.8	201.0	200.8	201.0	0.650	MT	170,123	393.2	650.0	20.7	170,123

Notes:
[1] Predictions are for the time of last inspection (last known meas. wear).
[2] GW = Tmeas is minimum thickness from Band, Blanket or Area Method of greatest wear.
MT = Tmeas is component minimum thickness.
PW = Tmeas is Tinit - predicted wear.
US = Tmeas is user specified.
[3] If no Tmeas has been determined from measured data, then Tmeas = Tinit and Time = current component installation time.
Tmeas is used to determine Predicted Thickness and Component Predicted Time to Tcrit.
[4] These two values are used for thickness plot.
Tp = Predicted thickness at Tmeas.
Tm = Last measured thickness (Tmeas).
[5] PRWEAR = Incremental wear from last Tmeas time to analysis ending period.

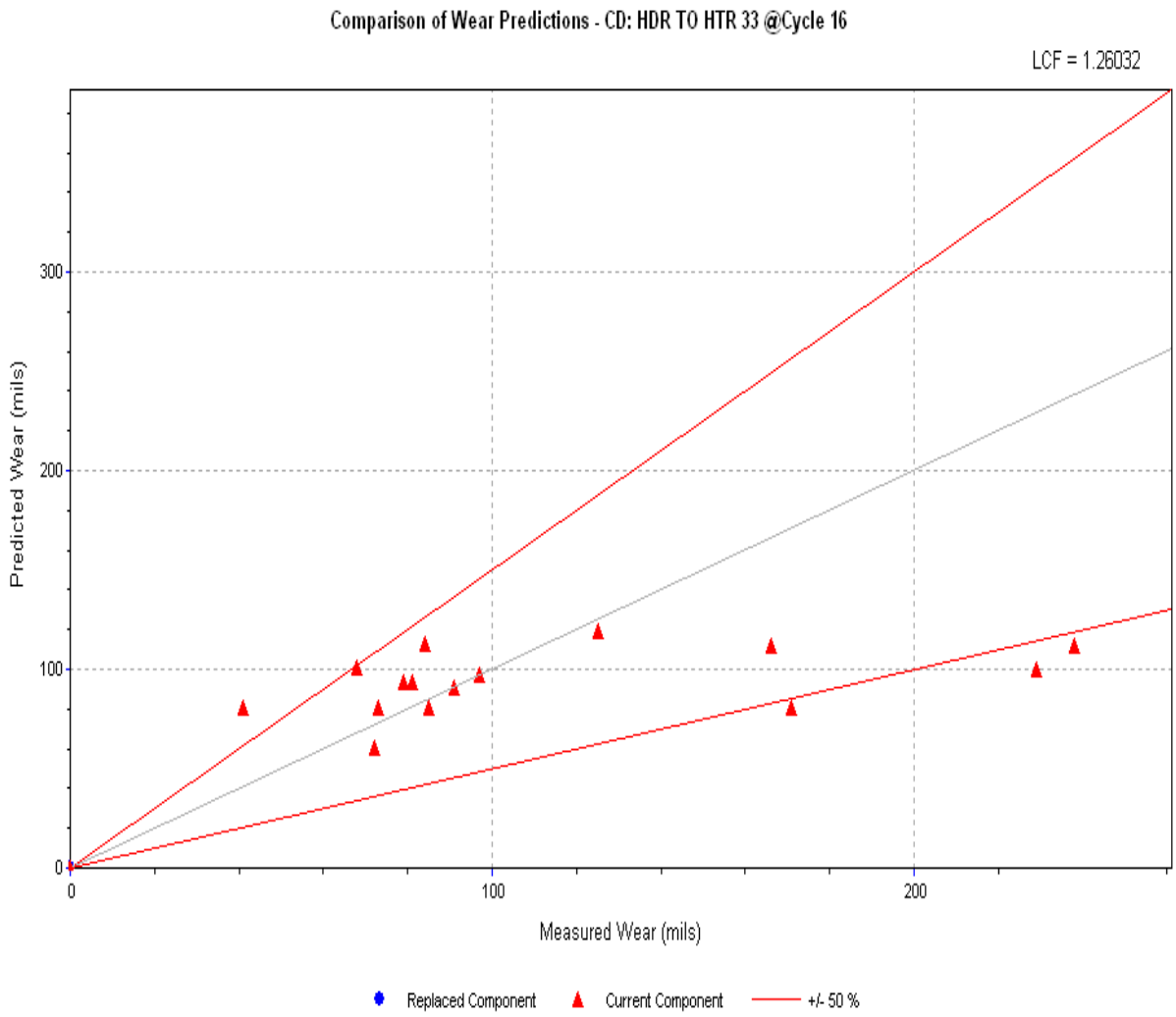
Appendix J

Pass 2 Wear Plots (with LCF values)

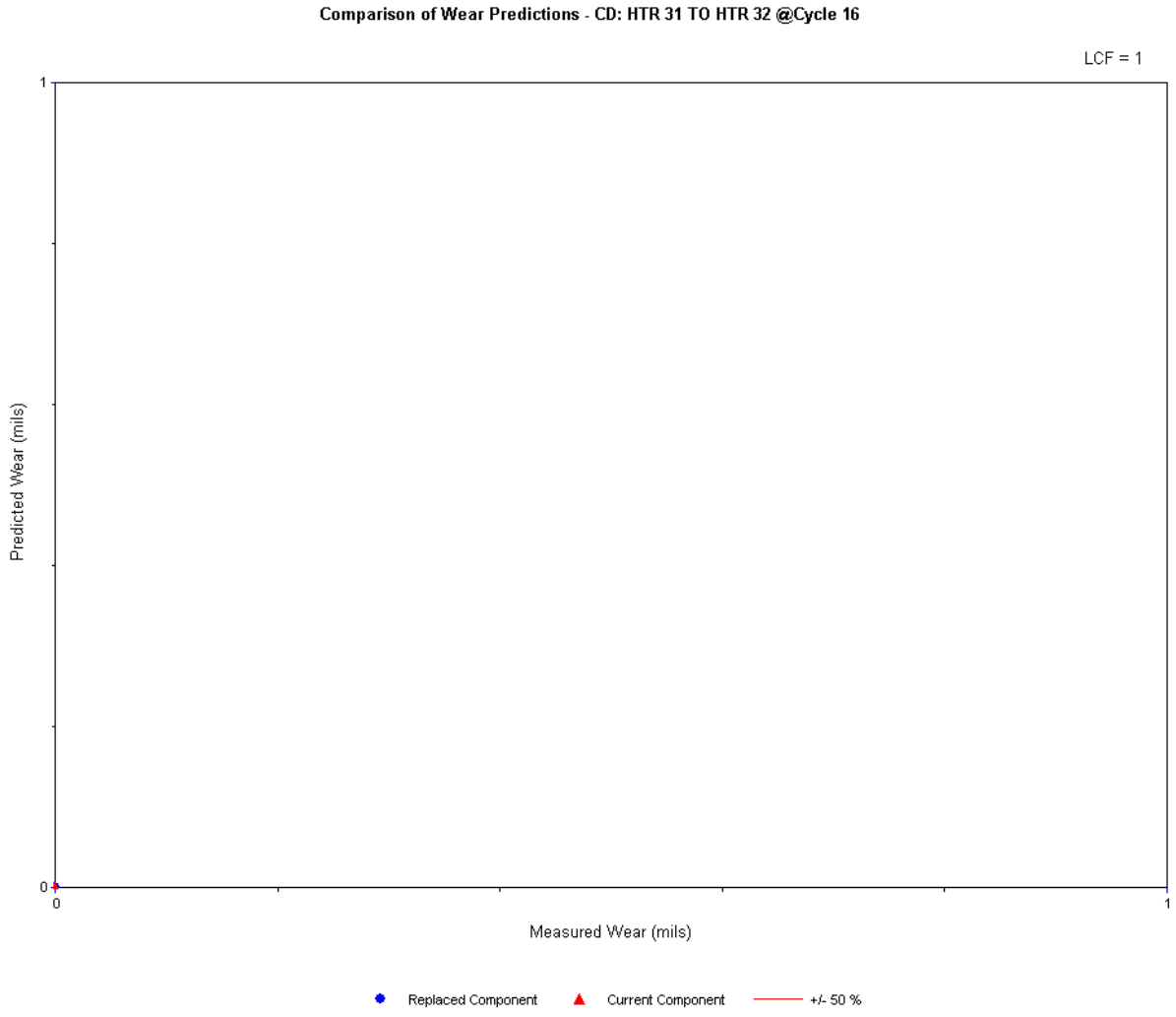
Plot J.1: CD: HDR TO BFP



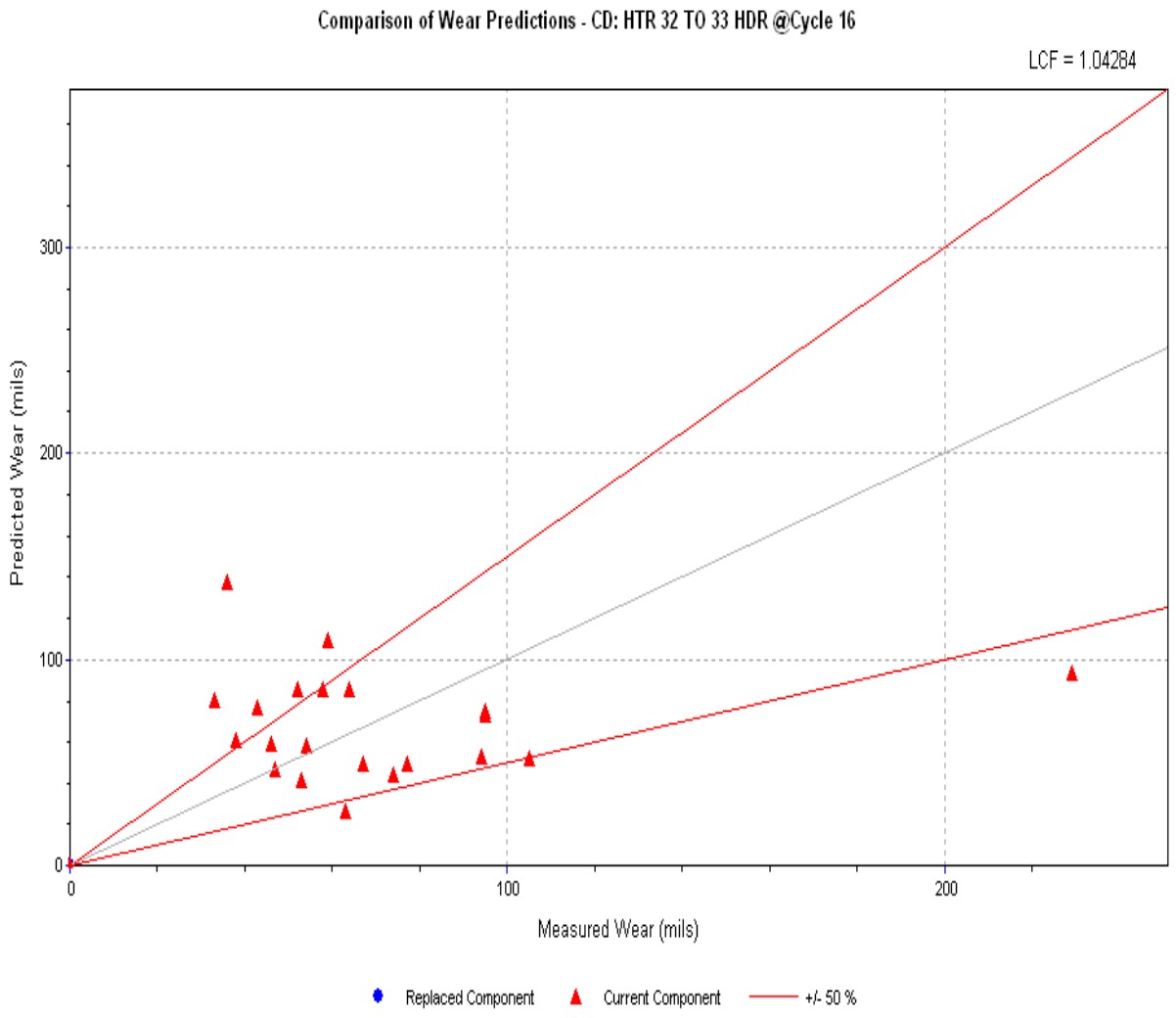
Plot J.2: CD: HDR TO HTR 33



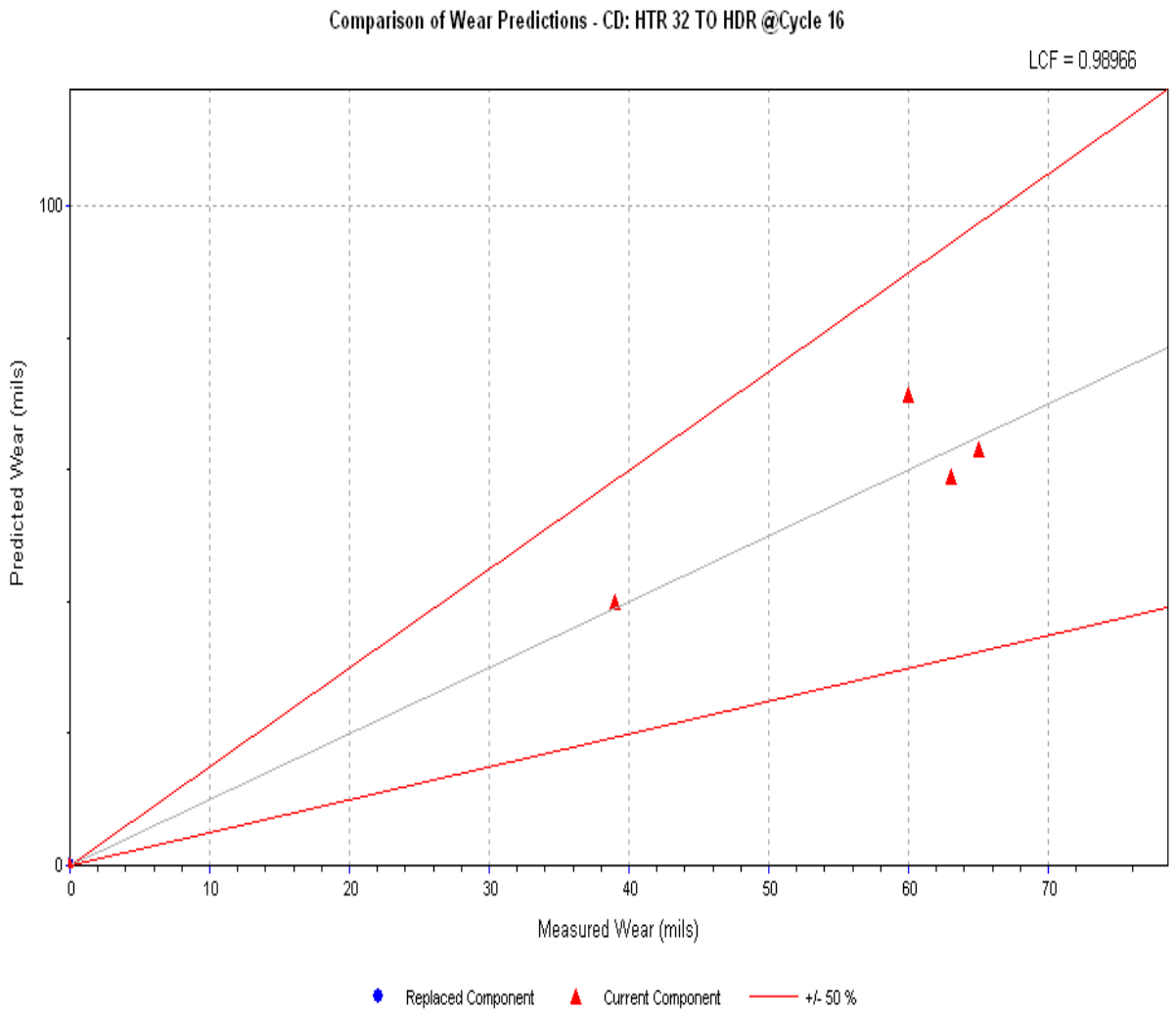
Plot J.3: CD: HTR 31 TO HTR 32



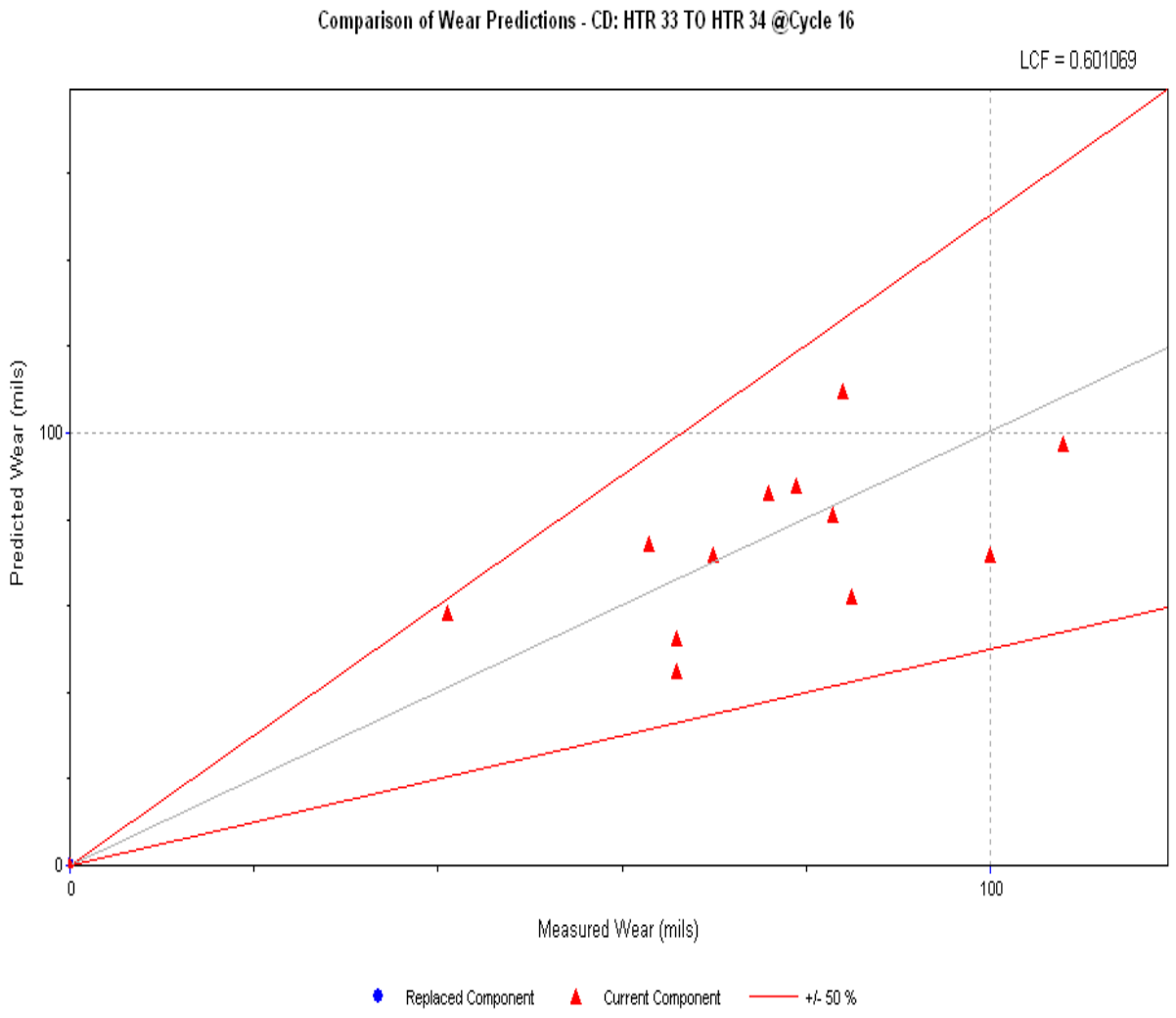
Plot J.4: CD: HTR 32 TO 33 HDR



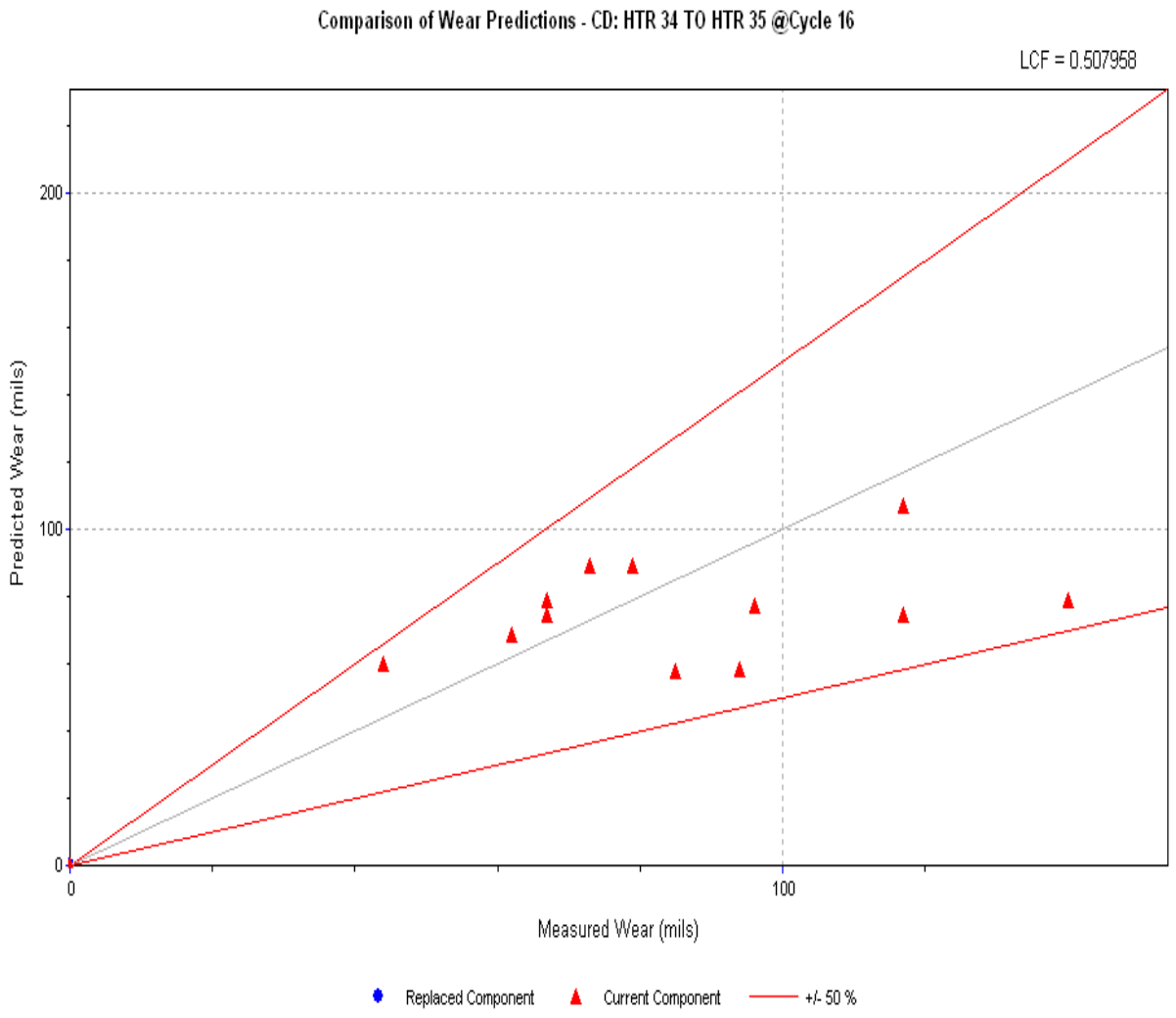
Plot J.5: CD: HTR 32 TO HDR



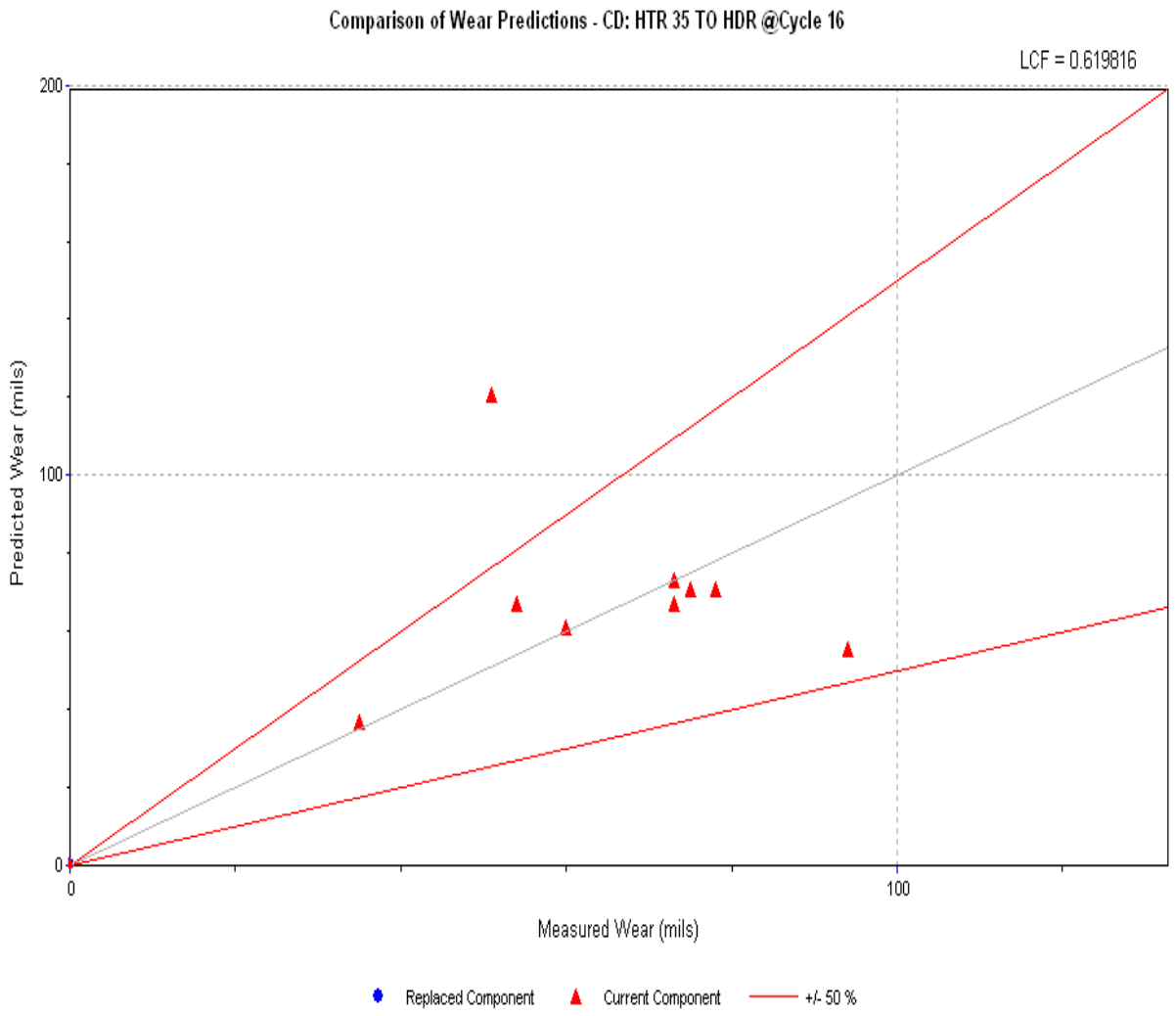
Plot J.6: CD: HTR 33 TO HTR 34



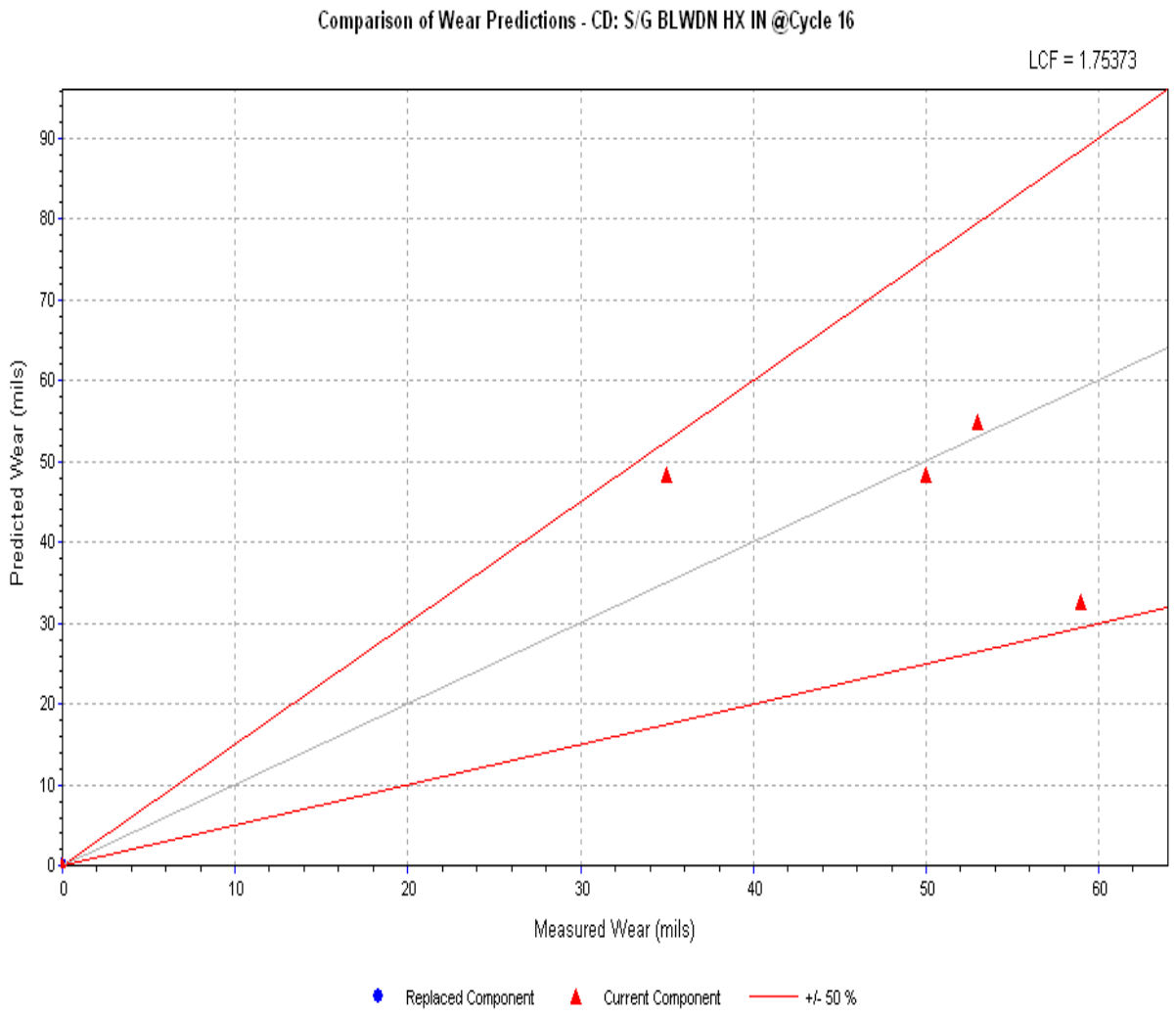
Plot J.7: CD: HTR 34 TO HTR 35



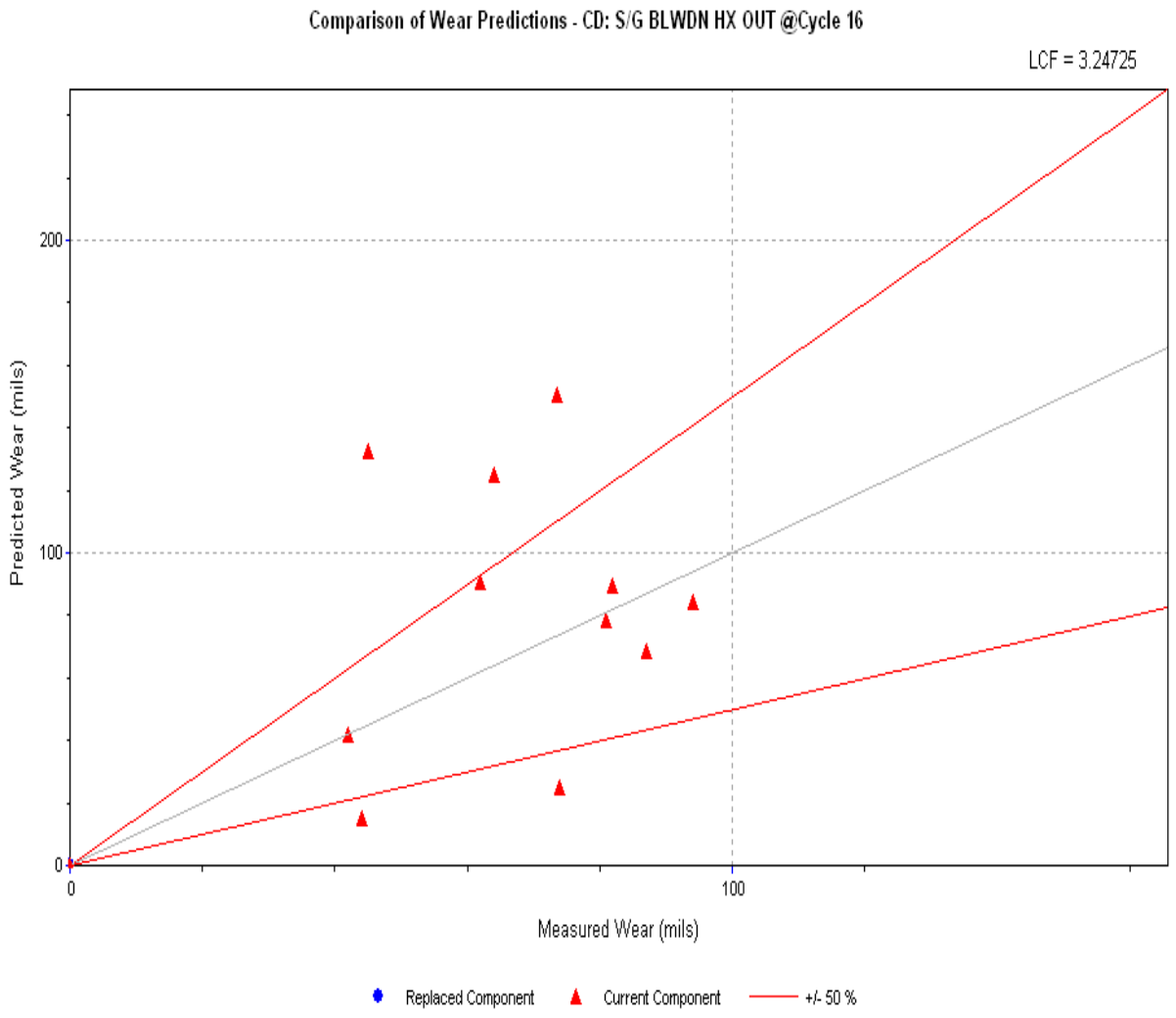
Plot J.8: CD: HTR 35 TO HDR



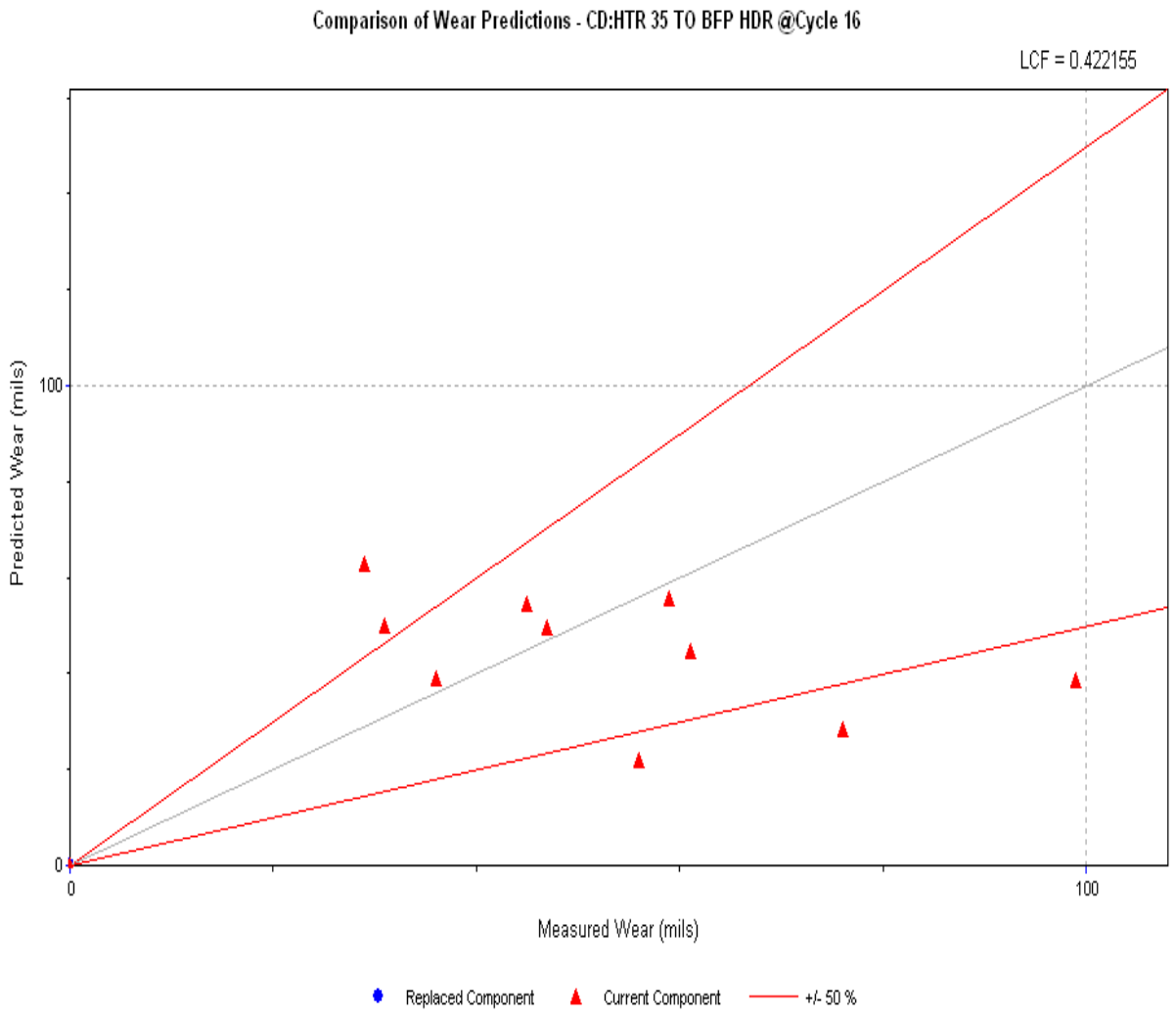
Plot J.9: CD: S/G BLWDN HX IN



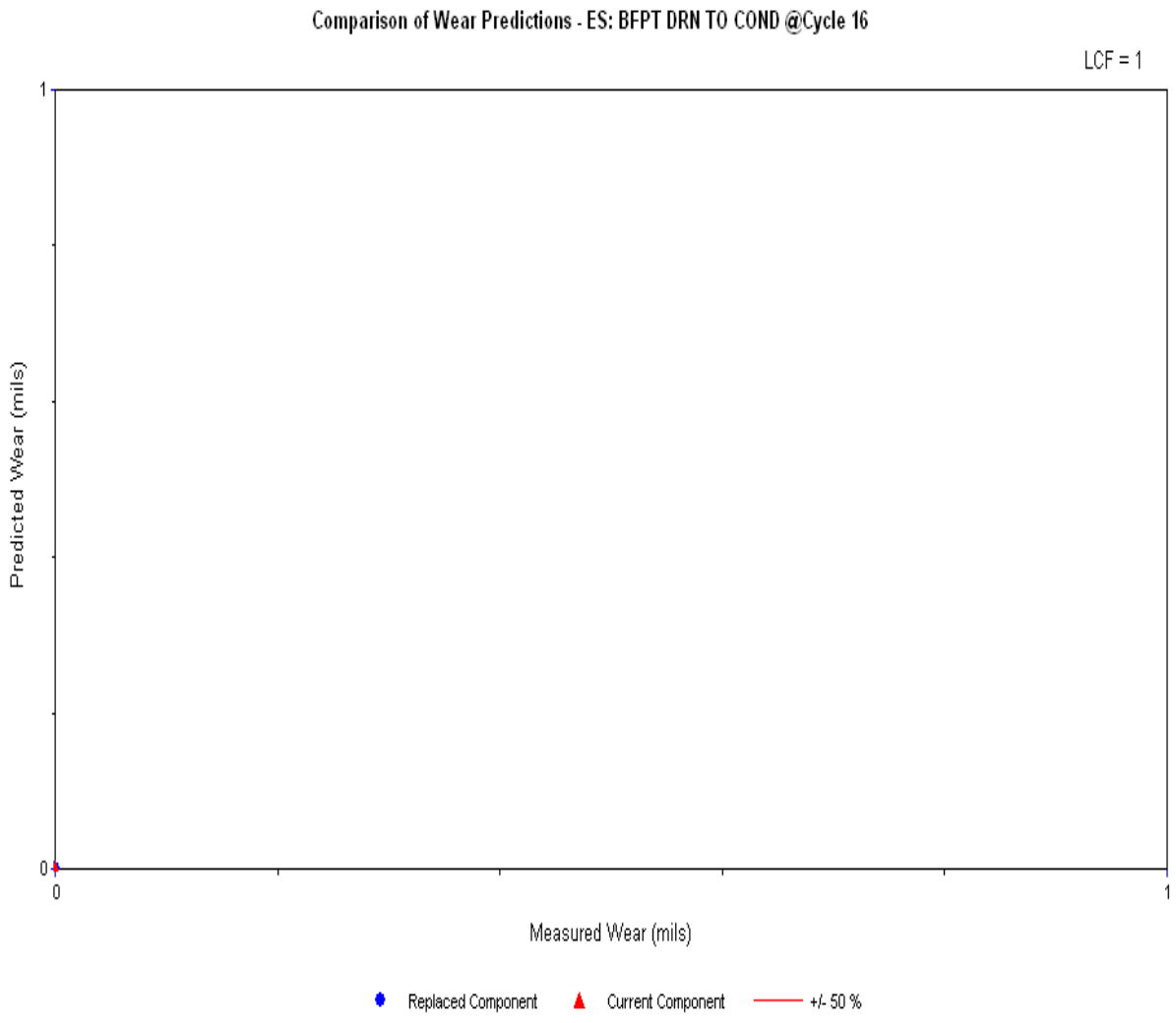
Plot J.10: CD: S/G BOWDN HX OUT



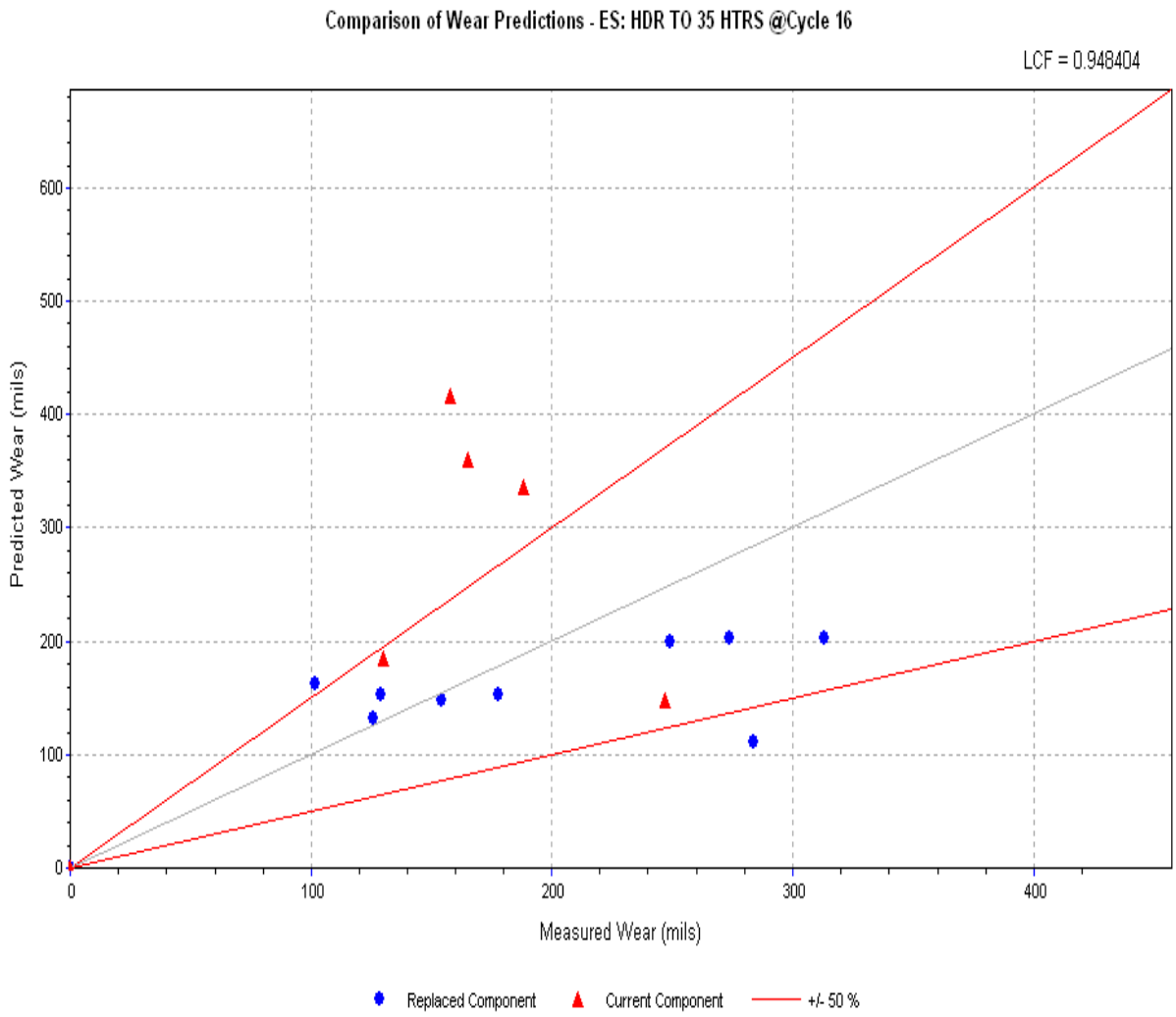
Plot J.11: CD: HTR 35 TO BFP HDR



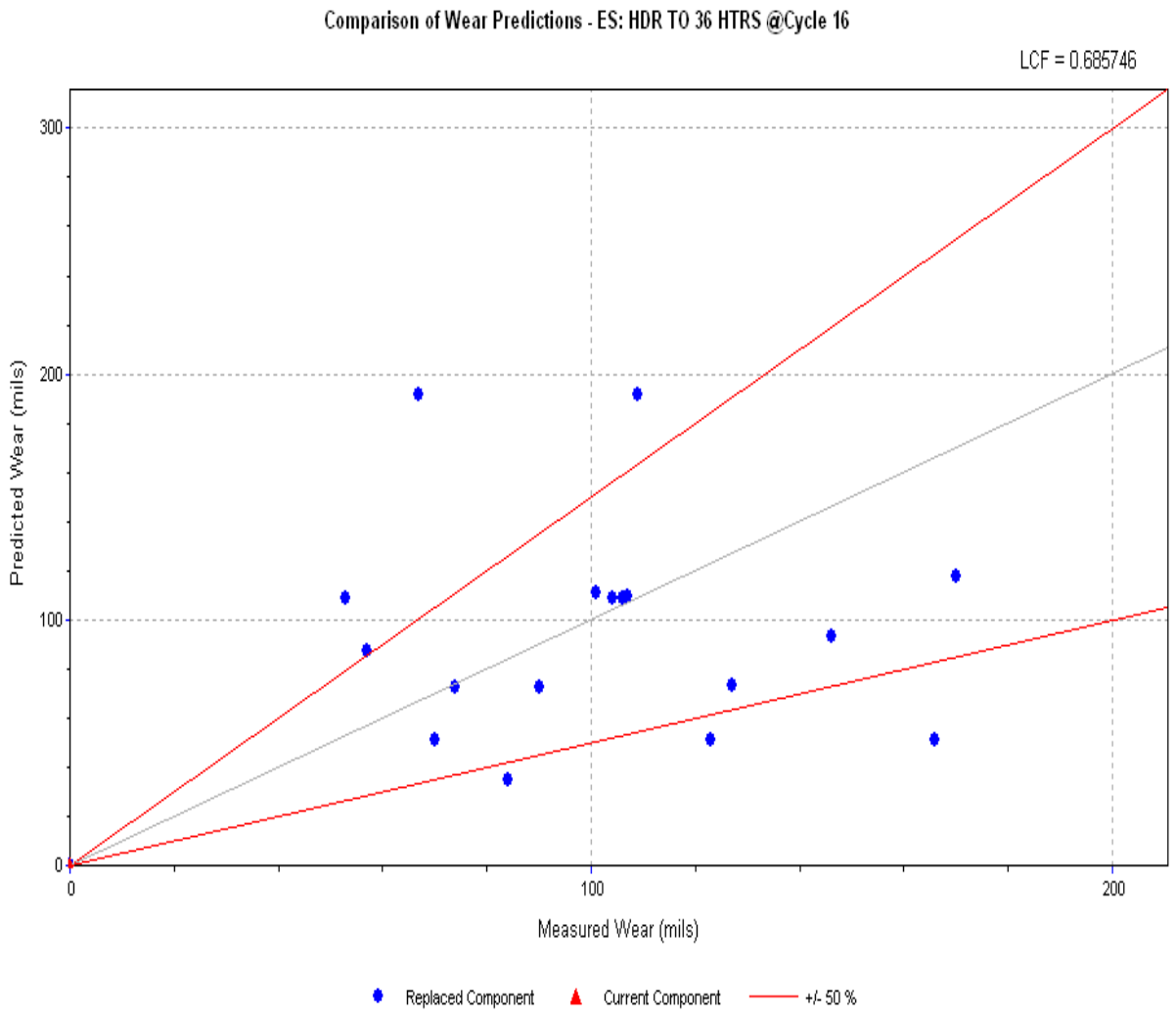
Plot J.12: ES: BFPT DRN TO COND



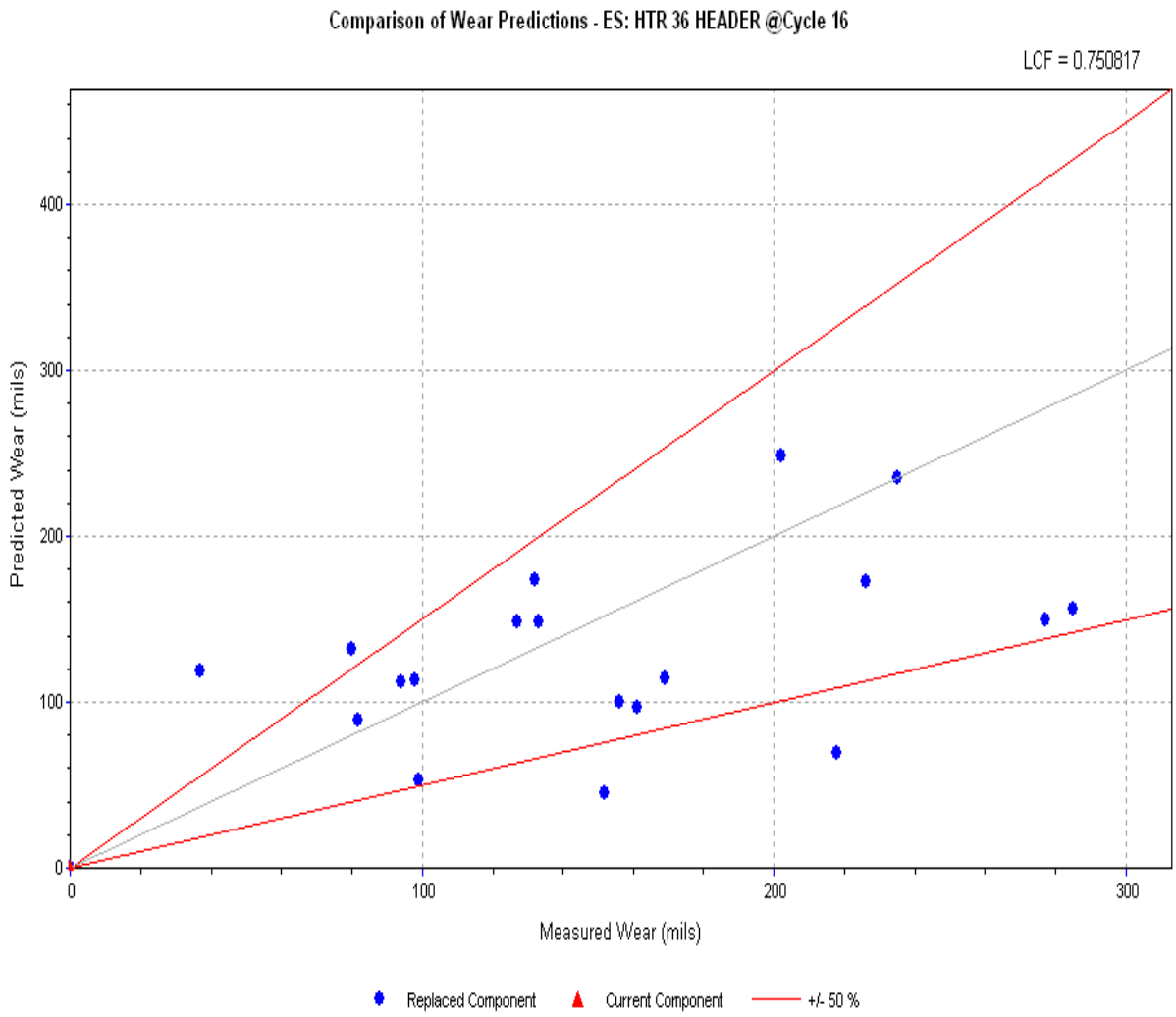
Plot J.13: ES: HDR TO 35 HTRS



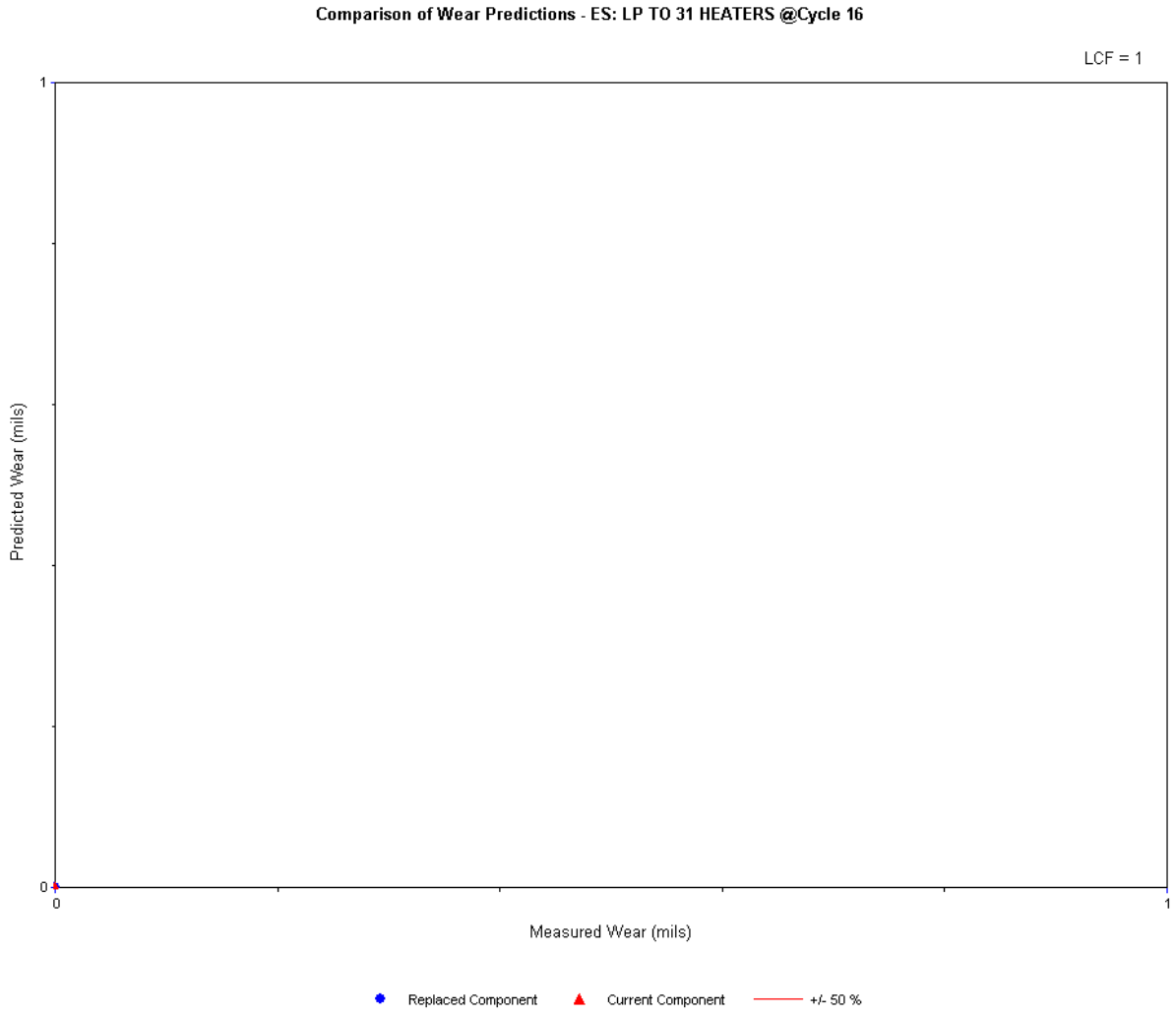
Plot J.14: ES: HDR TO 36 HTRS



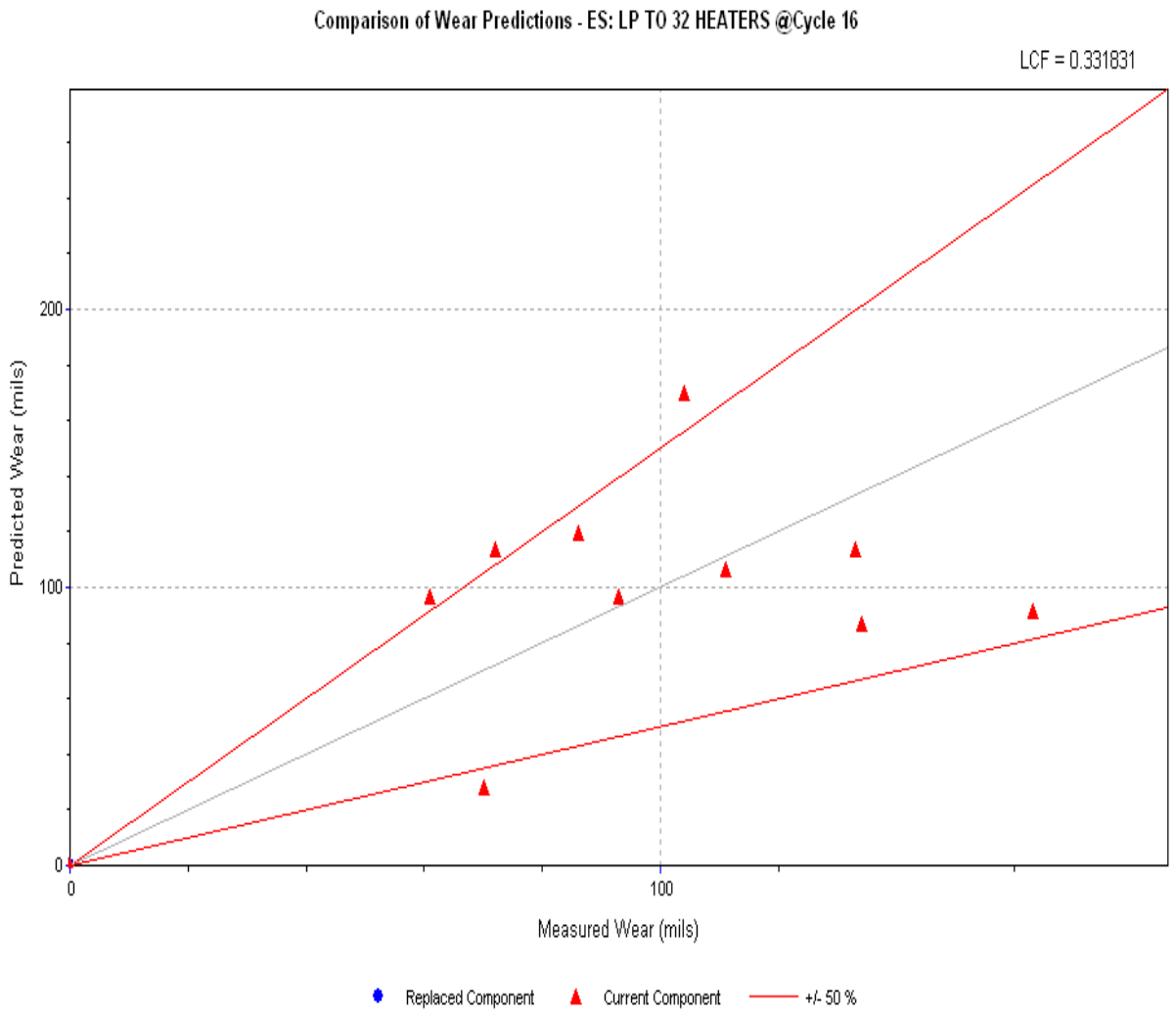
Plot J.15: ES: HTR 36 HEADER



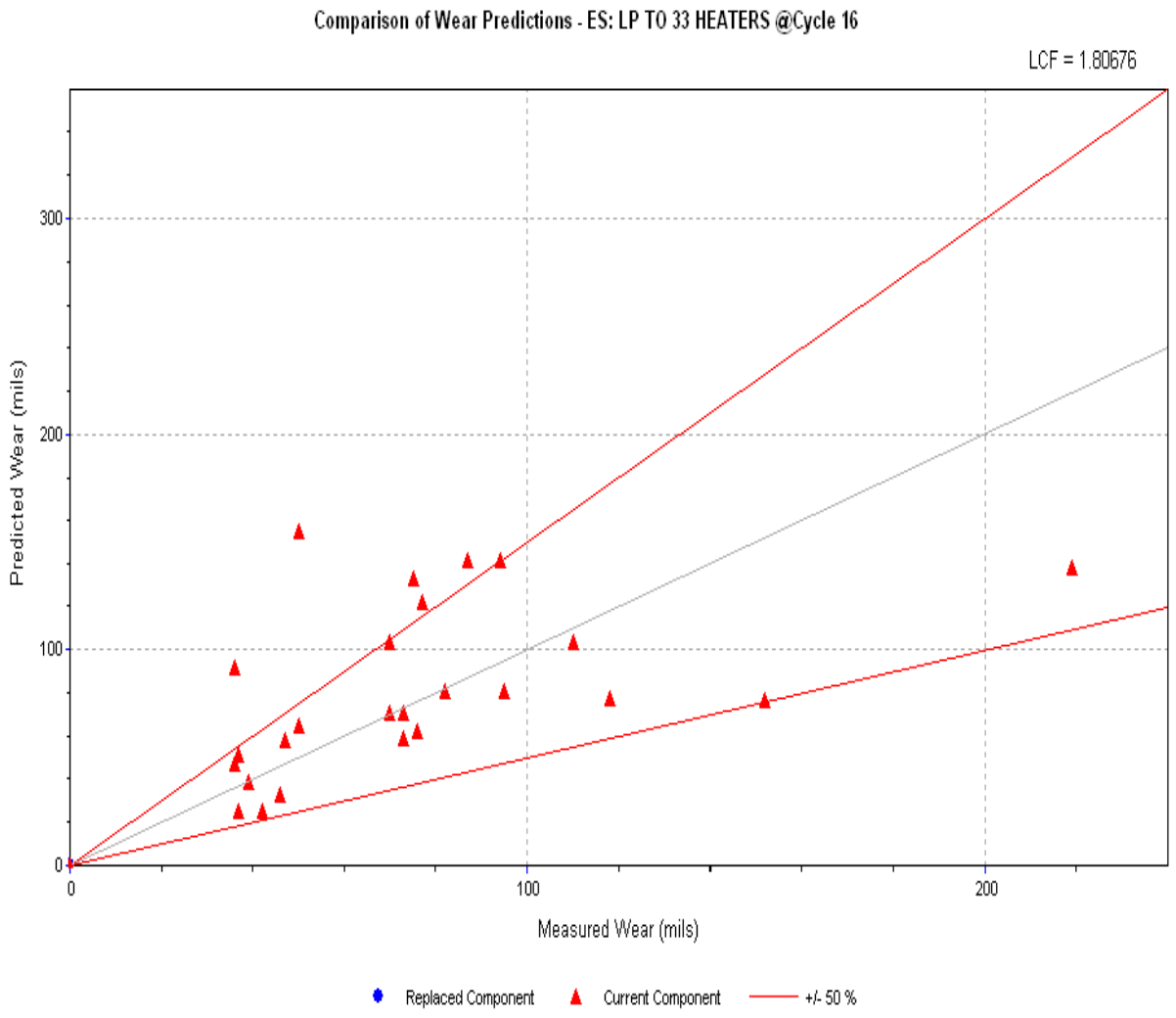
Plot J.16: ES: LP TO 31 HEATERS



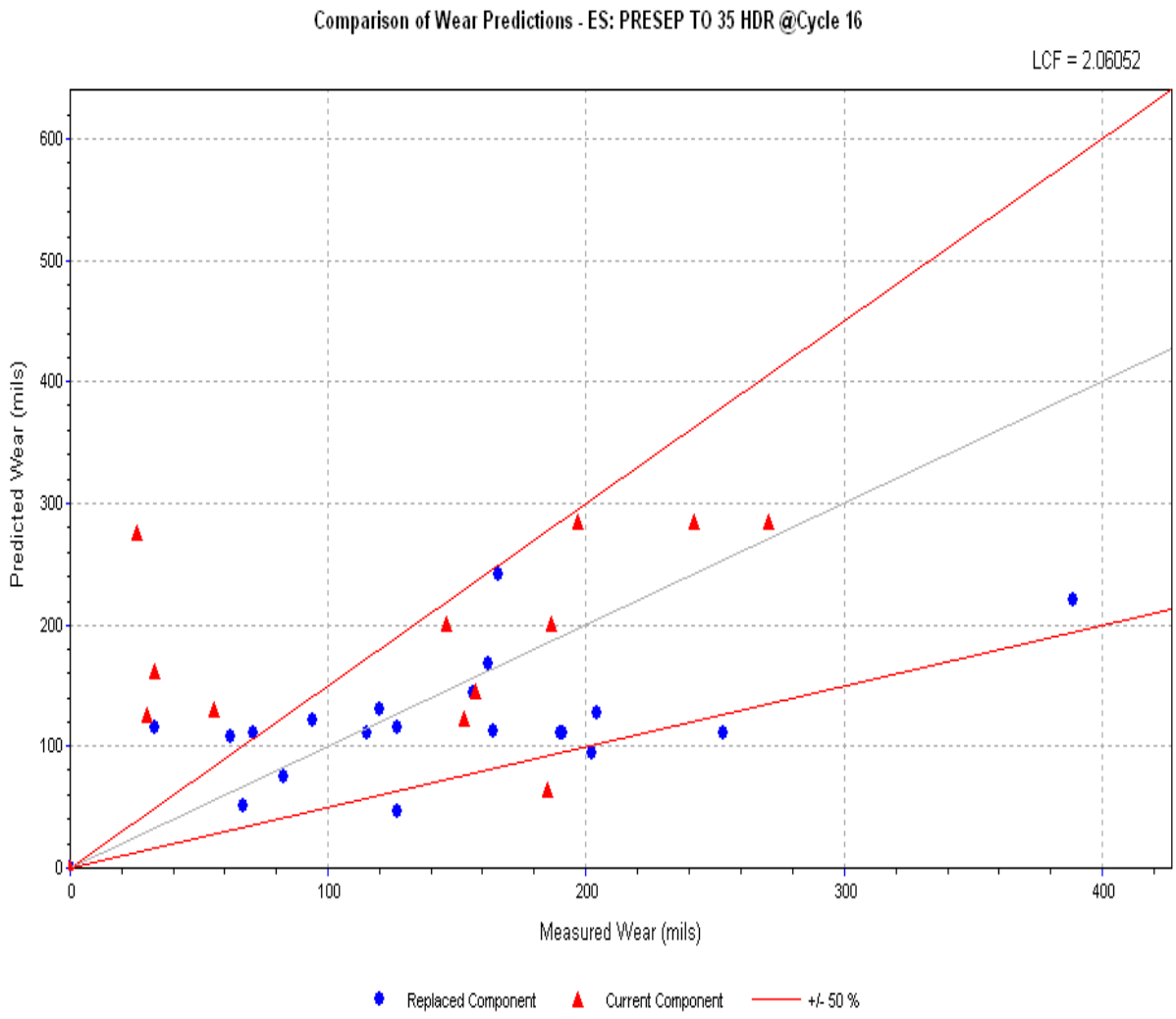
Plot J.17: ES: LP TO 32 HEATERS



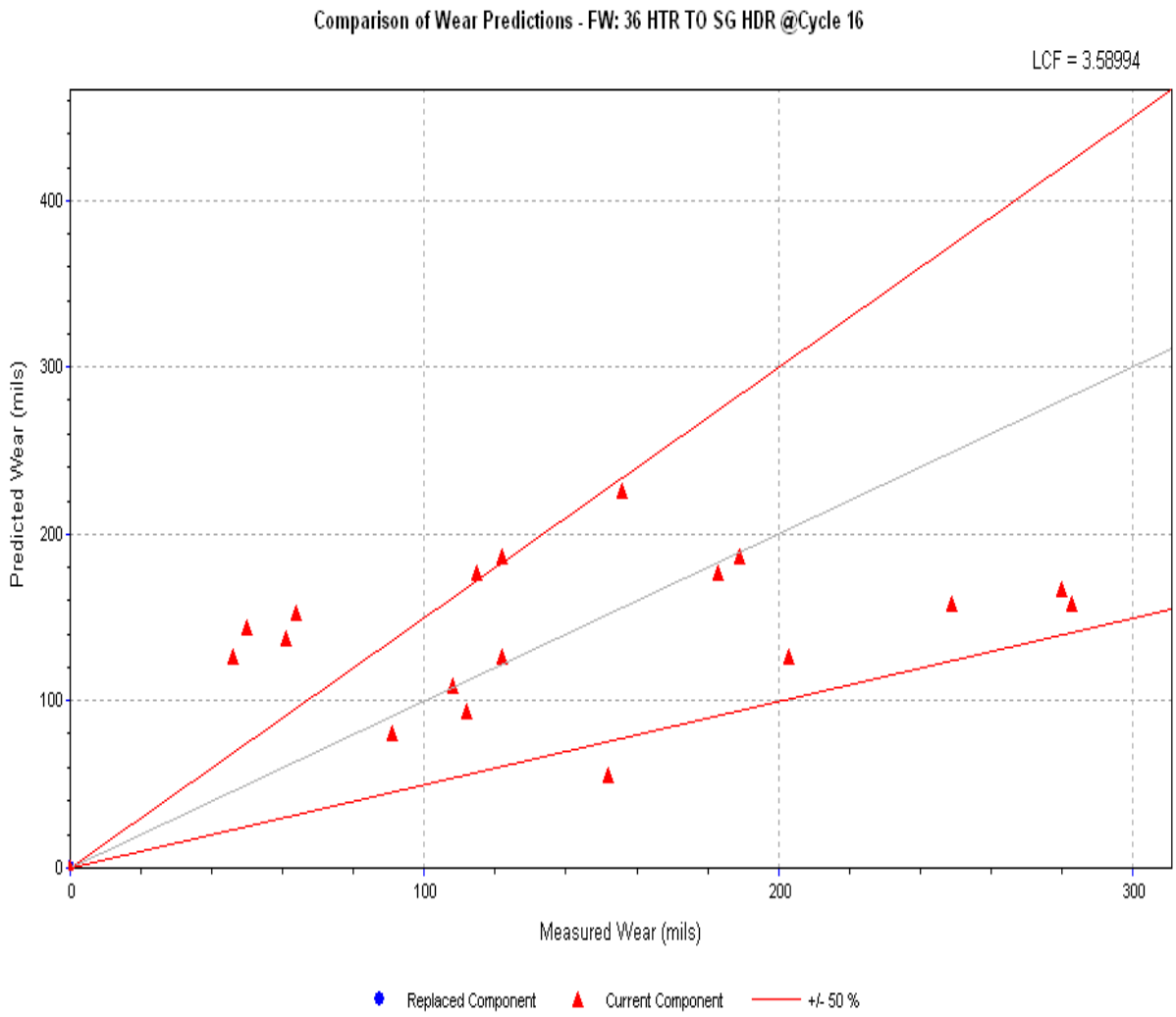
Plot J.18: ES: LP TO 33 HEATERS



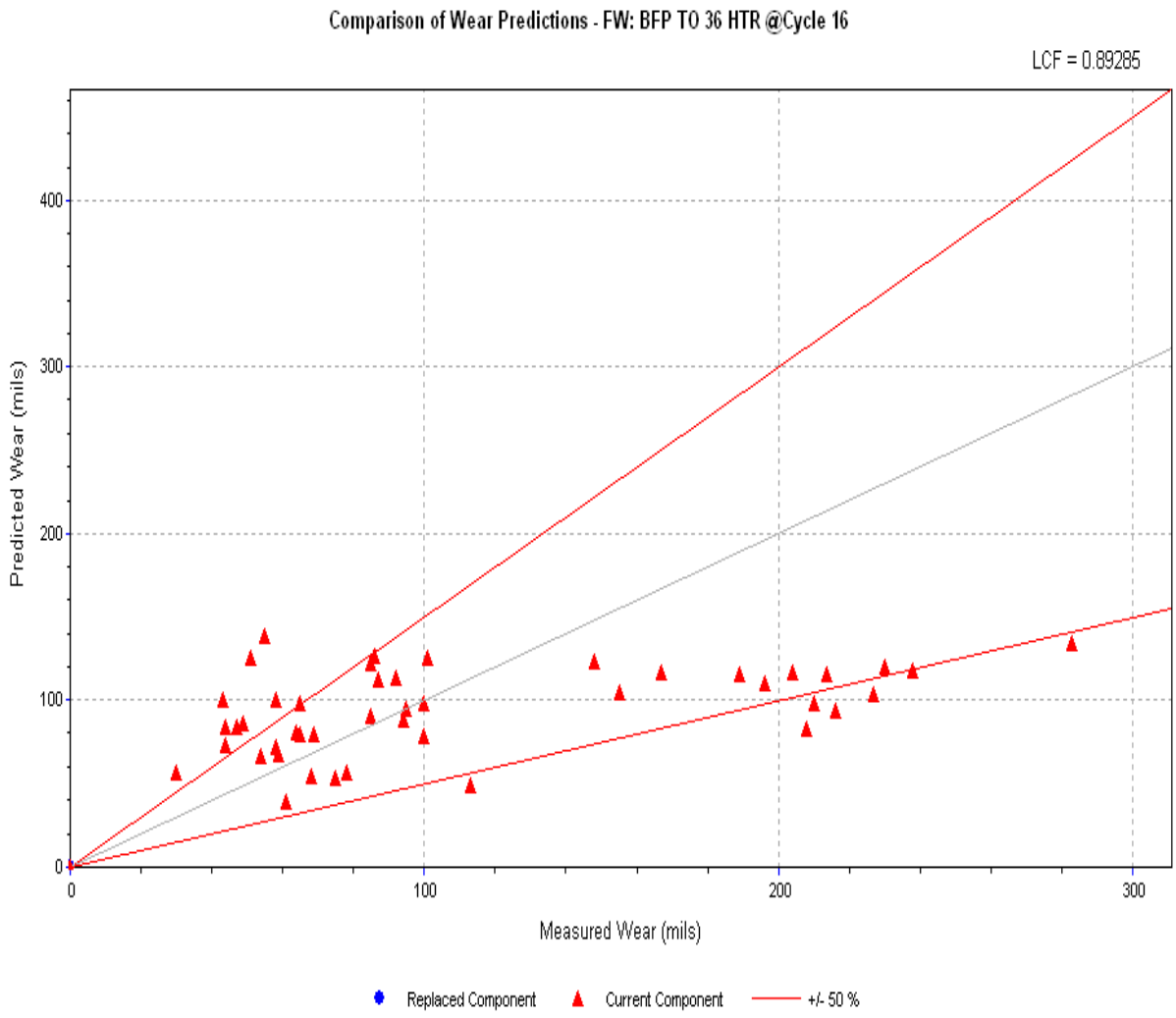
Plot J.19: ES: PRESEP TO 35 HDR



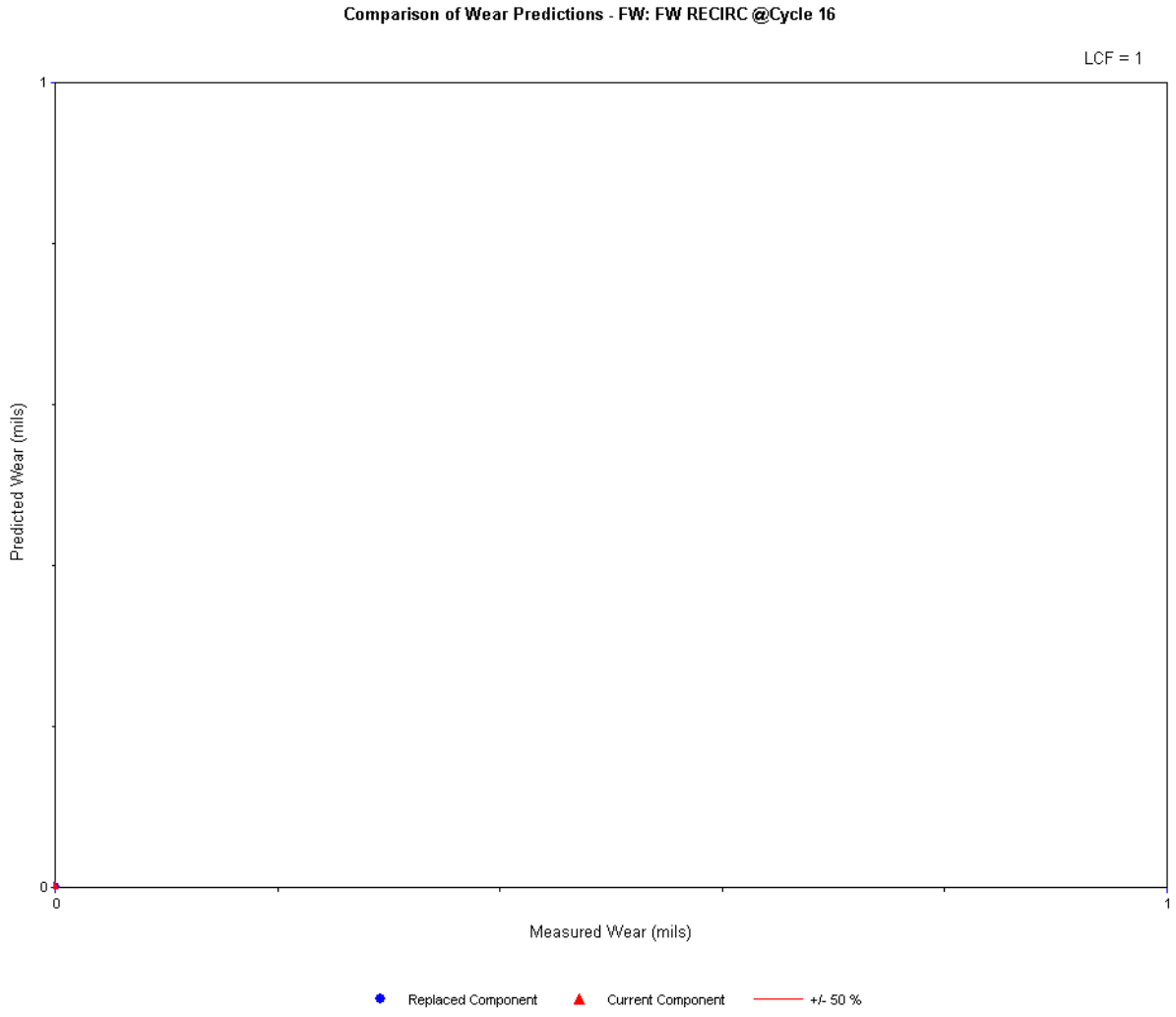
Plot J.20: FW: 36 HTR TO SG HDR



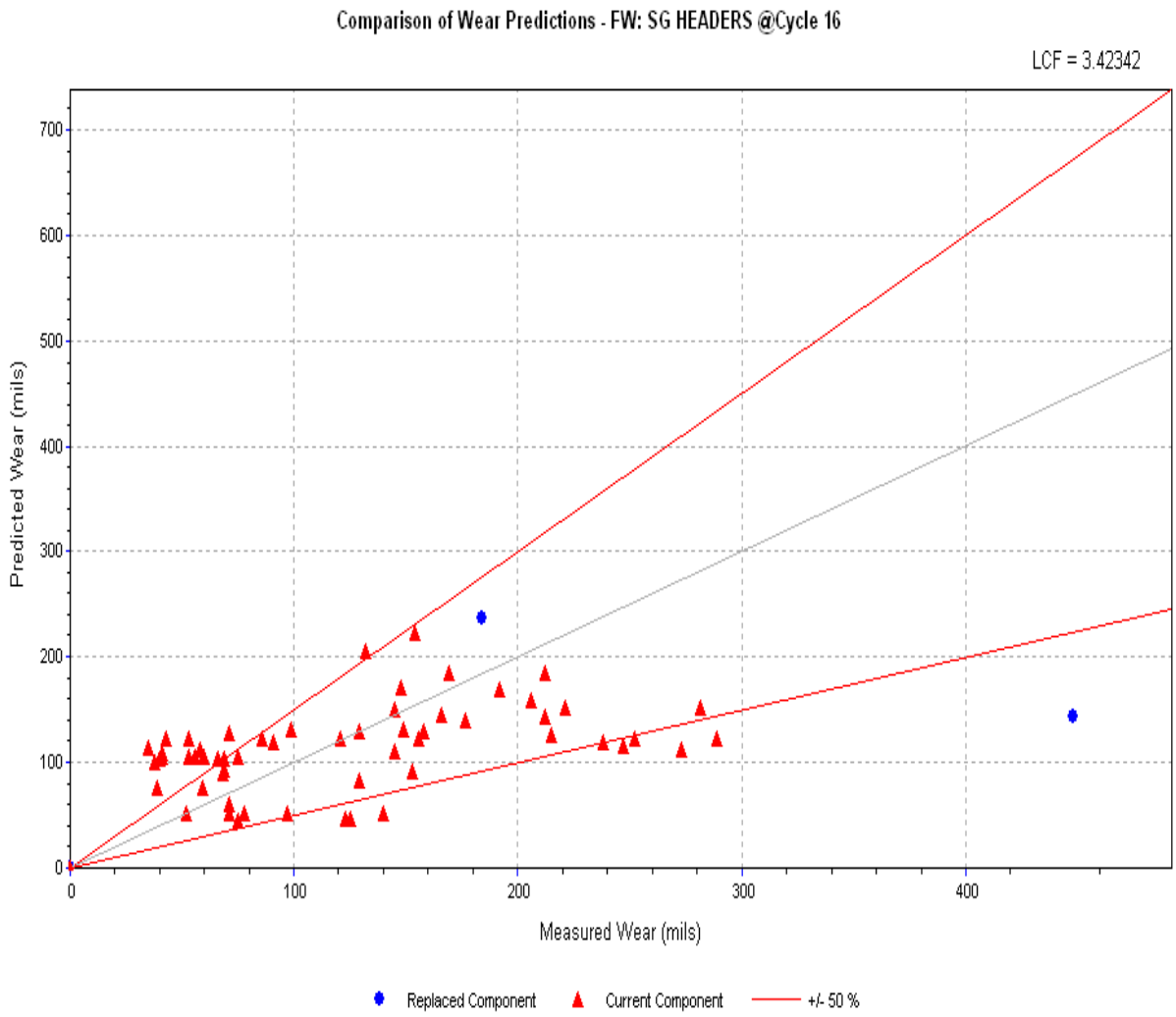
Plot J.21: FW: BFP TO 36 HTR



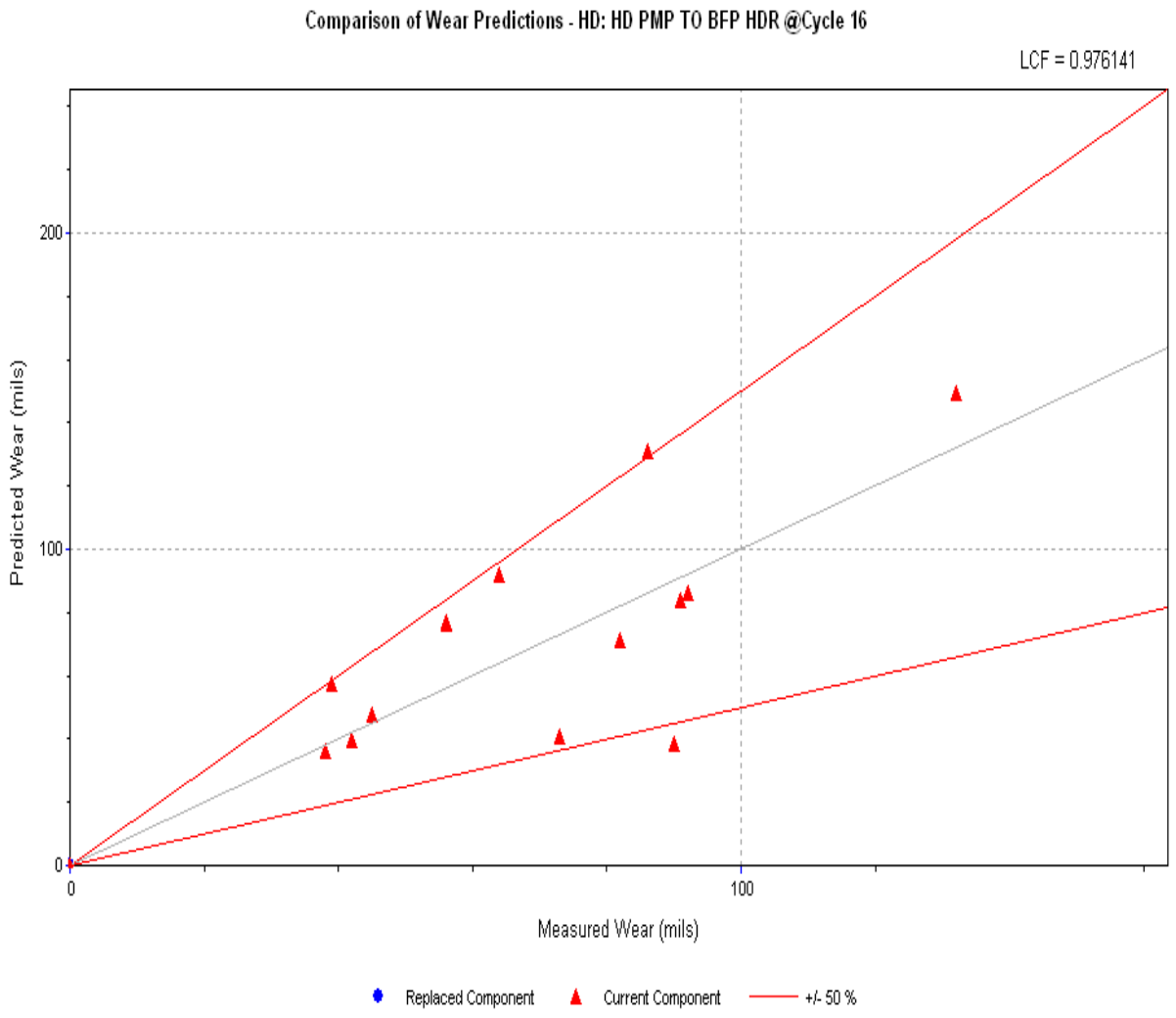
Plot J.22: FW: FW RECIRC



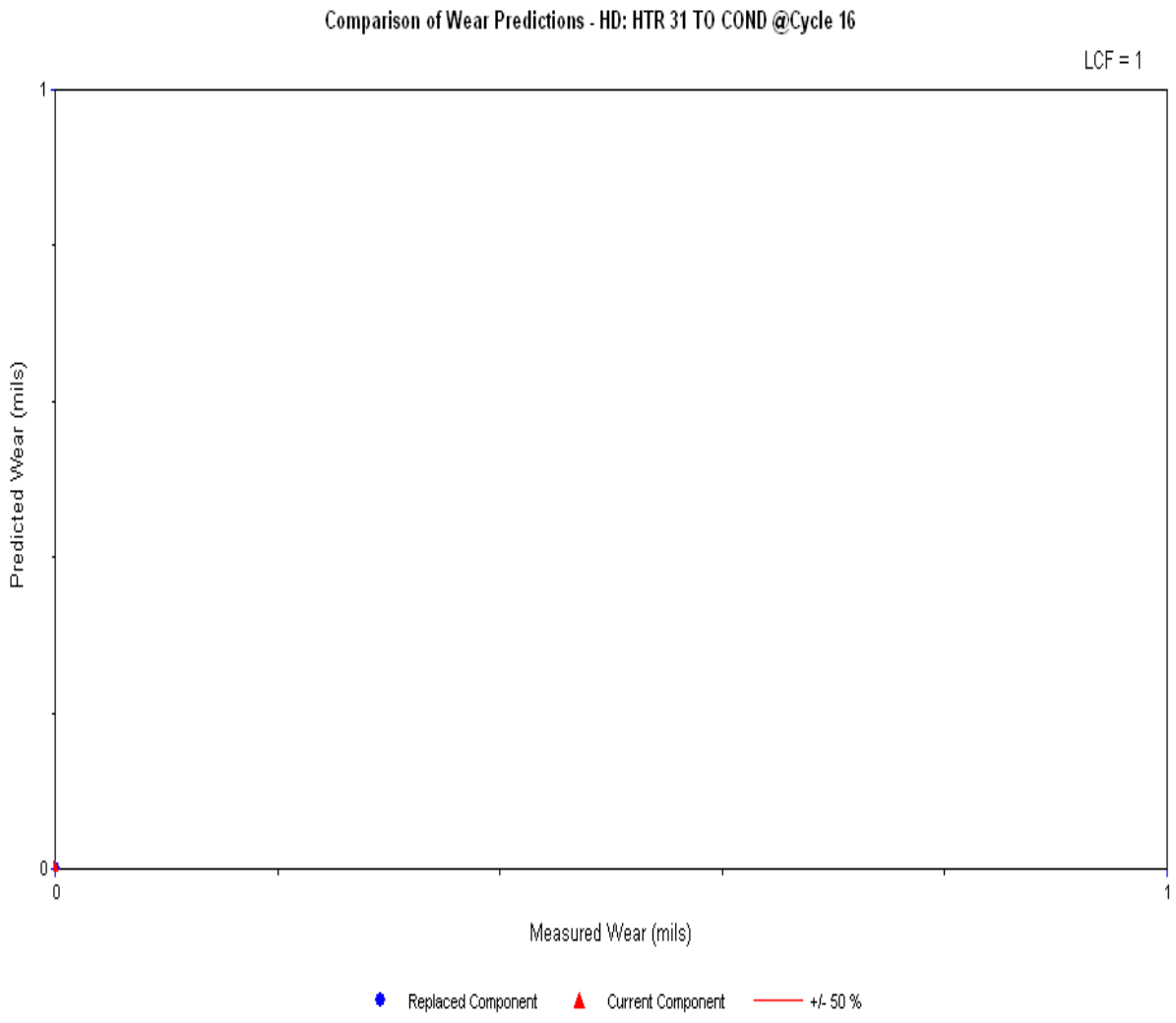
Plot J.23: FW: SG HEADERS



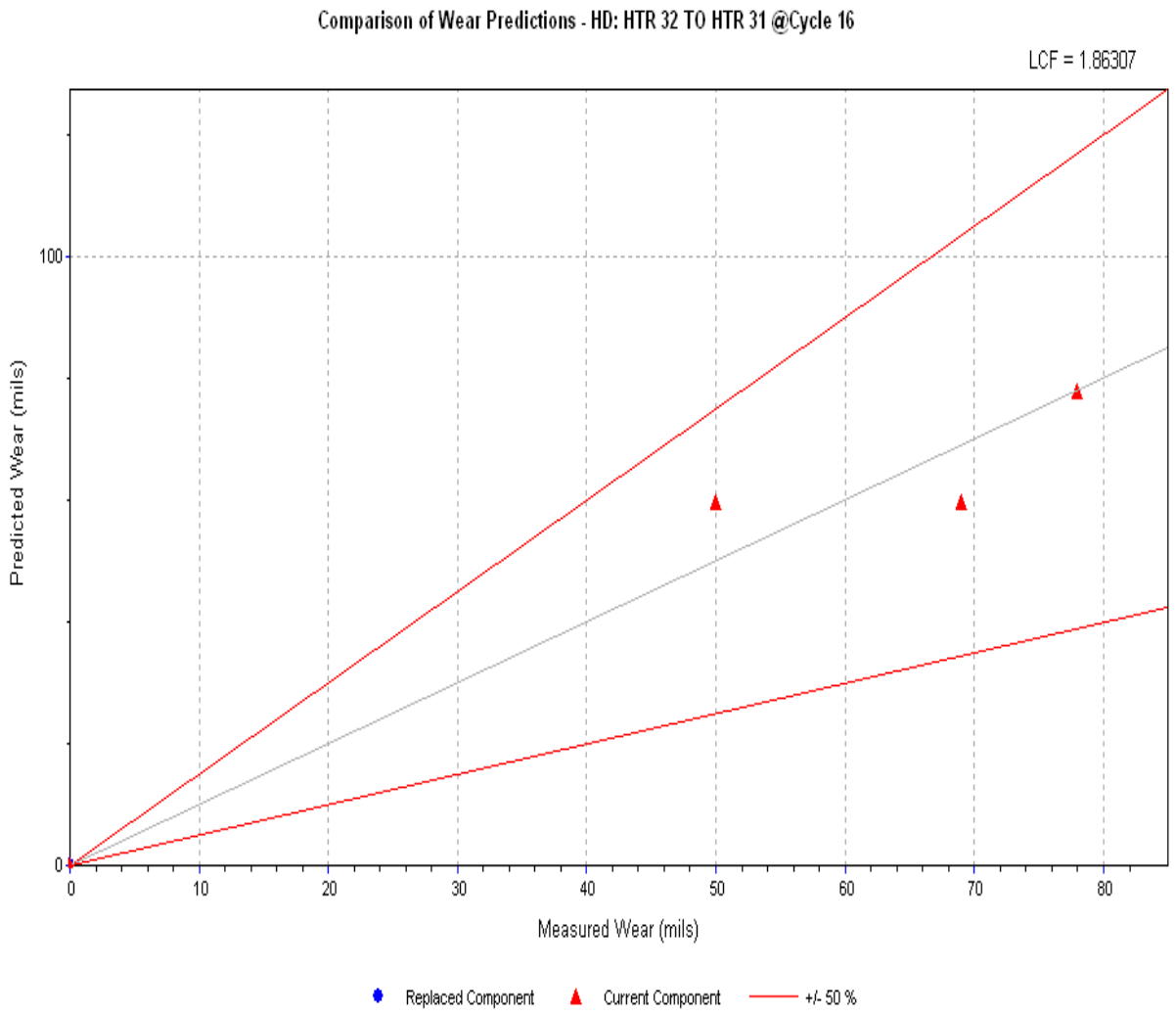
Plot J.24: HD: HD PMP TO BFP HDR



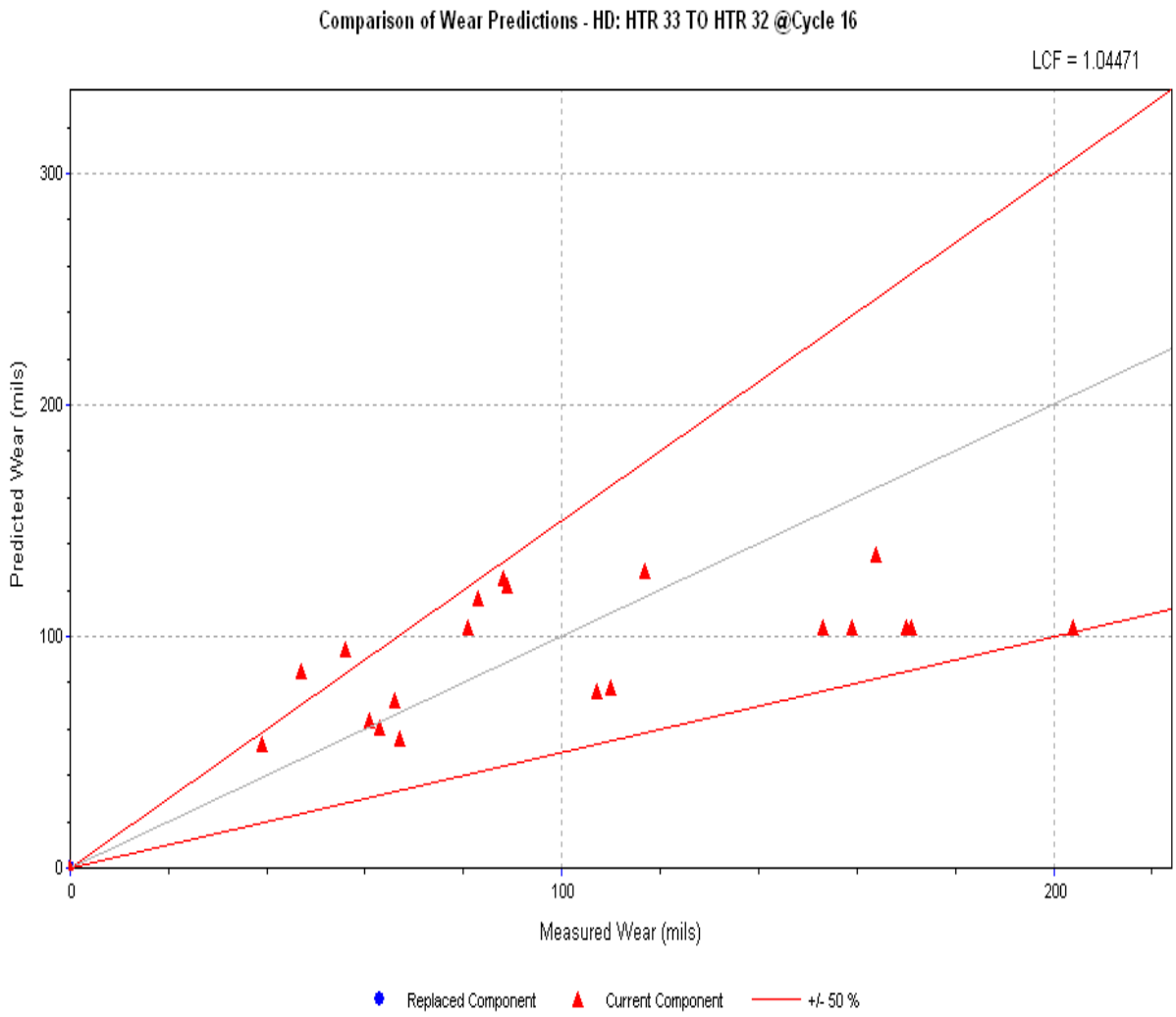
Plot J.25: HD: HTR 31 TO COND



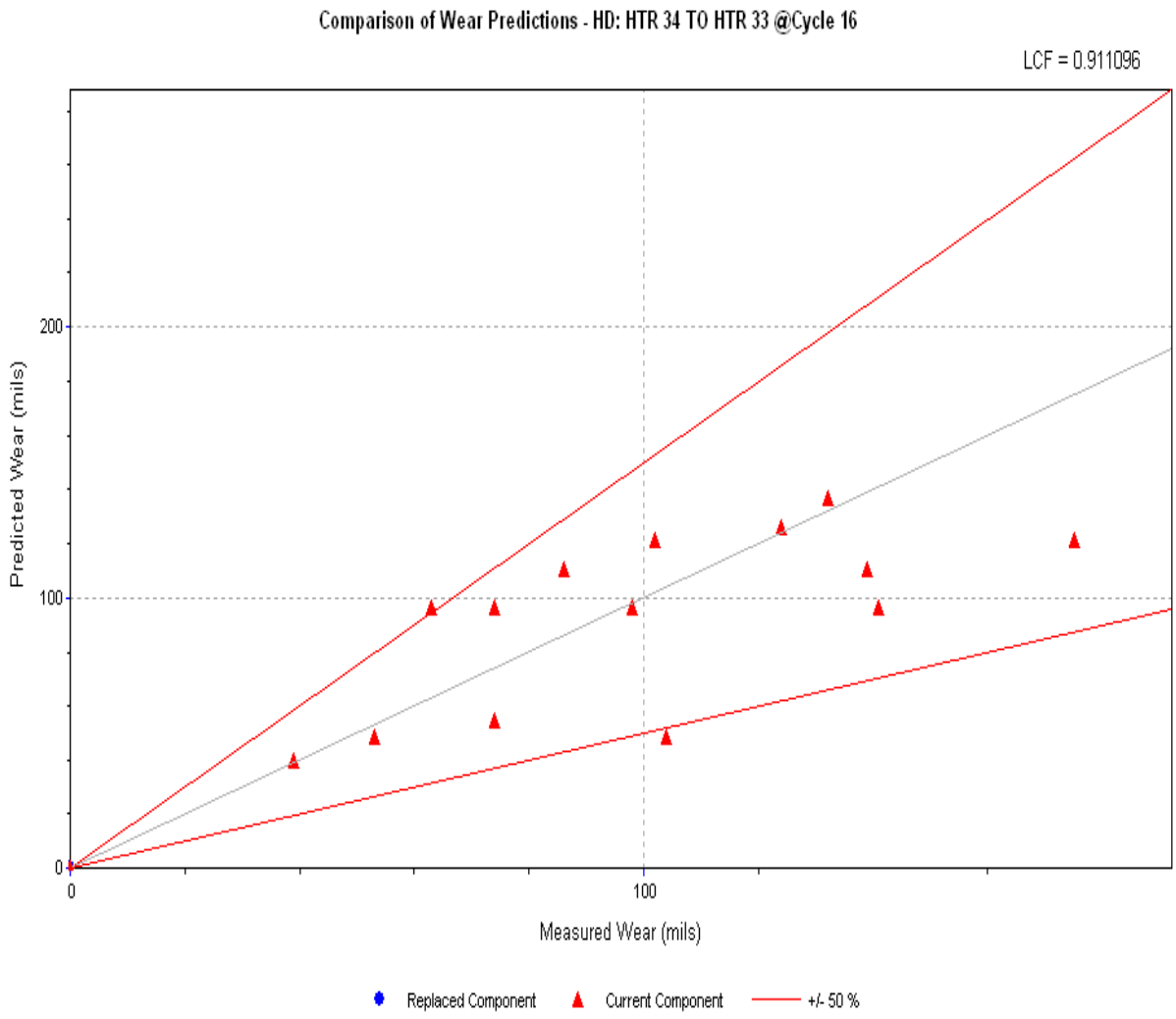
Plot J.26: HD: HTR 32 TO HTR 31



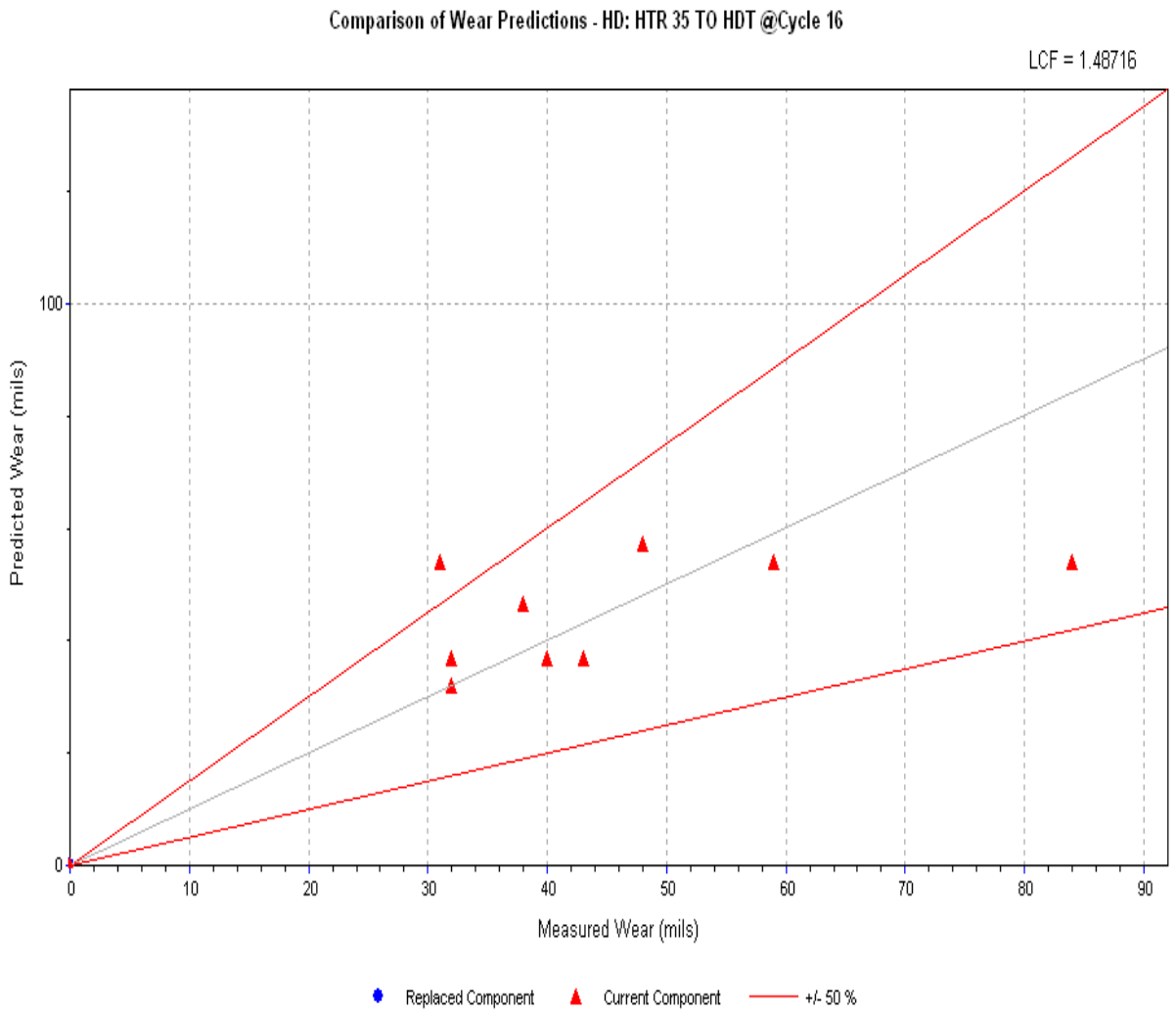
Plot J.27: HD: HTR 33 TO HTR 32



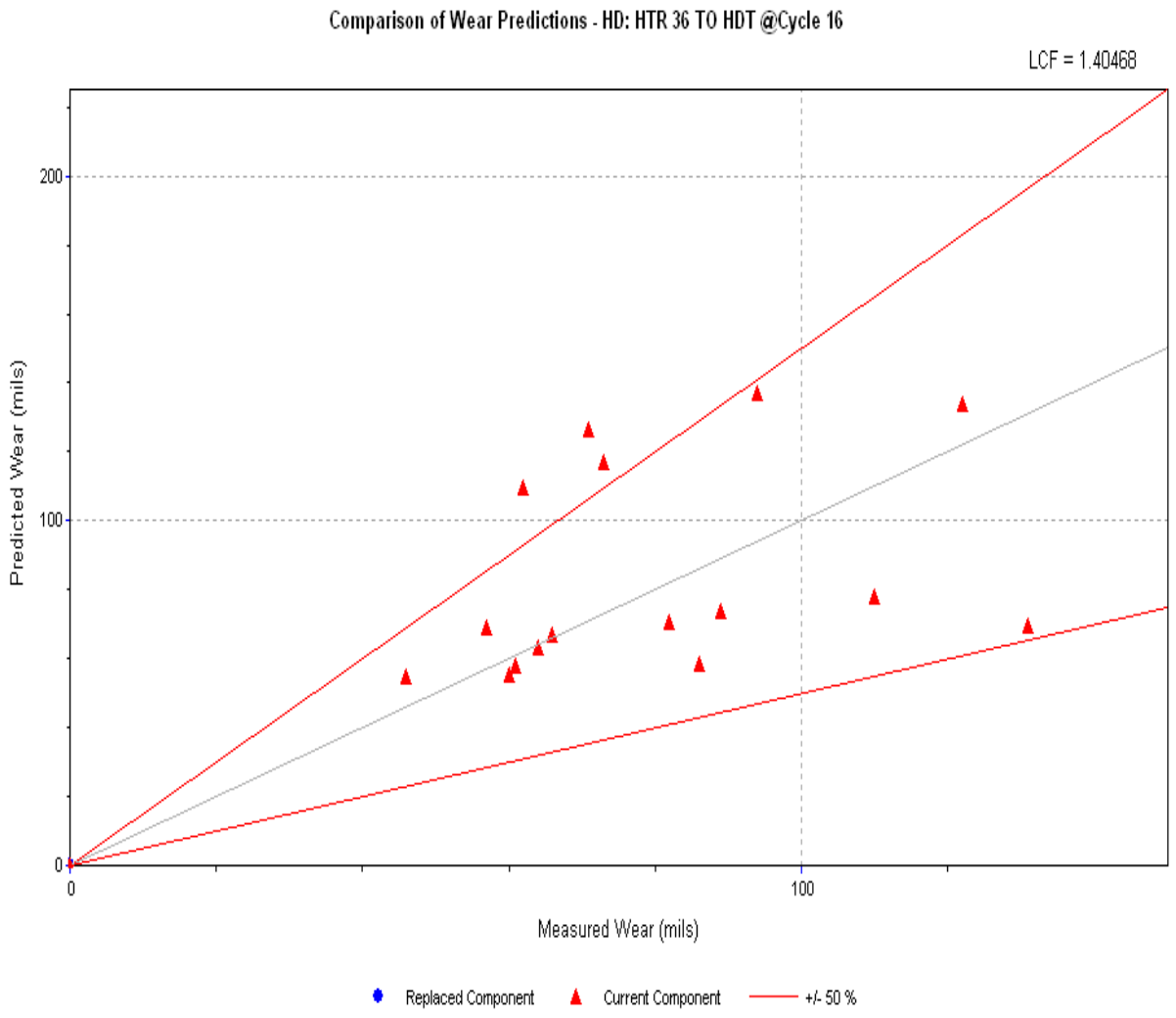
Plot J.28: HD: HTR 34 TO HTR 33



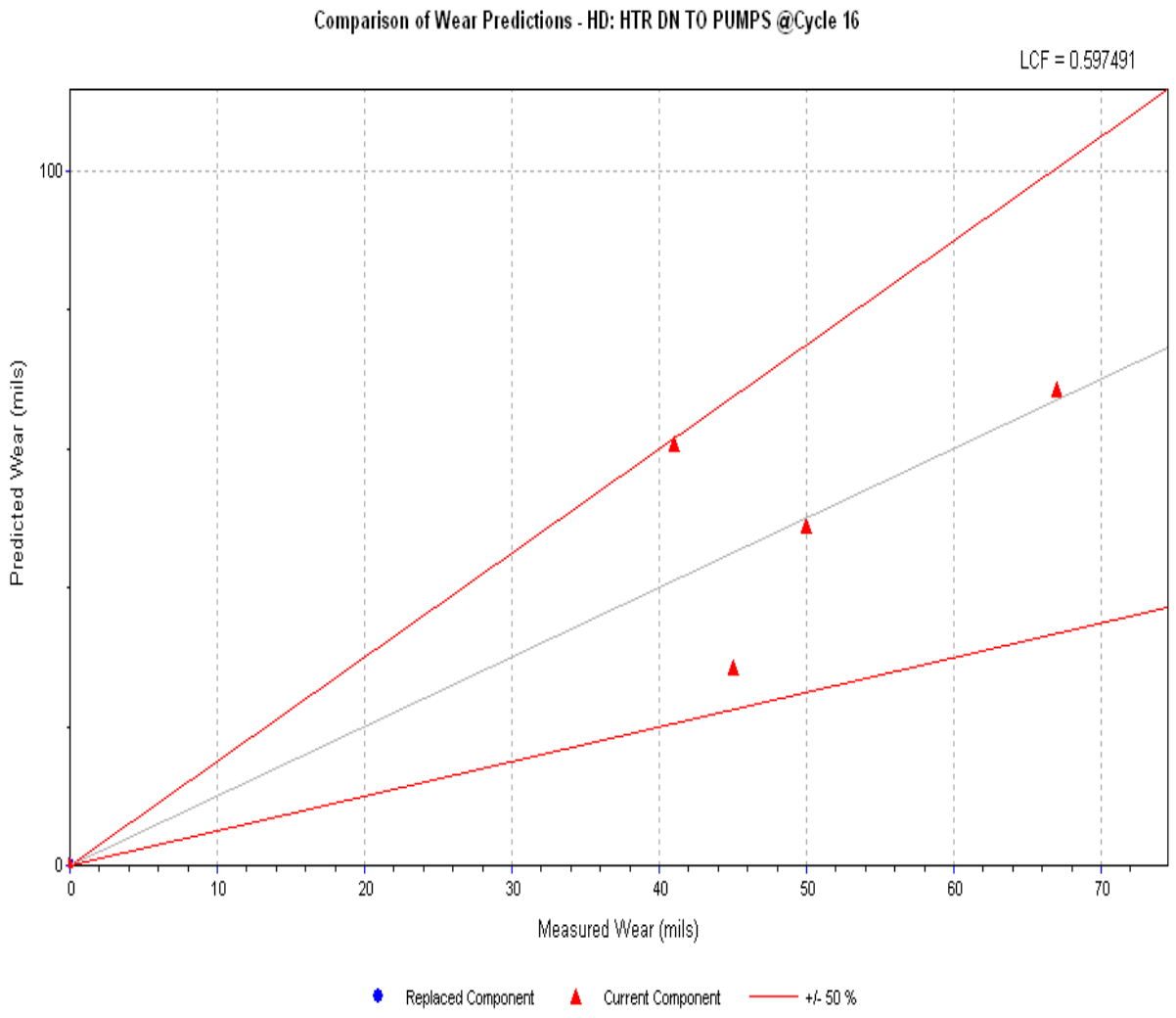
Plot J.29: HD: HTR 35 TO HDT



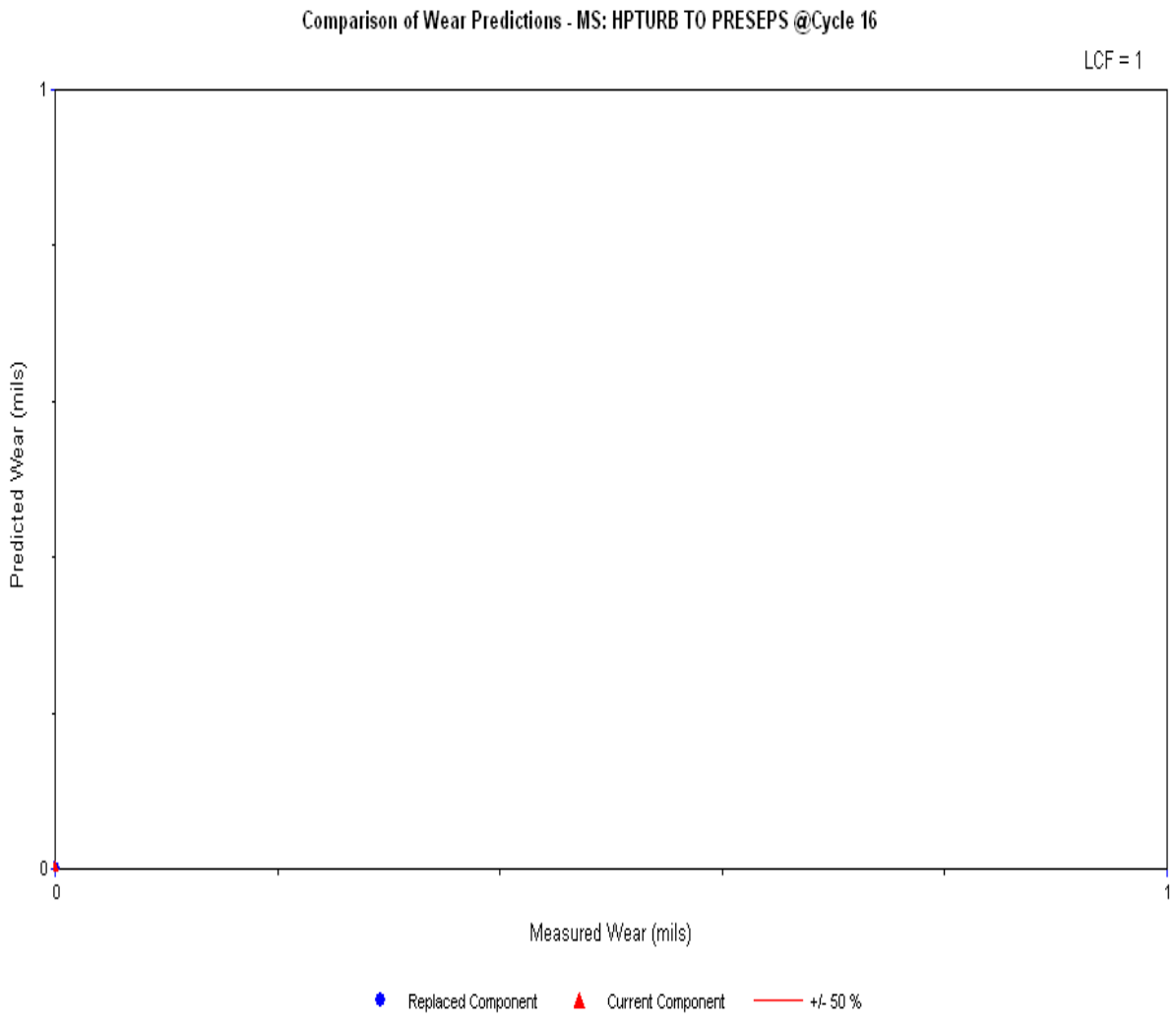
Plot J.30: HD: HTR 36 TO HDT



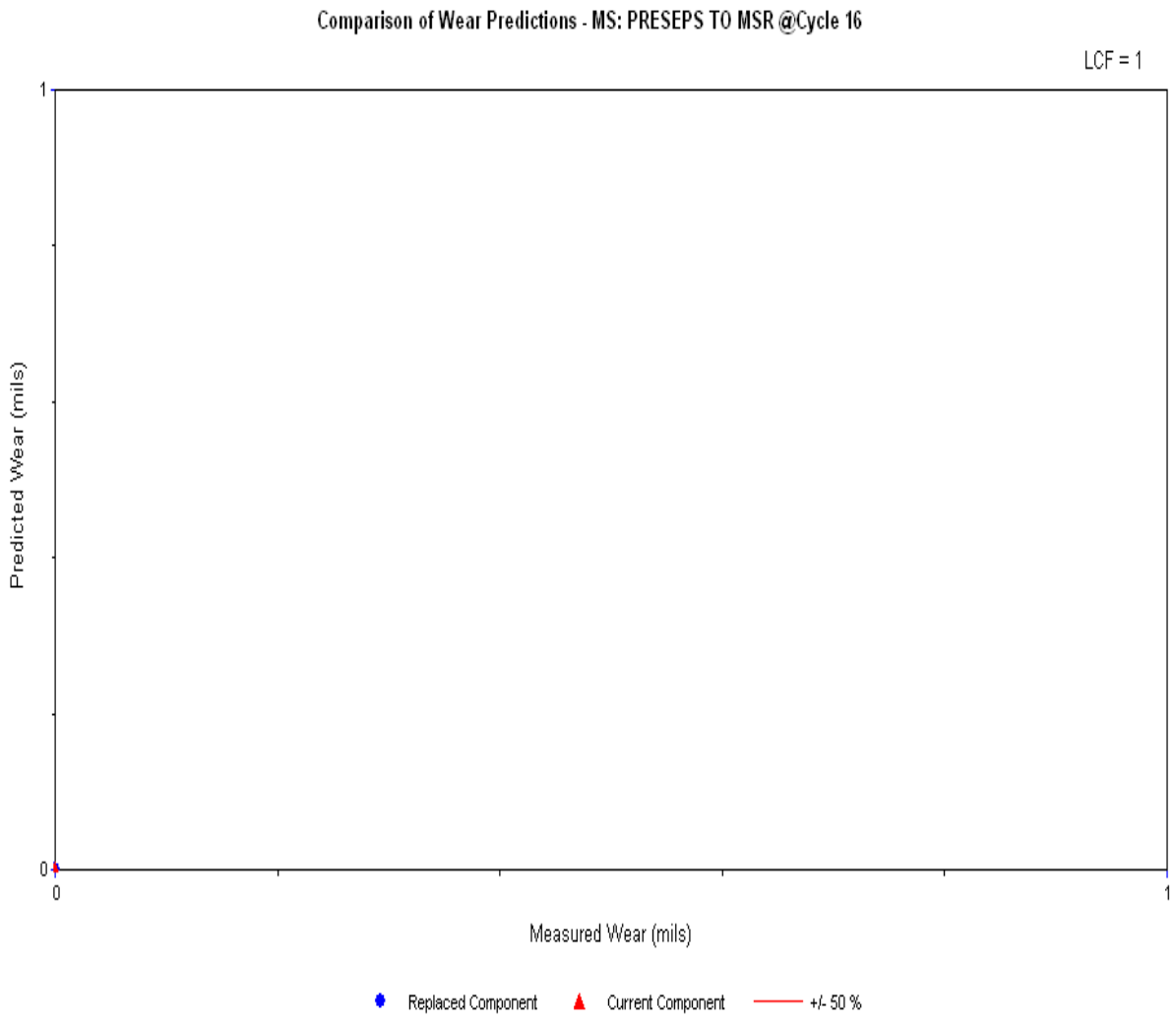
Plot J.31: HD: HTR DN TO PUMPS



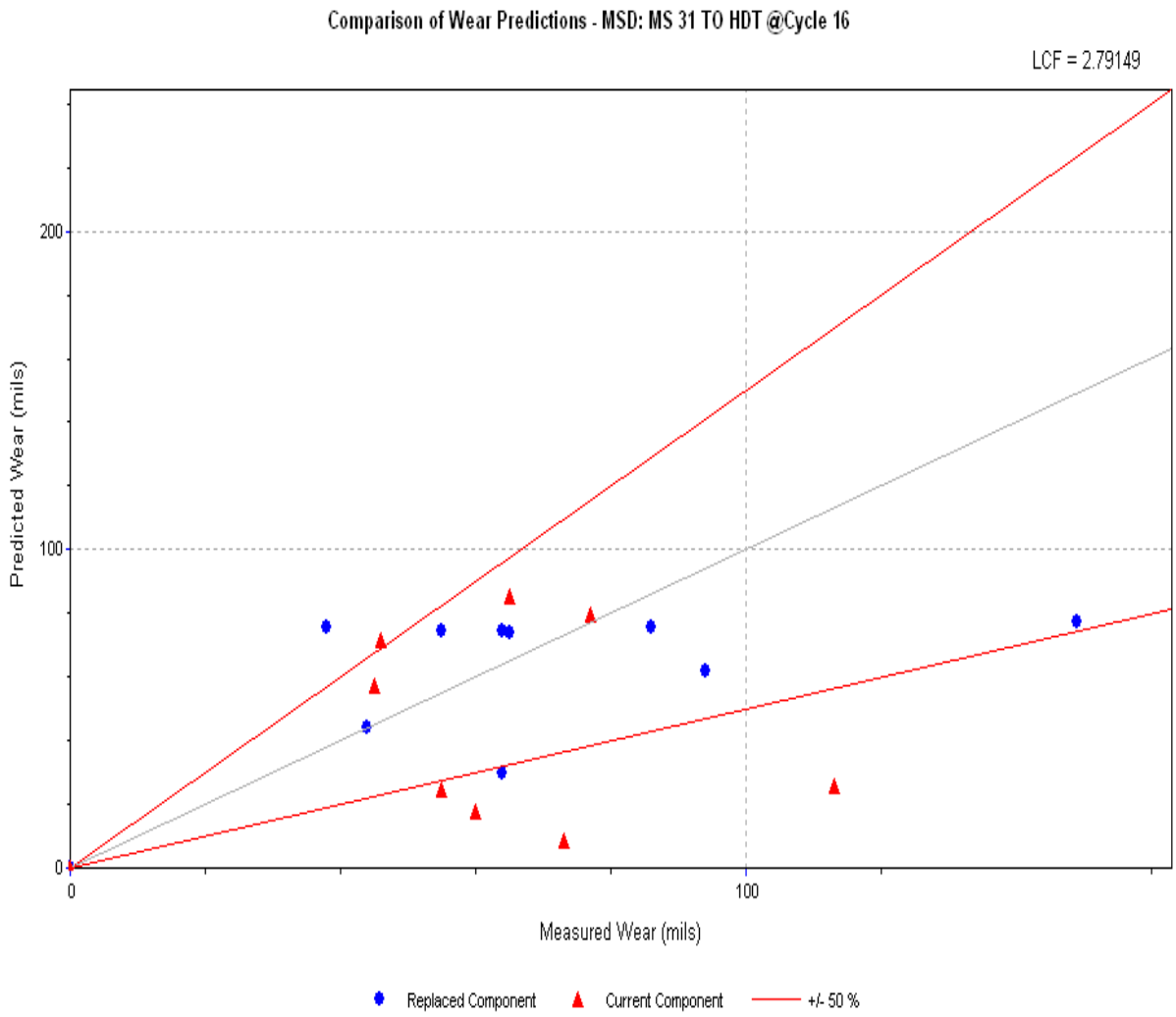
Plot J.32: MS: HPTURB TO PRESEPS



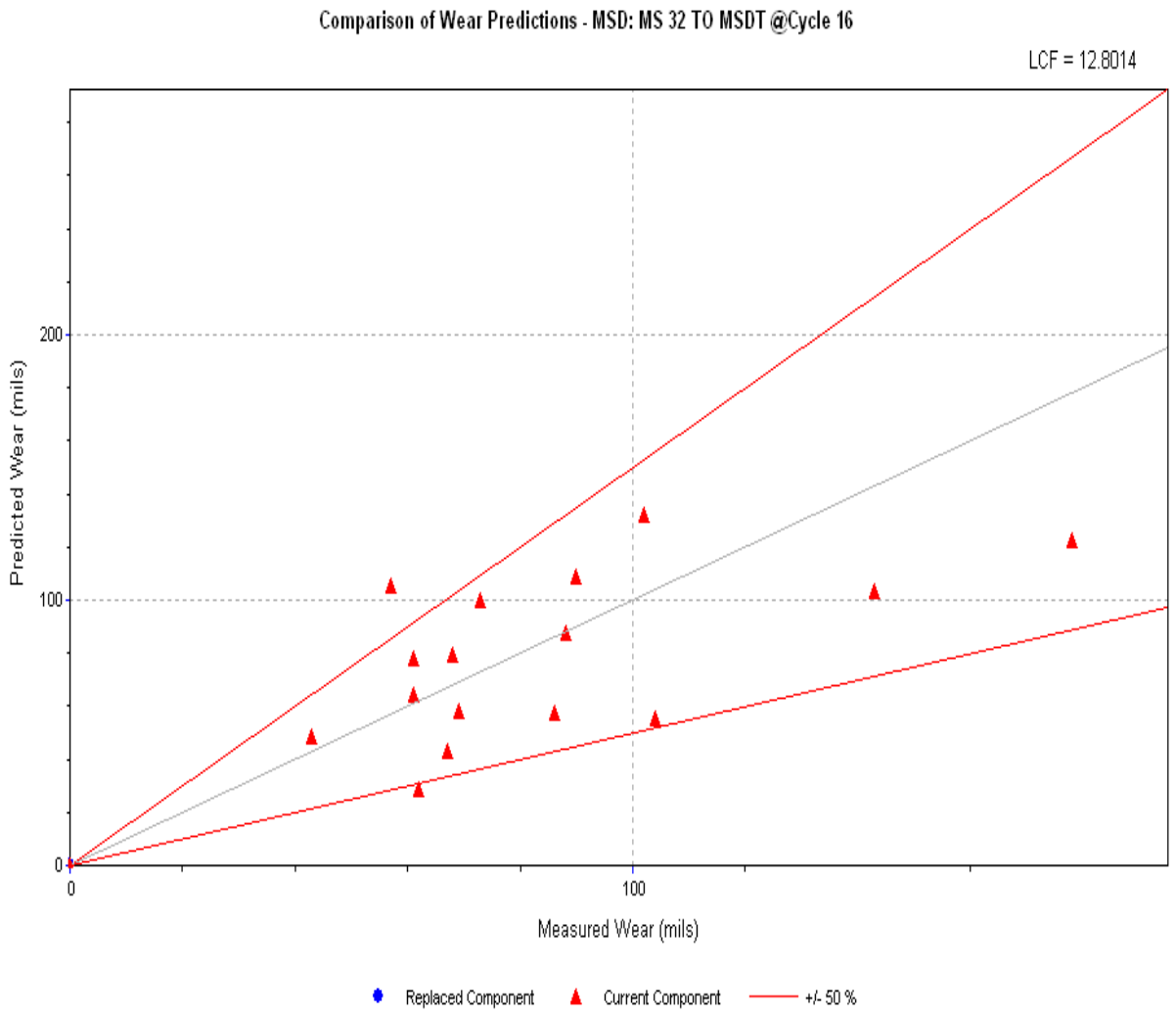
MS: PRESEPS TO MSR



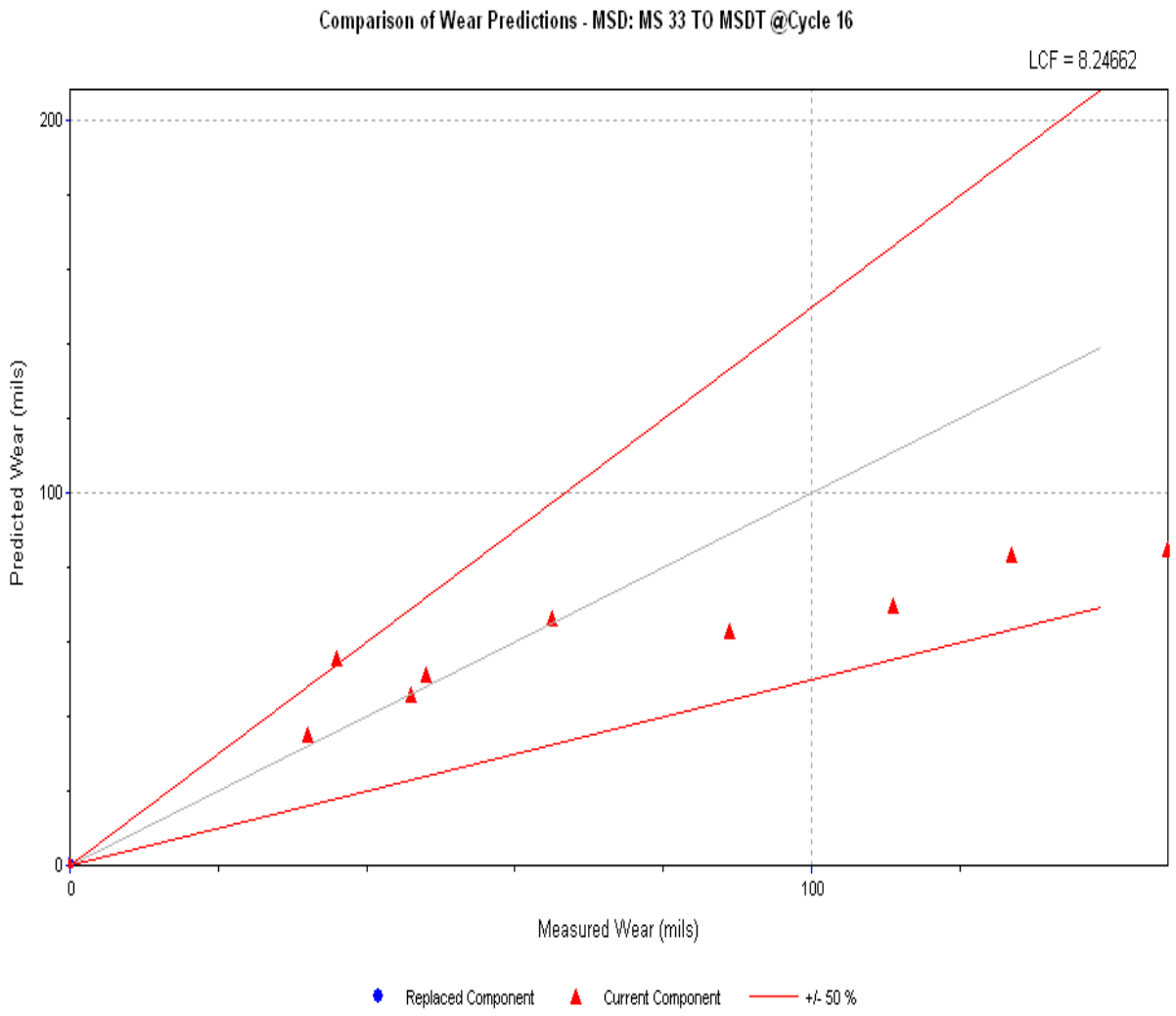
MSD: MS 31 TO HDT



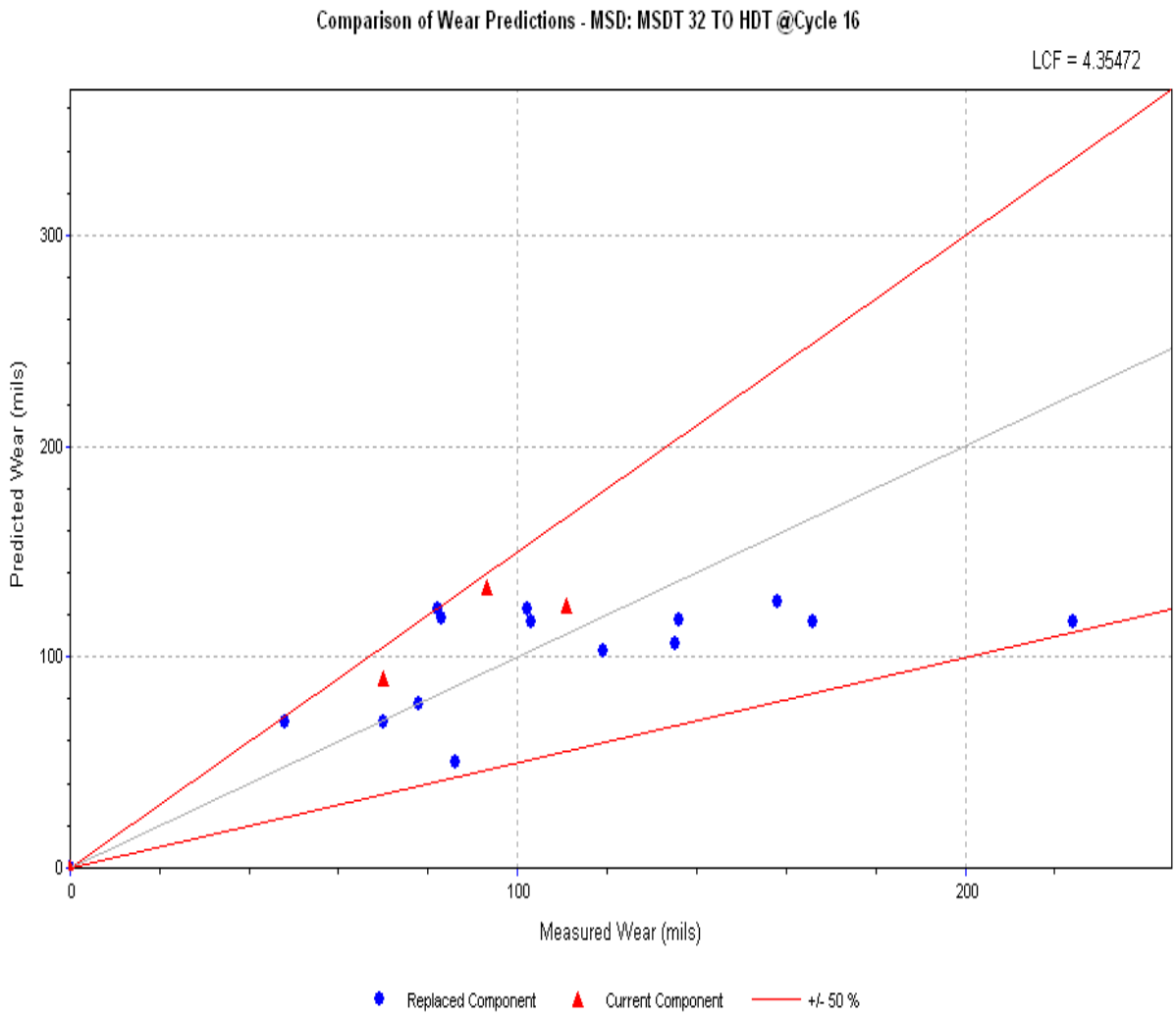
Plot J.33: MSD: MS 32 TO MSDT



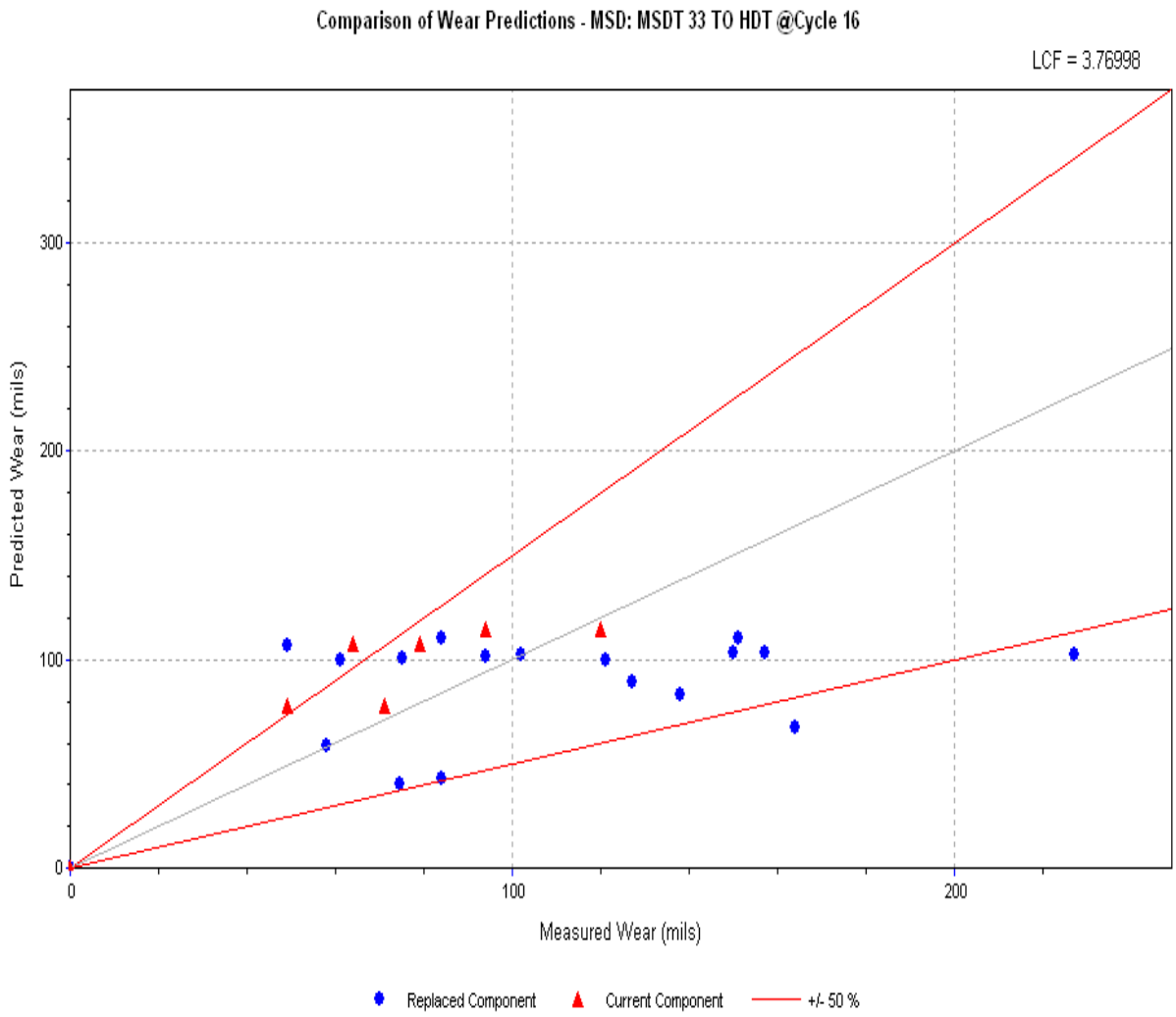
Plot J.34: MSD: MS 33 TO MSDT



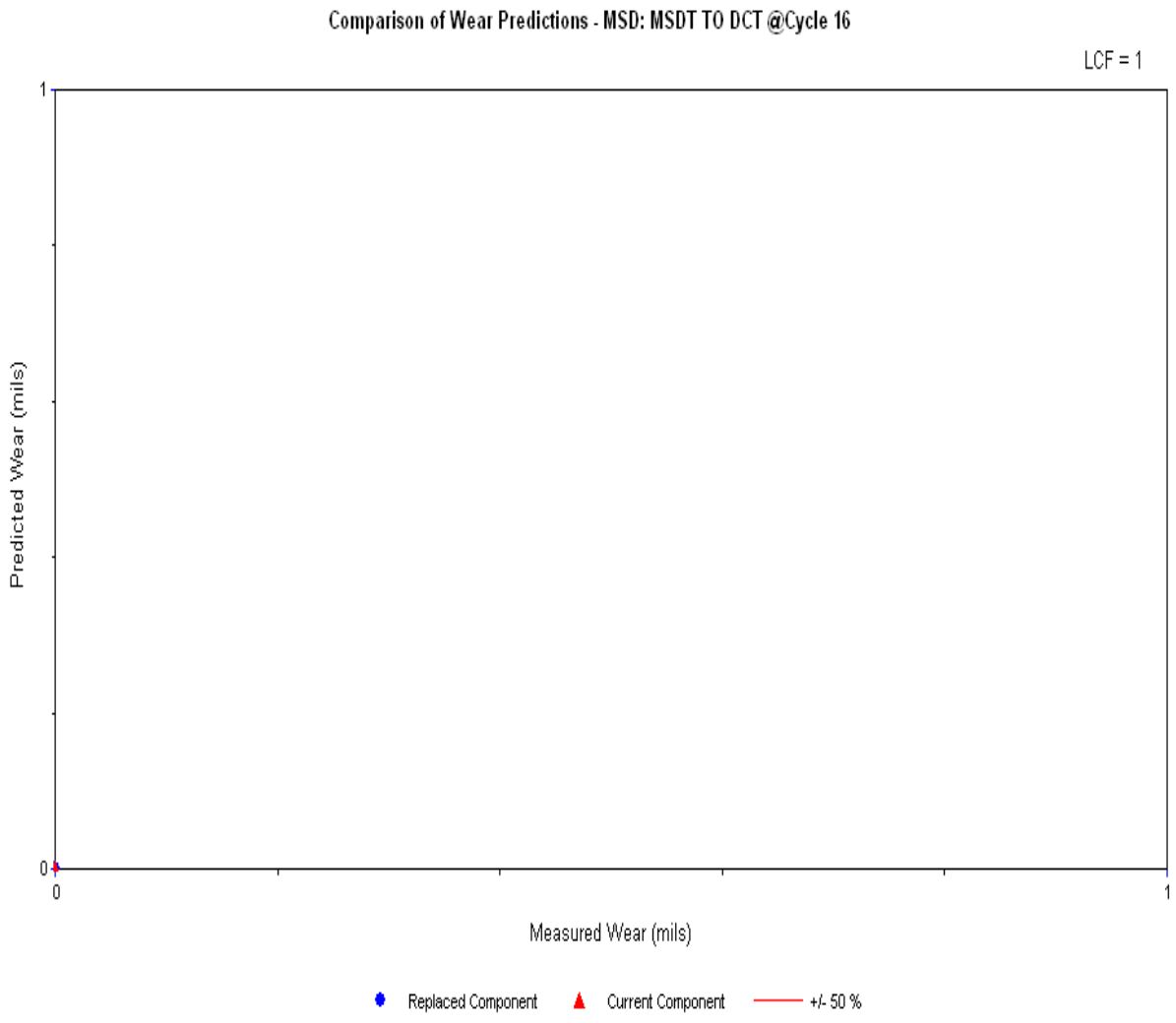
Plot J.35: MSD: MSDT 32 TO HDT



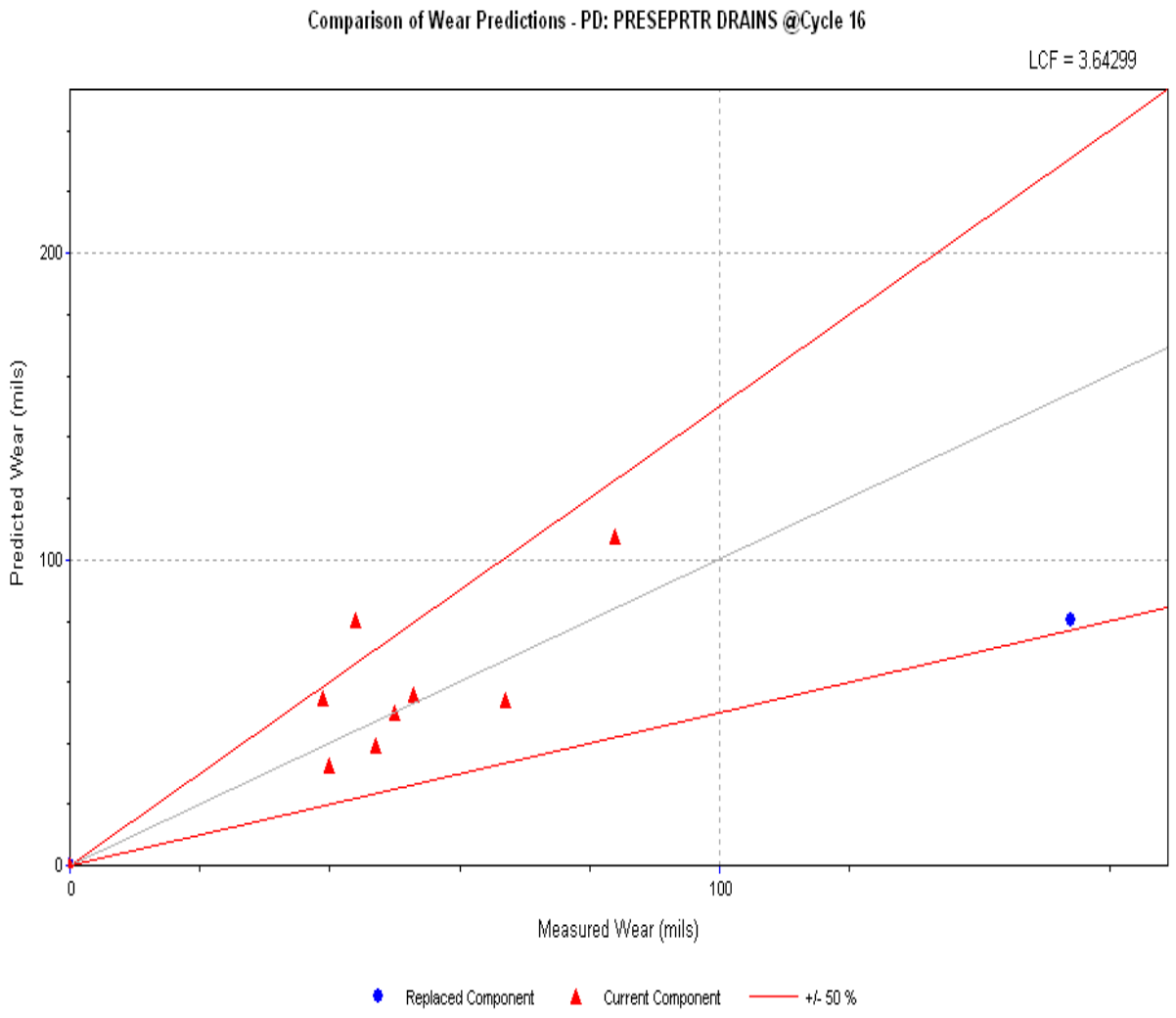
Plot J.36: MSD: MSDT 33 TO HDT



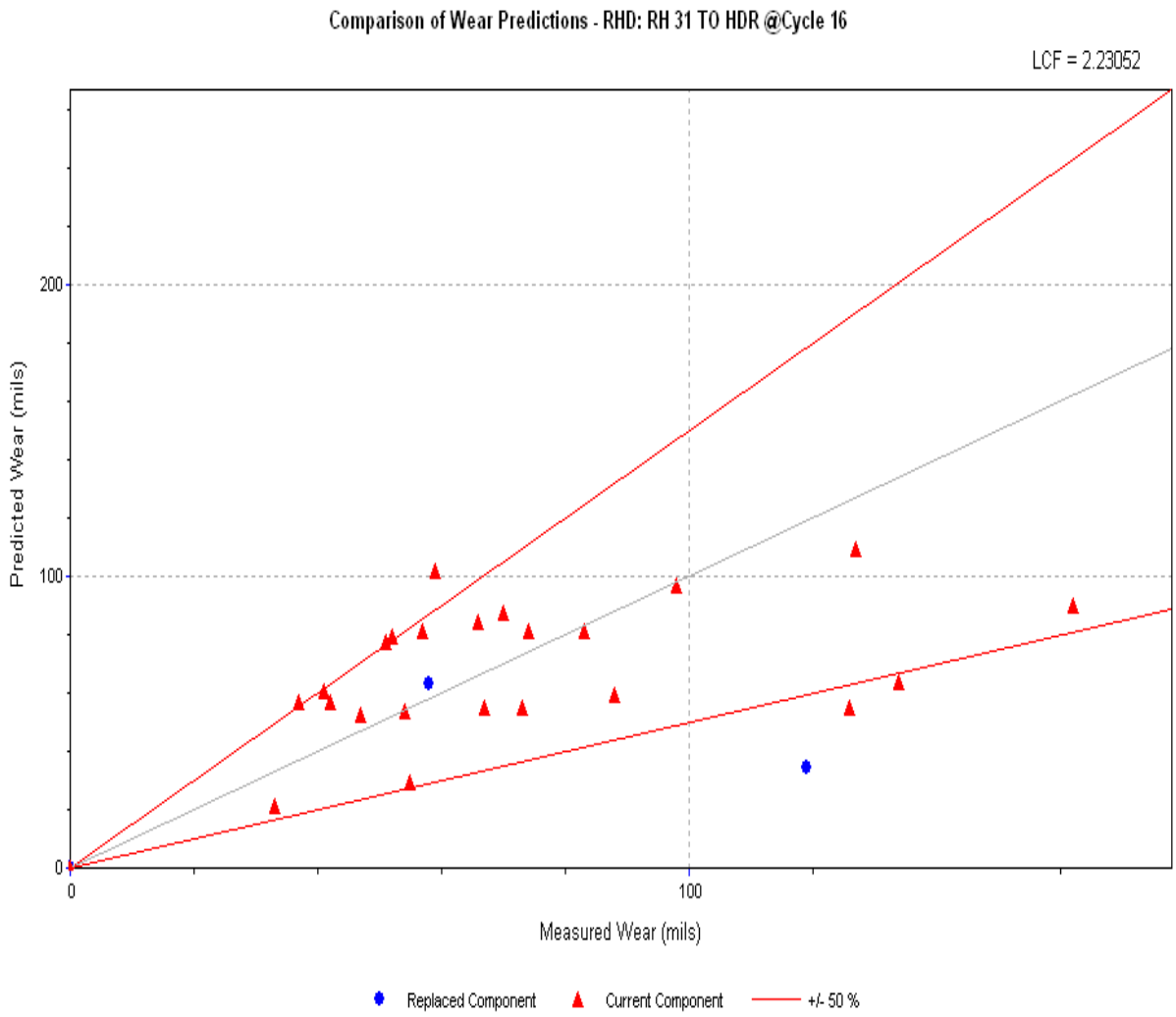
Plot J.37: MSD: MSDT TO DCT



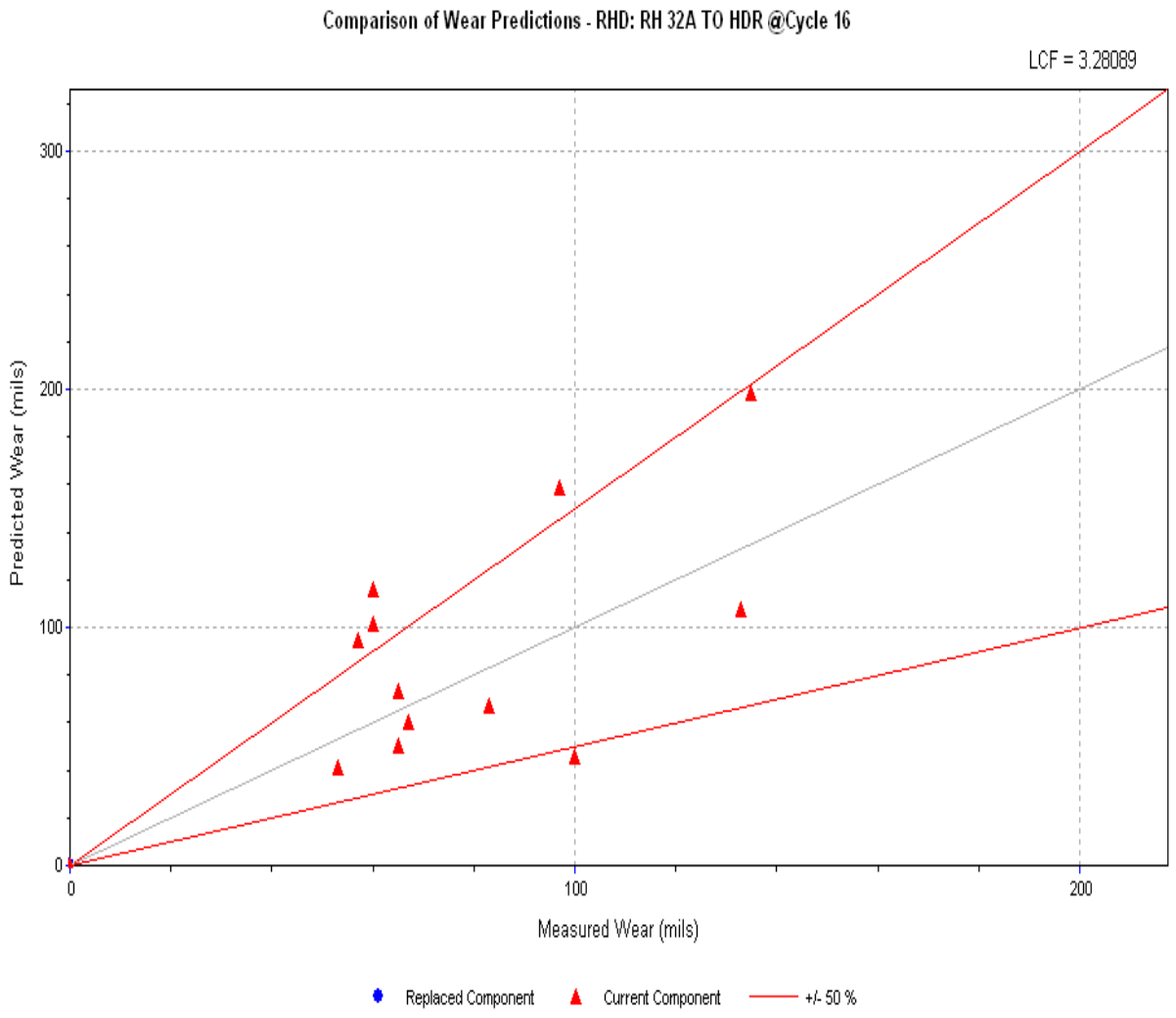
Plot J.38: PD: PRESEPRTR DRAINS



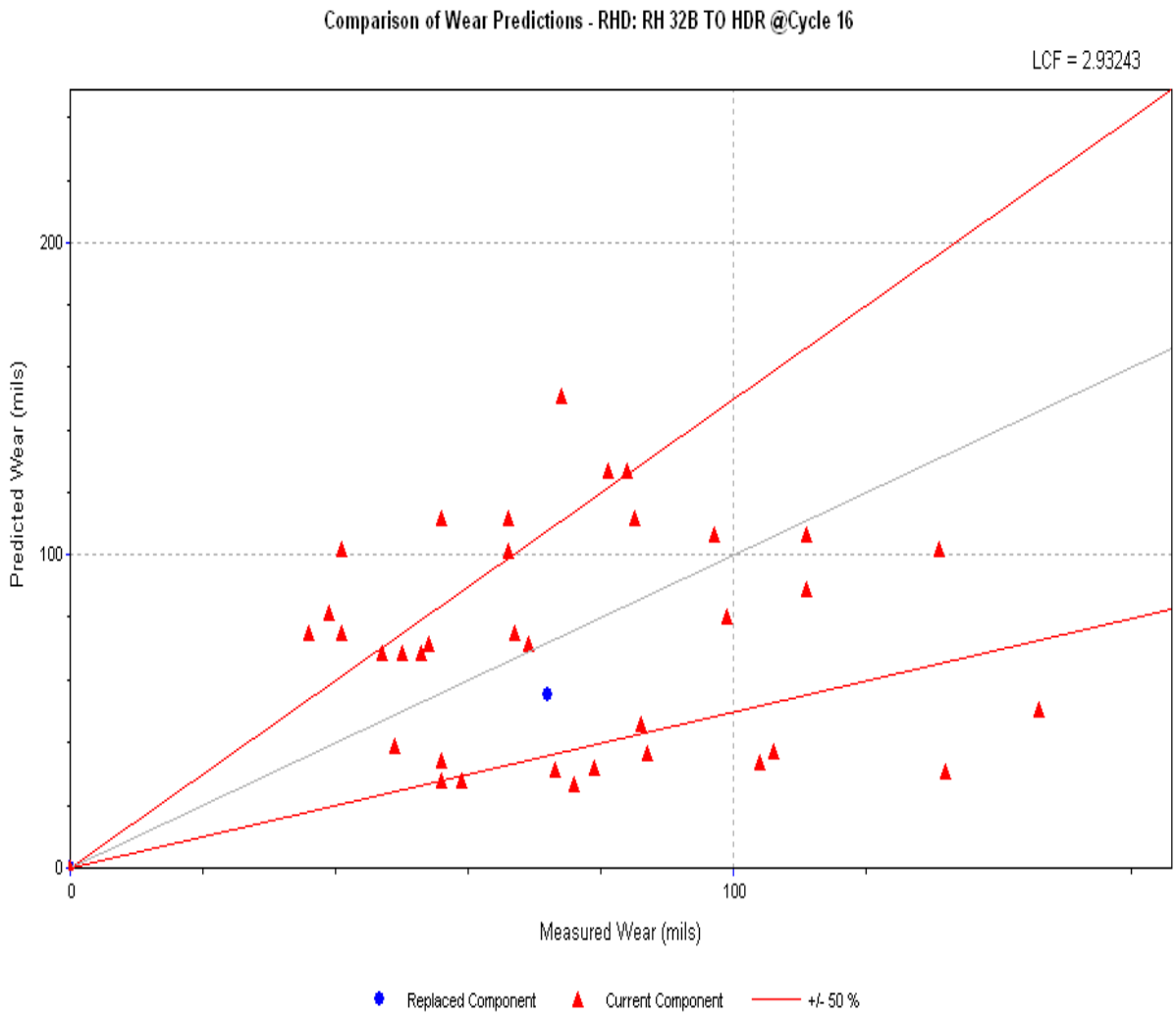
Plot J.39: RHD: RH 31 TO HDR



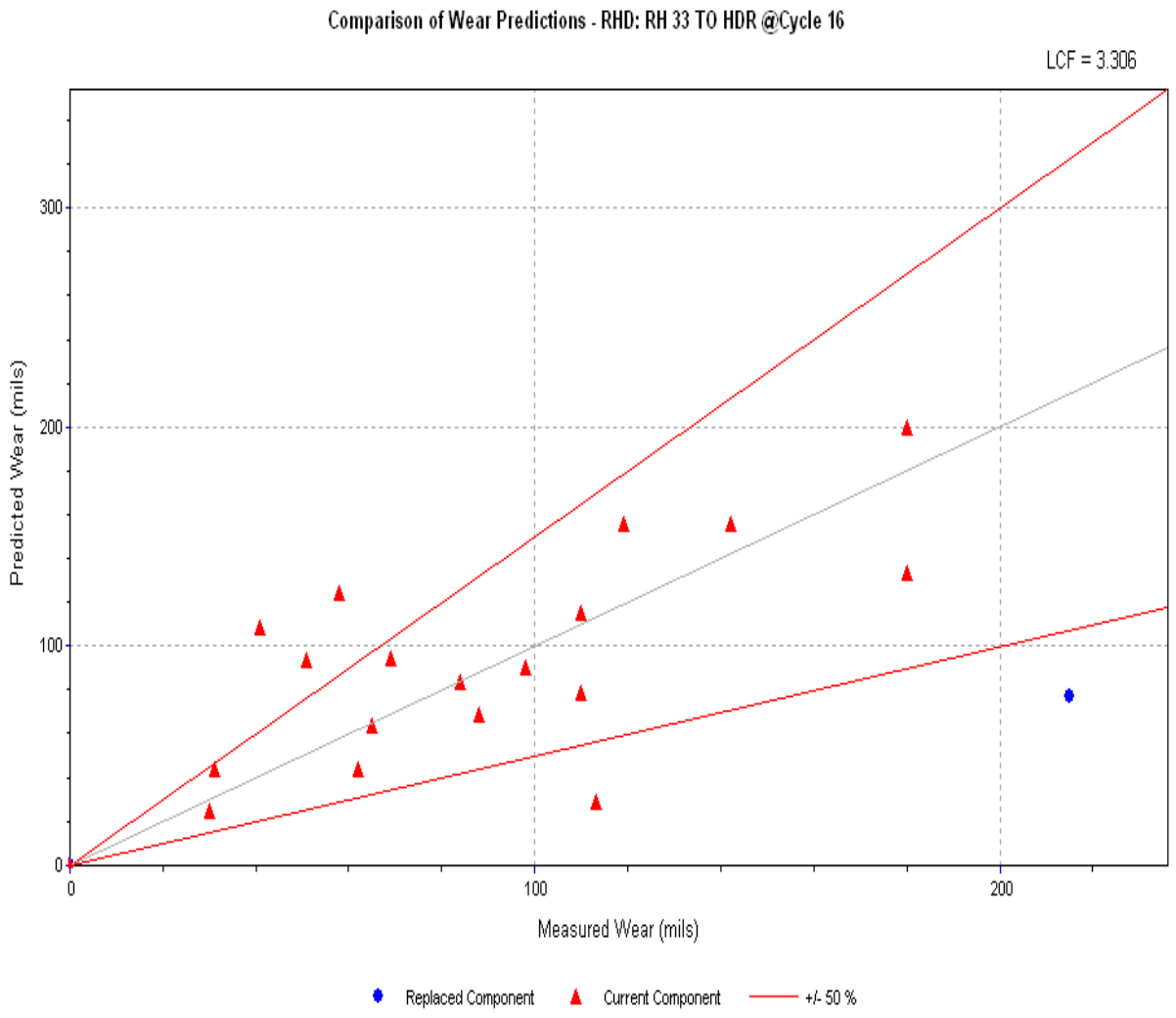
Plot J.40: RHD: RH 32A TO HDR



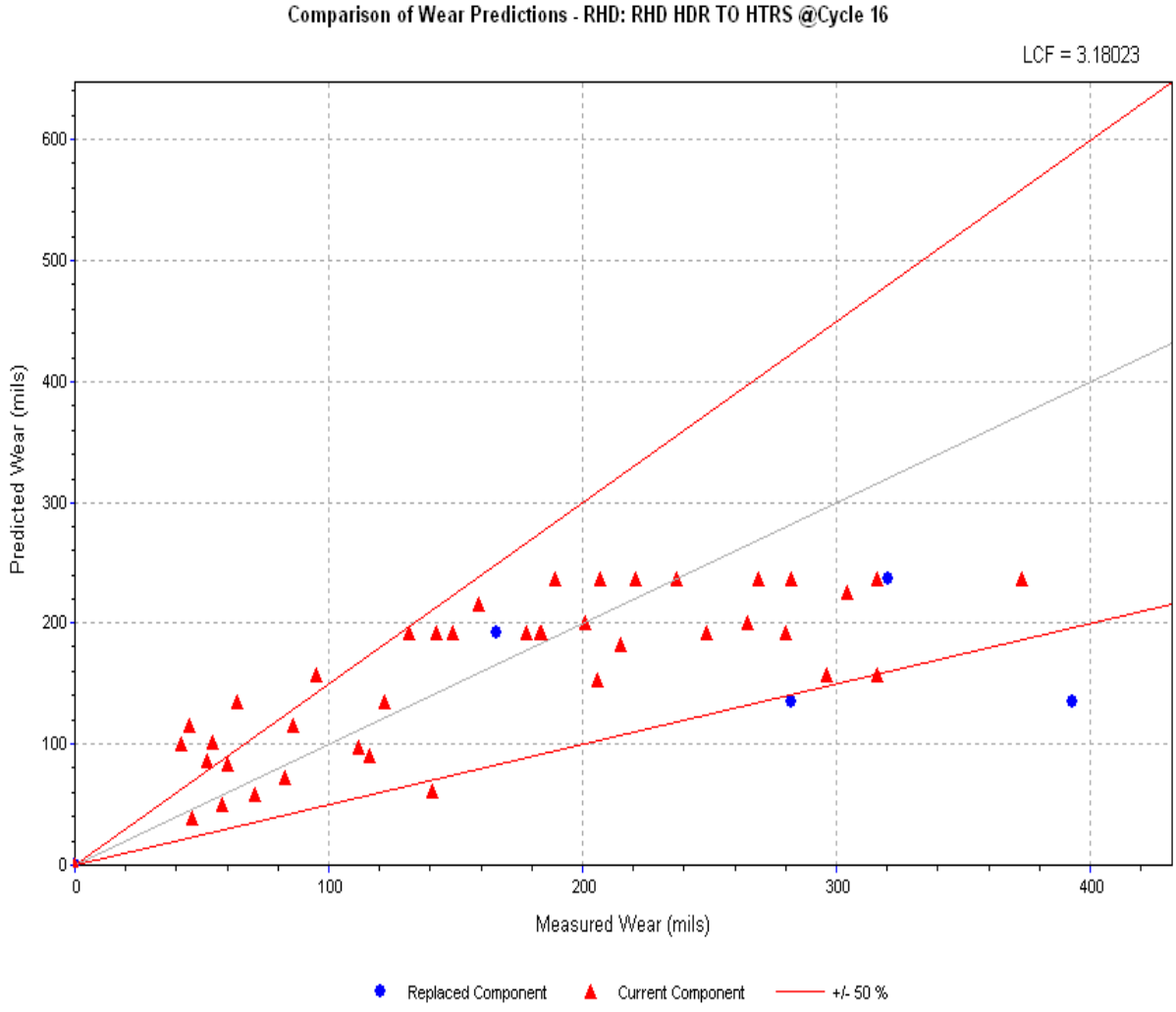
Plot J.41: RHD: RH 32B TO HDR



Plot J.42: RHD: RH 33 TO HDR



Plot J.43: RHD: RHD HDR TO HTRS



Appendix K

Components with Negative Time to Tcrit

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
CD: HDR TO BFP	CD-06.2A HDR to BFP 31	CD-06.2A-07V	No	
		CD-06.2A-24O	Yes	The downstream extension has been inspected.
	CD-06.2B HDR to BFP 32	CD-06.2B-05V	Yes	The downstream component has been inspected.
		CD-06.2B-08O	Yes	The downstream extension has been inspected.
CD: HDR TO HTR 33	CD-02.8A HDR to FWH 33A	CD-02.8A-08N	Yes	This component has been inspected as the downstream extension of the previous component.
	CD-02.8B HDR to FWH 33B	CD-02.8B-04V	No	
		CD-02.8B-08N	No	
CD: HTR 32 TO 33 HDR	CD-02.4 FWH 32 OUT HDR	CD-02.4-02V	No	
CD: HTR 32 TO HDR	CD-02.1A FWH 32A to HDR	CD-02.1A-01N	No	
		CD-02.1A-05V	No	
	CD-02.1B FWH 32B to HDR	CD-02.1B-01N	No	
		CD-02.1B-07V	No	
	CD-02.1C FWH 32C to HDR	CD-02.1C-01N	No	
		CD-02.1C-08V	No	
CD: HTR 35 TO HDR	CD-05.1A FWH 35A to HDR	CD-05.1A-05V	No	
	CD-05.1B FWH 35B to HDR	CD-05.1B-05V	No	
	CD-05.1C FWH 35C to HDR	CD-05.1C-05V	No	
ES: HDR TO 35 HTRS	EX-02.16 HDR 35 to FWH 35A	EX-02.16-05V	No	
		EX-02.16-09N	No	
	EX-02.17 HDR 35 to FWH 35B	EX-02.17-02V	No	
	EX-02.18 HDR 35 to FWH 35C	EX-02.18-02V	No	
ES: HDR TO 36 HTRS	EX-01.5A HP EX HDR to FWH 36A	EX-01.5A-11V	No	
	EX-01.5B HP EX HDR to FWH 36B	EX-01.5B-09V	No	
	EX-01.5C HP EX HDR to FWH 36C	EX-01.5C-09V	No	
ES: HTR 36 HEADER	EX-01.2 HP EXT to FWH 36 HDR	EX-01.2-01N	No	
	EX-01.3 HP EXT FWH 36 HEADER	EX-01.3-06V	No	
		EX-01.3-07V	No	
		EX-01.3-08V	No	
ES: LP TO 33 HEATERS	EX-04.11 LPEX FWH 33B IN HDR	EX-04.9-09T	No	
	EX-04.18 LPEX FWH 33C IN HDR	EX-04.16-09T	No	

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
	EX-04.4 LPEX FWH 33A IN HDR	EX-04.2-09T	Yes	This component has been inspected.
ES: PRESEP TO 35 HDR	EX-02.14 FWH 35 HEADER	EX-02.14-03P	No	
		EX-02.14-05P	No	
		EX-02.14-09P	No	
		EX-02.14-10V	No	
		EX-02.14-11V	Yes	The downstream extension has been inspected.
		EX-02.14-13V	Yes	The downstream component has been inspected.
		EX-02.14-16E	Yes	This component has been inspected.
FW: 36 HTR TO SG HDR	FW-02.1A FWH 36A to SG HDR	FW-02.1A-01N	Yes	This component has been inspected.
		FW-02.1A-05V	No	
	FW-02.1B FWH 36B to SG HDR	FW-02.1B-05V	Yes	The downstream extension has been inspected.
	FW-02.1C FWH 36C to SG HDR	FW-02.1C-05V	No	
FW: BFP TO 36 HTR	FW-01.2A BFP31 RCIRC T to HDR	FW-01.2A-05V	No	
		FW-01.2A-06V	No	
	FW-01.2B BFP32 RCIRC T to HDR	FW-01.2B-07V	No	
		FW-01.2B-08V	No	
	FW-01.6A BFP HDR to FWH 36A	FW-01.6A-07V	No	
	FW-01.6B BFP HDR to FWH 36B	FW-01.6B-05V	Yes	The downstream component has been inspected.
	FW-01.6C BFP HDR to FWH 36C	FW-01.6C-05V	No	
FW: SG HEADERS	FW-02.4 SG INLET HEADER	FW-02.1C-11T	Yes	This component has been inspected
		FW-02.4-03P	No	
		FW-02.4-07E	No	
		FW-02.4-08P	No	
		FW-02.4-12P_1	No	
		FW-02.4-12P_2	No	
		FW-02.4-13E	No	
		FW-02.4-14P	No	
	FW-02.5 SG INLET HEADER	FW-02.5-02P	No	
		FW-02.5-03T	Yes	This component has been inspected
	FW-02.8A SG HDR to SG 31	FW-02.8A-04V	No	
		FW-02.8A-12F	Yes	The downstream extension has been inspected.
		FW-02.8A-18V	No	
		FW-02.8A-19V	No	

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
	FW-02.8B SG HDR to SG 32	FW-02.8B-05V	Yes	The downstream component has been inspected.
		FW-02.8B-19V	No	
		FW-02.8B-20V	No	
	FW-02.8C SG HDR to SG 34	FW-02.8C-13F	Yes	The downstream extension has been inspected.
		FW-02.8C-18V	No	
		FW-02.8C-19V	No	
	FW-02.8D SG HDR to SG 33	FW-02.8D-05V	Yes	The downstream component has been inspected.
		FW-02.8D-13F	Yes	The downstream extension has been inspected.
		FW-02.8D-17V	No	
		FW-02.8D-18V	No	
HD: HD PMP TO BFP HDR	HD-11.1B HD PMP 32 to HDR	HD-12.2B-06O	Yes	The downstream extension has been inspected.
HD: HTR 34 TO HTR 33	HD-04.1A FWH 34A to FWH 33A	HD-4.2A-02V	Yes	The downstream component has been inspected.
	HD-04.1B FWH 34B to FWH 33B	HD-4.2B-02V	Yes	The downstream component has been inspected.
	HD-04.1C FWH 34C to FWH 33C	HD-4.2C-02V	Yes	The downstream component has been inspected.
MS: HPTURB TO PRESEPS	MS-HP Turbine to Presep 1A	TEMP06	No	
	MS-HP Turbine to Presep 1B	TEMP07	No	
	MS-HP Turbine to Presep 2A	TEMP08	No	
	MS-HP Turbine to Presep 2B	TEMP09	No	
MS: PRESEPS TO MSR	MS-"A" Header to MSR 31A	TEMP18	No	
	MS-"A" Header to MSR 31A & 32A	TEMP16	No	
	MS-"A" Header to MSR 32A	TEMP19	No	
	MS-"A" Header to MSR 33A	TEMP20	No	
	MS-"A" MSR Header	TEMP14	No	
	MS-"B" Header to MSR 31B	TEMP21	No	
	MS-"B" Header to MSR 31B & 32B	TEMP17	No	
	MS-"B" Header to MSR 32B	TEMP22	No	
	MS-"B" Header to MSR 33B	TEMP23	No	

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
	MS-"B" MSR Header	TEMP15	No	
	MS-Presep 1A to "A" MSR Header	TEMP10	No	
	MS-Presep 1B to "B" MSR Header	TEMP11	No	
	MS-Presep 2A to "A" MSR Header	TEMP12	No	
	MS-Presep 2B to "B" MSR Header	TEMP13	No	
MSD: MS 32 TO MSDT	MSD-01.8A HDR to MSEP TK 32A	MSD-01.8A-04V	Yes	The downstream component has been inspected.
		MSD-01.8A-06V	No	
	MSD-01.8B HDR to MSEP TK 32B	MSD-01.8B-04V	No	
		MSD-01.8B-06V	Yes	The downstream extension has been inspected.
RHD: RH 32A TO HDR	RHD-01.3A_1 RH 32A to TK 32A	RHD01.3A-01N	Yes	This component has been inspected.
	RHD-01.3A_2 TK 32A to A HDR	RHD01.3A-04N	No	
		RHD01.5A-03F	Yes	The downstream extension has been inspected.
RHD: RH 32B TO HDR	RHD-01.3B_2 TK 32B to B HDR	RHD01.5B-03F	Yes	The downstream extension has been inspected.
RHD: RH 33 TO HDR	RHD-01.10A_1 RH 33A to TK 33A	RHD01.10A-01N	No	
	RHD-01.10A_2 TK 33A to A HDR	RHD01.10A-04N	No	
		RHD01.10A-18F	Yes	The downstream extension has been inspected.
	RHD-01.10B_2 TK 33B to B HDR	RHD01.10B-04N	No	
		RHD01.10B-26F	Yes	The downstream extension has been inspected.

Attachment A

Referenced Correspondence and Communications

Reference 7.28.1

Email from James Sherman (IP3) to Jeff Chow (CSI Technologies), dated 2/21/2000, regarding Moisture Separator Drain Piping Replacement Modification, CSI Doc. No. 94-10.1-79.

From: Sherman, James [James.Sherman@nypa.gov]
Sent: Monday, February 21, 2000 6:55 AM
To: Jeffrey Chow
Subject: FW: Moisture Separator Drain Piping Replacement Modification,
MMP 98-3-05 1

JEFF:

RESENDING THE FOLLOWING MESSAGE.

JIM SHERMAN

> ---- Original Message ----
> From: Sherman, James
> Sent: Friday, February 18, 2000 2:49 PM
> To: 'jchow @ www.csitechnologies.com'
> Cc: Penny, Robert; Smith, Glenroy; Spataro, William
> Subject: Moisture Separator Drain Piping Replacement Modification,
> MMP 98-3-05 1
>
> Jeff,
>
> In response to your question on the ASTM designation for the replacement
> materials, the following can be used.
>
> Pipe (6" & 8") A-335 Gr P-11
>
> Fittings (6" & 8" Butt Welded Ends) A-182 F-11
>
> Forgings A-234 WP- 11
>
> As I said, the forgings are for welded attachments to pipe or fittings.
> None of these attachment should be in the CHEC WORKS model.
>
> Any questions please contact me.
>
> Jim Sherman

Reference 7.28.2

Email from Harry Hartjen (IP3) to Daniel R. Poe (CSI Technologies), dated 10/12/2004, regarding SPU implementation dates, CSI Doc. No. 04071111.

Dan:

Following are input to the DDIR:

No. 8A SPU operations are expected to be implemented on 11/22/2004 at IP2.

No. 9A SPU operations are expected to be implemented on 04/08/2005 at IP3.

Harry Hartjen

(914) 736-8356

Reference 7.28.3

Email from Harry Hartjen (IP3) to Daniel R. Poe (CSI Technologies), dated 10/18/2004, regarding operational and configuration changes due to SPU, CSI Doc. No. 04071113.

Dan:

Attached is the response from our engineer, the Shaw Group to your request for a listing of all operational and/or configuration changes due to the SPU.
Note that there are no operational and/or configuration changes to IP2/IP3 due to the SPU.
This information was required for DDIR No. 6 and 7.

Per your request, a hard copy set of IP3 FAC isometric drawings will be mailed today to your attention. Note that drawing EC-H-50077 is not yet revised in this mailing. For correct piping configuration, see the information I sent you for the 3R1 2 Checworks update.

Included in this mailing is:

1. Flow Accelerated Corrosion Program Checworks Analysis Enhancement, Technical Report No. 001 30-TR-001 Revision 0 Volume 1 of 1. December, 2000. This report serves as the Unit 2 Checworks Model documentation. In addition to the Checworks Wear Rate Analysis Run Definitions listed in Table 1.0, there are the following two additions:
    a. X-under w/exp joints
    b. CND FWH 22 to FWH 23; this was added due to the SPU.

This information was required for DDIR No. 4

Harry Hartjen

From: Cunningham, Glenn [mailto:glenn.cunningham@shawgrp.com]
Sent: Thursday, October 07, 2004 2:45 PM
To: Hartjen, Harry
Cc: Scanlon, Michael; Chakrabarti, Syamal
Subject: RE: RAI FAC-1

Harry,

There are no operational changes for Steam Plant Systems, such as use of additional trains or use of bypass lines not currently in operation, associated with uprate of IP2 / IP3. Changes due to the uprate which affect FAC are primarily changes in system flowrates and temperatures, which are documented in the Heat Balance calculations. Impact of these changes on piping velocities and temperatures is addressed in the

applicable sections of the BOP Uprate Engineering Reports, forwarded to Entergy for review.

Modifications associated with the uprate of IP2 / IP3 include: (1) MSR internal moisture separation system replacement, (2) HP Turbine rotor replacement, (3) HP turbine interstage drain piping modification, and (4) Relocation of HP turbine 1st stage pressure taps.

Regards, Glenn C.

From: Hartjen, Harry [mailto:HHartje@entergy.com]
Sent: Wednesday, October 06, 2004 1:30 PM
To: Cunningham, Glenn Subject: RE: RAI FAC-1

Glen:
This is to confirm that the wear rate comparison will be completed by 12/31/2004.

As I mentioned to you we are having a contractor perform the update to our Checworks models. One of the inputs I have to provide to them is:
The listing of all Unit 2 and Unit 3 operational and/or configuration changes due to the power uprate (i.e., additional trains in operation, bypass lines operated at full power, etc.)

Do you have this information or can you direct my question to someone who has this information.

Thanks,

Harry Hartjen
(914) 736-8356

Reference 7.28.4

Email from Ron Macina (IP3) to Brian Trudeau (CSI Technologies), dated 1/10/2005, regarding addition al Heat Balance Diagrams and uprate start dates, CSI Doc. No 04071140.

CSI Doc. No. 04071140
Brian,

Please find below the requested Heat Balances/Information.
1) IP3 Pre and Post Appendix K Heat Balances
<<IP3TuningR4 Pre Appendix K (3037 NSS Pwr).pdf>> <<IP3TuningR4 Post Apendix K.pdf>>
2) IP2 Pre Appendix K Heat Balance
<<IP2-TuningR4 Pre Appendix K (3090 NSS Pwr).pdf>>
3) Start Date for IP3 Appendix K uprate was 12/22/02
4) Start Date for IP2 Appendix K uprate was 5/23/03

Thanks,
Ron Macina
914-736-8363

------Original Message----
From: Brian Trudeau [mailto :btrudeau@csitechnologies.com]
Sent: Tuesday, December 28, 2004 3:52 PM
To: Macina, Ron
Subject: Request for Additional HBDs

CSI Doc. No. 04071137

Ron,

Based on our discussion earlier today, it appears that we have some additional work to do on this end. We plan on modeling all three power levels (100% - the Original power level, ~1 01.4% - the Appendix K power level, and 105% - the SPU power level) for each unit. In doing this, we will capture plant conditions at each point in history.

To complete this task, we will need the following input:

(1) Unit 3 PEPSE or HBD at ~1 01.4% power (the Appendix K power uprate)
(2) Unit 2 Original PEPSE or HBD at 100% power (pre-Appendix K)
(3) Unit 3 Start date for the Appendix K Uprate
(4) Unit 2 Start date for the Appendix K Uprate

Please let me know if you have any questions. We will be contacting Harry to inform him of this plan.

Thank you,

Brian Trudeau
CSI Technologies, Inc.
(847) 836-3000 ext. 717
www.csitechnologies.com

Reference 7.28.5

Email from Harry Hartjen (IP3) to Greg M. Lupia (CSI Technologies), dated 8/2/2005, regarding operating hours for Cycle 13 and MOPS/SCRUPS piping replacement, CSI Doc. No. 050714c 02

Greg:

EX-02. 1 3-06R and EX-02.7-02T were replaced with chrome moly. P22.

Harry

----- Original Message ----
From: Gregory. M Lupia [mailto:glupia@csitechnologies.com]
Sent: Monday, August 08, 2005 4:50 PM
To: Hartjen, Harry
Subject: RE: Component Replacement Question

Harry,

Do these two components EX-02.1 3-06R and EX-02.7-02T, replaced in RO8, 01/01/1994 also follow the stainless clad pipe spec used during R13?

----- Original Message ----
From: Hartjen, Harry [mailto:H Hartje@entergy.com]
Sent: Monday, August 08, 2005 1:58 PM
To: Gregory. M Lupia
Subject: RE: Component Replacement Question

Greg:

Attached is spreadsheet marked up in red. The copmonents were rearranged in flow direction order, and additional as-built components are designated as New. This pipe replacement replaced all the carbon steel pipe with clad pipe upstream of reducer EX-02.13-06R and upstream of the branch of tee EX-02.7-02T.

In answer to your specific questions, EX-02.9-10P was replaced. EX-02.9-7P no longer exists. EX-02.1 3-03P is a pipe and was replaced. EX-02. 1 3-06R is a reducer and it was replaced along with EX-02.7-02T, RO8, 01/01/1994.

If you need anything else, let me know.

Harry Hartjen

----- Original Message ----
From: Gregory. M Lupia [mailto:glupia@csitechnologies.com]
Sent: Thursday, August 04, 2005 12:21 PM
To: Hartjen, Harry
Subject: Component Replacement Question

Harry,

Attached is your spreadsheet with the modeled replacement components, to which I have added additional components highlighted in yellow. The yellow components are in a line where the remainder of the components have been replaced, and I suspect these components have been as well. In some cases the yellow components could be extensions of the US components. Could you verify this for me. Call me with questions.

<<Replaced Modeled Components 3R1 3.xls>>

Gregory M. Lupia
CSI Technologies, Inc
(847) 836-3000 ext 728
www.csitechnologies.com
glupia@csitechnologies.com

Reference 7.28.6

Email from Harry Hartjen (IP3) to Greg M. Lupia (CSI Technologies), dated 8/2/2005, regarding operating hours for Cycle 13 and MOPS/SCRUPS piping replacement, CSI Doc. No. 050714c 03

Greg:

The stainless steel clad carbon piping used for the MOPS/SCRUPS piping replacement is as follows:

10" NPS	A-106 Gr. B	STD / Sch. 40	0.365"
14" NPS	A-106 Gr. B	STD / Sch. 30	0.375"
18" NPS	A-106 Gr. B	XS / N/A	0.500"

FYI I have also attached a sheet from the modification explaining the change.

Harry

----- Original Message ----
From: Gregory. M Lupia [mailto:glupia@csitechnologies.com]
Sent: Tuesday, August 02, 2005 1:39 PM
To: Hartjen, Harry
Subject: RE: Operating hrs for Cycle 13

Thanks Harry

----- Original Message ----
From: Hartjen, Harry [mailto:H Hartje@entergy.com]
Sent: Tuesday, August 02, 2005 12:16 PM To:
Gregory. M Lupia
Subject: RE: Operating hrs for Cycle 13

Gregory:

Operating hours for Unit 3 Cycle 13 was 16267.99 hours.

Harry G. Hartjen

----- Original Message ----
From: Gregory. M Lupia [mailto:glupia@csitechnologies.com]
Sent: Monday, August 01, 2005 12:49 PM
To: Hartjen, Harry
Subject: Operating hrs for Cycle 13

Harry,

I'm working on IP3, CHECWORKS Model for cycle 13, I'll need to have the operating hours for IP3, operating cycle 13 for input to the model. Thanks.

Gregory M. Lupia
CSI Technologies, Inc
(847) 836-3000 ext 728
www.csitechnologies.com
glupia@csitechnologies.com

Reference 7.28.8

Email from Harry Hartjen (IP3) to Dan R. Poe (CSI Technologies), dated 8/2/2005, regarding Comments on Revision A of the IP3 R13 Pass 2 Calculation, CSI Doc. No. 050714c11

Dan:

I have reviewed the CHECWORKS Pass 2 Analysis for the Indian Point 3, 3R13 refuel outage and have the following three comments:

1. The following two extraction steam nozzles were not listed in Appendix F, UT Inspection Data: EX-05.1 B-01 N (05UT095) and EX-05.2B-01 N (05UT105). These two components have inspection data and should also be included in the model.

2. Components inspected in UT exam RHD-01 .10B-26F (05UT074) were not listed in Appendix F, UT Inspection Data. There is inspection data for two components RHD-01.10B-27P and RHD-01.10B-26E and should also be included in the model.

3. There is a warning for the Pass 2 analysis of component CD-02.8A-03P (Page I-12) indicating a conflict exists in LCF/Measured Wear option selected. This should be resolved in the model or explained in Appendix B.

After resolution of these comments, please issue for use. If you have any questions, just give me a call at 914-271-7239.

As always, CSI has produced a first-rate, high-quality CHECWORKS Pass 2 update for IPEC. Please extend my appreciation for a job well done to your staff.

Harry G. Hartjen
FAC Program Engineer
Indian Point Energy Center

Reference 7.28.9

Email from Harry Hartjen (IP3) to Al Sipkovsky (CSI Technologies), dated 9/14/2007, regarding questions about recent replacements, CSI Doc. No. 0705.100-03

Al:

See responses to your questions below.

I need to look up the info on the second bullet.

I am on an unstable dial-up so I will send you a partial response now and a followup in a few minutes, in case I loose the connection.

Harry

-----Original Message-----
From: Al Sipkovsky [mailto:asipkovsky@csitechnologies.com]
Sent: Thursday, September 13, 2007 11:18 AM
To: Hartjen, Harry G
Subject: IPEC3 Replacement Lists

Harry,

I am currently working on updating your SFA model with the latest plant period, chemistry, replacement, and inspection info. I just need a little clarification on what exactly you want us to do with some of the information that you provided on the FTP site.

- The EXCEL file called REPLACED COMPONENTS.xls contains the components that were replaced in this last outage (RO14). The second component in this list is RHD-02.14B-12T-DS. Does this mean that the pipe on the downstream main of this tee has been replaced? If this is true, the pipe on the downstream main of this tee is not a component that was modeled in SFA. The same is true for component RHD-02.15A-11T-DS. Or did you mean the tee itself?
  Each of these components is a pup piece downstream of the tee, and upstream of the feedwater heater nozzle. Please add these components to the model.
- Component RHD-02.6A-06L in the same spreadsheet is said to have the geometry of a pipe. I just wanted to make sure that the tee was the replaced component and not the downstream pipe. So, which component is the replaced component?
- The component FAC-07-VCD-09 is an SNM component right? I just want to verify that it is not in the official CHECWORKS model.
  Yes this is a SNM component.
- In the other EXCEL spreadsheet called Replaced Modeled Components 3R13 REV1.xls there are components that have their replacements documented in SFA. Tell me if this is right: you just want me to rearrange the components in SFA to how they are listed in that spreadsheet and also to do what the instructions say in the far right column of the sheet? The three isometrics you provided also visually show how the components should be ordered as well, right?
  Yes. The spreadsheet shows the correct component order.

I just want to make sure I'm doing what you are asking us to do. I think I understand, but I just want to hear from you first.

If you have any comments or issues about my questions, please email or call me back at the

number below.

Thanks,

Al Sipkovsky
CSI Technologies, Inc.
847-836-3000 ext. 787

Reference 7.28.10

Email from Harry Hartjen (IP3) to Al Sipkovsky (CSI Technologies), dated 9/14/2007, regarding questions about recent replacements, CSI Doc. No. 0705.100-04

Al:

This second installment should answer the remaining questions.
Please send me back a short email that you received this and of course, let me know if you have any more questions

Harry

-----Original Message-----
From: Al Sipkovsky [mailto:asipkovsky@csitechnologies.com]
Sent: Thursday, September 13, 2007 11:18 AM
To: Hartjen, Harry G
Subject: IPEC3 Replacement Lists

Harry,

I am currently working on updating your SFA model with the latest plant period, chemistry, replacement, and inspection info. I just need a little clarification on what exactly you want us to do with some of the information that you provided on the FTP site.

- The EXCEL file called REPLACED COMPONENTS.xls contains the components that were replaced in this last outage (RO14). The second component in this list is RHD-02.14B-12T-DS. Does this mean that the pipe on the downstream main of this tee has been replaced? If this is true, the pipe on the downstream main of this tee is not a component that was modeled in SFA. The same is true for component RHD-02.15A-11T-DS. Or did you mean the tee itself?
- Component RHD-02.6A-06L in the same spreadsheet is said to have the geometry of a pipe. I just wanted to make sure that the tee was the replaced component and not the downstream pipe. So, which component is the replaced component?
  You are correct. The pipe immediately downstream of RHD-02.6A-06L was replaced, not RHD-02.6A-06L
- The component FAC-07-VCD-09 is an SNM component right? I just want to verify that it is not in the official CHECWORKS model.
- In the other EXCEL spreadsheet called Replaced Modeled Components 3R13 REV1.xls there are components that have their replacements documented in SFA. Tell me if this is right: you just want me to rearrange the components in SFA to how they are listed in that spreadsheet and also to do what the instructions say in the far right column of the sheet? The three isometrics you provided also visually show how the components should be ordered as well, right?
  Right. The spreadsheet and iso's show the correct component order. I wanted to make sure you had the correct field configuration to model this area correctly. How the components broken up and are assigned lines, I will leave to your expertise. There were other questions I had reviewing this area in a spreadsheet Presep Component comments.xls. This should be on the ftp site. I will attach a copy here. Mainly deals with components I could not find in the SFA model.

I just want to make sure I'm doing what you are asking us to do. I think I understand, but I just

want to hear from you first.

If you have any comments or issues about my questions, please email or call me back at the number below.

Thanks,

Al Sipkovsky
CSI Technologies, Inc.
847-836-3000 ext. 787

Reference 7.28.11

Email from Ian Mew (IP3) to Amanda Wajrowski (CSI Technologies), dated 9/3/2009, regarding Turbine Run Hours, CSI Doc. No. 0705.105.05

Ian D. Mew
IPEC FAC Engineer
Phone 914-827-7741

From: Macina, Ronald
Sent: Thursday, March 12, 2009 3:36 PM
To: Mew, Ian
Subject: RE: 3R15 Cycle run hours

The IP3 Cycle 15 Turbine run hours was 16,468.62 hours.
Thanks,
Ron

From: Mew, Ian
Sent: Thursday, March 12, 2009 3:07 PM
To: Macina, Ronald
Subject: 3R15 Cycle run hours

Ron,
Can you send me the cycle run hours for 3R15.

Ian D. Mew
IPEC FAC Engineer
Phone 914-827-7741