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Indian Point Unit 2
CHECWORKS SFA Model

CSI Calculation No. 0705.101-01
Revision 1
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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 2 Nuclear Power Plant (IP2) has developed and implemented a program to monitor and mitigate FAC-induced wall thinning in high energy, large-bore piping systems [7.1].

This calculation uses plant design and operation information to document the CHECWORKS model for IP2. 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 18 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 IP2 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 inspection data, and to predict remaining service life for each modeled component 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 calibration of the CHECWORKS SFA Model. Additionally, this calculation provides the results of the CHECWORKS SFA model 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 IP2 CHECWORKS Model. However, not all lines and components in the input model were included in this analysis. The CHECWORKS model also contains "non-modeled" lines and components (typically assigned to CHECWORKS lines with the prefix "NCW" for "Non-CHECWORKS"). These are lines that cannot be accurately evaluated using CHECWORKS. No analysis was performed on these "NCW" lines or any other plant lines and components that were not considered modelable. The scope of modelable lines was determined by all lines listed in Appendix D.

The CHECWORKS model reflects plant design and operation through Refuel Outage 18. All historical records (i.e. inspections, replacements, water chemistry, power levels, etc.) through Refuel Outage 18 were included in this analysis. Note that this model addresses changes due to Appendix K Uprate and Stretch Power Uprate [7.3]. 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 105).

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 were made during this analysis. The assumptions and modeling decisions are categorized as General, Global Data, Line and Component, or UT Inspection Assumptions and Modeling Decisions based on the range of their influence.

4.1. General 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, 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.

4.2. Global Data Assumptions and Modeling Decisions

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

4.2.2. For a number of lines on the Heat Balance Diagrams [7.3], 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" [7.4].

4.2.3. Plant period data and water treatment data prior to Cycle 18 was assumed to be complete and accurate in the as-received model [7.5].

4.2.4. When hydrazine data was not available at the Steam Generator Outlet and MSR Drain, the "rules of thumb" [7.4] 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.

4.2.5. The Water Treatment for future operating cycles was modeled as equivalent to the most recent operating cycle. The model should be updated with the actual water chemistry when this data becomes available.

4.2.6. Plant period data was estimated for Cycle 19. Start and end dates were estimated based on an 18 month operating cycle duration. An estimation of operating hours was calculated from these dates based on calendar days. The model can be updated with actual values for these inputs when this data becomes available.

4.2.7. See Appendix C for any additional modeling decisions concerning plant global data.

4.2.8. Newly modeled lines were modeled based on the available isometric drawings. In some cases, the isometrics were incomplete or did not exist. In these cases, a temporary component was created as a placeholder, and the line should be walked down and modeled properly before using the Pass 2 data. All isometrics for newly modeled lines should be visually verified, and any resulting changes to the model should be made.

4.3. Line and Component Assumptions and Modeling Decisions

4.3.1. All component data in the CHECWORKS model received as input (the as-received model) [7.5] was assumed to be complete and accurate. This assumption was made during the previous model calibration [7.2.2].

4.4. UT Inspection Assumptions and Modeling Decisions

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

4.4.1. UT inspections performed prior to Refuel Outage 16 were assumed to be complete and accurately modeled in the as-received model [7.5]. This

assumption was made during the previous model calibration [7.2.2]. Inspections crucial to the calibration of the model were analyzed and, if appropriate, changed based on engineering judgment. These changes are listed in Appendix A.

5. Methodology

Creation of this CHECWORKS SFA model was executed in six major phases. First, plant global data was entered into the CHECWORKS SFA model. These inputs affect every component in the model. Examples of these inputs include the heat balance diagram (HBD), water treatments, plant periods, and power level information. Second, lines were created. This included grouping components into lines and associating these lines to the heat balance diagram. Third, component level data was input. This included component geometry, design data, pipe size, material, replacements etc. Fourth, component connectivity was established to define flow order and group components by flow rate. Fifth, UT inspection data was imported and wear was calculated. In addition, inspection data was screened for model calibration. Finally, water chemistry analysis, network flow analysis, and wear rate analysis was performed. Errors highlighted in these analyses were corrected and the results were reviewed for accuracy and model calibration.

All modeling was done in accordance with EPRI's "Guidelines for Plant Modeling and Evaluation of Component Inspection Data" [7.4] and the CHECWORKS SFA User Guide [7.6].

The CHECWORKS SFA model includes a large database of information used in the prediction of corrosion rates. The database also contains fields for selection, tracking, inspection, and evaluation of components, as well as many other fields. For the purposes of this calculation, only those fields that are used in the prediction of corrosion rate were used. Many fields were left blank (e.g., component elevation, serial numbers of transducers used during inspection, etc.).

Plant global data input is documented in Appendix C. A listing of all the lines in the CHECWORKS SFA model appears in Appendix D. CHECWORKS SFA component input data is documented in the Component Summary Report in Appendix E. All UT inspections that appear in the model since Refuel Outage 16 (see Section 4.4.1) are listed in Appendix F. Wear Rate Analysis Run Definitions appear in Appendix B. Model output is documented in Appendix G for the Water Chemistry Analysis, Appendix H for the Pass 1 Analysis, and Appendix B and I for the Pass 2 Analysis. The results of all analyses are discussed in Section 6 of this calculation.

5.1. Plant Global Data

Global Data entered in this analysis included the CHECWORKS SFA heat balance diagram, Power Level Data, Steam Cycle Data, Water Treatment Data, and Plant Period Data.

5.1.1. Heat Balance Diagram

The Indian Point 2 Heat Balance Diagrams were used to create the CHECWORKS HBD [7.4]. 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, IP2 uses the reverse order of the CHECWORKS HBD for the Feedwater Heaters. Therefore, IP2 items are not the same number as the CHECWORKS items. For example, IP2 #21 Feedwater Heater is the CHECWORKS #6 Feedwater Heater, IP2 #22 Feedwater Heater is the CHECWORKS #5 Feedwater Heater, and so on.

5.1.2. Power Level Data

A Power Level was defined for each power level at which the plant has operated for a significant period of time. 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 SFA Power Levels

Power Level (%)	Power (MW)	Operating Cycles	Notes	Ref
100	3090.2	Cycles 1-16A	Original Power Level.	7.3.1
101.19	3127.0	Cycle 16B	Appendix K Uprate	7.3.2
104.48	3228.5	Cycle 17 to End of Life	Stretch Power Uprate	7.3.3

- **Steam Rate**: The steam mass flow rate out of the Boiler (Steam Generator) was taken from the Heat Balance Diagrams [7.3].
- **Steam Generator/Reactor Vessel Pressure**: The pressure at the outlet of the Steam Generator was taken from the Heat Balance Diagrams [7.3].
- **Steam Generator/Reactor Vessel Temperature**: The temperature at the outlet of the Steam Generator was taken Heat Balance Diagrams [7.3].
- **Steam Generator Blowdown Rate**: The blowdown rate was taken from the Heat Balance Diagrams [7.3].
- **Carryover**: The carryover percentage was obtained from the Heat Balance Diagrams [7.3].

- **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. Steam Cycle Data

The following Steam Cycle Data is used by CHECWORKS SFA to calculate chemistry conditions during wear rate analysis. It is also used to calculate operating conditions when the Advanced Run Definition feature is implemented (see Section 5.8.2). Steam Cycle Data was entered for each Heat Balance Item at each Plant Power Level. A brief description of the fields in the CHECWORKS SFA Steam Cycle form is given below. For each 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 was selected from the pull down menu, which includes all Power Levels in the model (see Section 5.1.2).
- **HBD Item**: This field displays the name of the HBD Item. Names are automatically generated by CHECWORKS SFA and are un-editable.
- **Steam/Drain Flow Rate**: This is the flow rate through or out of the HBD Item in Mlb/hr. Flow rates were entered for the HBD Items when required. Flow rates were obtained from the Heat Balance Diagrams [7.3].
- **Vent Rate**: Vent rates are not entered for PWR plants.
- **FWH Drain Temperature:** The temperature in the Feedwater Heater drain line, which is taken from the Heat Balance Diagrams [7.3], was entered in this field where appropriate.
- **Quality**: The quality of the steam, which is taken from the Heat Balance Diagrams [7.3], was entered in this location if necessary.
- **Enthalpy**: The enthalpy, which is taken from the Heat Balance Diagrams [7.3], was entered in this field when required.
- **Temperature**: The temperature, which is taken from the Heat Balance Diagrams [7.3], was entered in this field when required.
- **Pressure**: The pressure, which is taken from the Heat Balance Diagrams [7.3], was entered in this field when required.

5.1.4. Water Treatment Data

For each significant change in water chemistry, a new water treatment was defined. Input data for each water treatment was obtained from site

Chemistry [7.7]. Values were either supplied as summary readings or the average was calculated where a range was specified.

A brief description of the fields in the Water Treatment form is given below. For each Water Treatment, the values input to the model and the reference from which the value was obtained is listed in Appendix C.

- **Name & Title**: These two fields contain a descriptive name or title that allows the user to identify the chemistry period.
- **Dissolved Oxygen**: The dissolved oxygen concentration sampled at the condensate is entered into this field.
- **Constituents**: CHECWORKS SFA allows the type of amine, the location in which it was sampled, and the concentration to be entered.
- **Boric Acid Treatment**: If boron is injected, the injection rate, sampling location, and the concentration are entered here. The injection rate is entered only if boron is injected directly into the Steam Generators (Boilers).
- **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 4.2.4).

5.1.5. Plant Period Data

CHECWORKS SFA divides operating 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 was created. For any significant period of plant down time, a maintenance period can be created. A brief description of the fields in the CHECWORKS SFA Plant Period form is given below. For each Plant Period, the values input to the model are listed in Appendix C.

- **Period Name**: A user-designated name for a Plant Period is entered in this field.
- **Period Begin Date**: The beginning date of the Plant Period was entered in this field and was obtained from plant personnel [7.8].
- **Period End Date**: The end date of the Plant Period specified was entered in this field and was obtained from plant personnel [7.8].
- **Operating Hours**: The calculated operating hours per operating period was entered here and was calculated from plant personnel [7.8].
- **Water Treatment**: A water treatment was selected for each period from a pull down menu listing all water treatment names, which have been entered into the CHECWORKS SFA Model (see Section 5.1.4).

- **Power Level**: The appropriate power level was selected for each period from a list of all power levels in the CHECWORKS model. See Table 5.1 for the cycles of each power level.
- **Period Type**: CHECWORKS SFA allows the user to choose from two different Period Types: operating and maintenance. The appropriate choice was selected.

5.2. Line Data

All components in the CHECWORKS SFA model were grouped into lines. Lines contain components with identical thermodynamic conditions and chemistry conditions due to the fact that all components of a line are linked to the same CHECWORKS SFA Heat Balance Diagram Line. A listing of all lines that appear in the CHECWORKS SFA model is in Appendix D.

By convention, lines were divided where flow rate changes. Exceptions may be made for headers, where all components in the header were grouped into the same line. For consistency, the tee where flow rate changed was associated to the line having the greatest flow rate.

Data was entered in the following Line Data fields:

- **Line Name**: Components were grouped into lines by comparing the input CHECWORKS model [7.5] with FAC isometrics [7.9] and flow diagrams [7.10]. Lines were named according to the naming convention, below.

  AABBC-D-E

AA	=	Abbreviation of the system (ex: CD = Condensate, EX = Extraction Steam, etc.)
BB	=	Sketch number the line begins on (ex: 01, 80, etc.)
C	=	Sketch letter if sketch number includes a letter (ex: A for sketch 80A)
D	=	Sequential number for each line on one sketch, numbered in flow order
E	=	Brief description of the line

  New line names were created as required by CHECWORKS, not where plant line names changed. Therefore, lines may contain components located on different sketches but in all cases the sketch number corresponds to the first component in the line.

  For example, line name “CD80-1-FWH 23A to FWH 24A” is located in the Condensate system, on FAC sketch 80, and runs from Feedwater Heater 23A to Feedwater Heater 24A.

- **System**: The name of the system in which the line belongs was entered in this field.

- **Phase**: This is a pull-down menu with three choices: All Water, All Steam, or Wet Steam.
- **Line Group**: This field can be used to sort and display the lines.
- **Line Class**: The pipe class of the line can be entered here.
- **Safety Grade**: The safety class of the line can be entered here.
- **Notes**: The P&ID and a full description of the line were 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 5.8.3). This allows the calculated chemistry, thermodynamic data, and flow rate to be correctly associated to the lines of the model. This association is not shown on the Line Data Form. Instead, Heat Balance Association appears on the CHECWORKS SFA HBD.

5.3. Component Data

Component data was entered on the Component Data Form. This form has 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 2. 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.). Note that there are some exceptions to this naming convention.
- **Geometry**: A description of the component type (e.g., "Reducer") was automatically entered by CHECWORKS when the geometry code was entered.
- **Geometry Code**: The component geometry code was entered in accordance with the CHECWORKS SFA User's Guide [7.6].
- **Pipe Size**: A pull-down menu contains outside pipe diameter, nominal wall thickness, and schedule (see Section 4.3.1).
- **Material**: A pull-down menu contains material choices (see Section 4.3.1).
- **Wear Rate Analysis (WRA) Options**: These buttons give the user four options. "Use Measured Wear for LCF" (LCF is the Line

Correlation Factor, see Section 5.8.6.1) allows CHECWORKS SFA to use inspection data for the component in the Pass 2 Wear Rate Analysis (WRA). "Do Not Use Any Measured Wear" eliminates the inspection data for the component from the Pass 2 WRA. "Exclude From Analysis" eliminates the component itself from WRA. The fourth option, "Use D/S Ext. from Prev. Comp" is available only for piping components. This option allows CHECWORKS FAC to compare the predicted wear for a component with the calculated wear for the downstream extension of the previous component in the calculation of the LCF. For most components, the option "Use Measured Wear for LCF" was selected (Note: the use of UT inspection data is discussed in Section 5.5 of this calculation). Selection of the fourth option "Use D/S Ext. from Prev. Comp" is discussed in Section 5.5.1.2

- **Operating Data:** Component level operating data (pressure, enthalpy, quality, and temperature) is not used in the calculation of wear rates as all operating data was obtained from the Heat Balance Diagram or the Advanced Run Definition. Data may appear in these fields due to past entry, but it is no longer used.
- **Design Data:** Design pressure and temperature are entered here (see Section 4.3.1).
- **Flow Rate** Flow rate was not entered on the Component Form. Instead flow rate comes from Network Flow Analysis (NFA), the CHECWORKS HBD, or the Advanced Run Definition on a line by line basis as indicated in Appendix D.
- **Orientation Angle**: Component orientation angle is entered here (see Section 4.3.1).
- **Orifice Size**: Orifice size is entered for all orifices and for all piping immediately downstream of an orifice (see Section 4.3.1).
- **Valve Size and Valve Coefficient**: The valve opening size (Valve Size) and valve flow capacity (Valve Coefficient) is entered in these fields, if known. If not entered, CHECWORKS SFA default values are used.
- **Pipe Roughness**: This field specifies the absolute internal roughness for the component. If not entered, CHECWORKS SFA default values are used.
- **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 gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).

- **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 gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).
- **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 gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).

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 gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).
- **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. This data was gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).
- **Initial Thickness**: An initial thickness other than nominal thickness can be entered if known. This data was gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).
- **Screening Thickness**: This field can be used to determine color-setting thresholds in the UT Analysis displays. This data was gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).
- **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. This data was gathered from the "as received" CHECWORKS Model [7.5] (see Section 4.3.1).

  T_{hoop} was calculated by CHECWORKS SFA using the following equation:

$$T_{hoop} = \frac{(D_O \cdot P_D)}{2\left[S_A + (P_D \cdot Y)\right]} \qquad [7.11]$$

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

- **Insulation**: The insulation type and insulation thickness fields can be entered for lines utilizing NFA (see Section 5.7).
- **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.
- **Notes**: Comments and notes were entered into this field as appropriate.

5.3.3. **Replacements**

Replacement information from 2R18 and 2R17 was obtained from the FAC Program Engineer [7.8.2 and 7.12]. A list of replacements appears in Appendix E.

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 1, 2, 3, etc. For example, line "CD83-2-HDR to BFP21" was broken down into flow segments named "CD83-2-HDR to BFP21 SEG01", "CD83-2-HDR to BFP21 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 data recorded through the Refuel 18 outage was imported to the CHECWORKS model for analysis. UT inspection data was received as electronic UT grid files [7.13].

All outage UT inspections in the CHECWORKS database were reviewed and verified to ensure 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 electronic grid files as needed. All importation and grid data manipulation techniques were used in accordance with EPRI guidelines [7.4].

When importing, all of the UT data from one inspection file makes up one inspection location. This could include as many as three subsections (U/S Main, D/S Main, and Branch) and three extensions (U/S Extension, D/S Extension, and Branch Extension). This was done according to EPRI guidelines [7.4].

It is important to note that when CHECWORKS calculates the LCF it uses the results for the U/S Main, D/S Main, Branch, and D/S Extension separately (the U/S Extension and Branch Extension are not used in calculating the LCF according to EPRI guidelines [7.4]), however for determining if a line is

calibrated a minimum of three inspection locations is required, not just three cases of comparing a measured wear and a predicted wear.

All UT inspection data imported to the model since Refuel Outage 16 (see Section 4.4.1) is listed in Appendix F. For each inspection the following data is listed:

- Line Name
- Component Name
- Period inspection was taken
- Report Number
- Section of the component that was analyzed
- Wear Method used in analysis
- T_{init} value, or T_{nom} when T_{init} was not defined in CHECWORKS
- Measured Wear
- Exclusion criteria for Line Correction Factor (LCF) calculation

5.5.1. Importation and Partitioning of UT Data

The grid data manipulation options of transpose, reverse rows, partition, offset, and measurement direction were used to manipulate the CHECWORKS SFA UT grid to match the UT Inspection Reports [7.14] as needed. All grid data manipulation techniques were used in accordance with EPRI's "Guidelines for Plant Modeling and Evaluation of Component Inspection Data" [7.4].

Inspections were partitioned into sections based on interpretation of the UT Inspection Reports [7.14]. Each UT inspection contains inspection data for one or more component section. Inspection files for tees may be present in the following component sections: upstream main, downstream main, branch, upstream extension, downstream extension, and branch extension. Inspection files for reducers and expanders may be present in the following component sections: large end of main, small end of main, upstream extension, and downstream extension. For all others, inspection files may be present in the following component sections: main, upstream extension, and downstream extension.

5.5.1.1. 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. CHECWORKS SFA does not use these component sections in the calibration of the model by default. The data is stored for archival purposes only.

5.5.1.2. Downstream Extensions

Downstream extensions are used in the calibration of the model. The fourth WRA option on the Component Data Form, "Use D/S

Ext. from Prev. Comp" was selected for instances where the following was 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 SFA model by a piping component immediately following the main component; and
- The downstream pipe does not have inspection data imported to it.

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

5.5.2. Single Outage Wear Calculation

Single outage wear is used for components where multiple outage wear calculation methods are not appropriate (see Section 5.5.3). The CHECWORKS SFA Wear Calculation Module allows single outage wear to be calculated by four different methods. The result of only one of the methods can be selected to represent the calculated wear.

5.5.2.1. 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 the larger of the maximum thickness or the nominal thickness.

5.5.2.2. Average Band Method

The Average Band Method is similar to the Band Method in that it calculates the wear for each circumferential band of a component in the range specified. The difference is that for a particular band, wear is calculated as the difference between the minimum thickness and the larger of the average thickness or the nominal thickness.

5.5.2.3. 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 or if it desired to focus the analysis on a particular portion of the component (i.e. the extrados of an elbow). For the area, wear is calculated as the difference between the minimum thickness and the larger of the maximum thickness or the nominal thickness.

5.5.2.4. Moving Blanket Method

The Moving 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 nominal thickness 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.

5.5.2.5. Method Selection

After CHECWORKS SFA calculates component single outage wear using the methods discussed in Section 5.5.2, the resulting wear value from just one method was selected as the value to be used by CHECWORKS SFA in the model calibration. Selection of the wear calculation method is based upon the component geometry as directed by EPRI's "Guidelines for Plant Modeling and Evaluation of Component Inspection Data" [7.4].

Additionally, a User-Specified value for wear can be entered to override the results of the three methods.

Also, inspection data can be identified as baseline readings (inspection performed before installation) by selection of the Baseline option.

Table 5.2 lists the UT wear calculation method selection criteria.

Table 5.2 UT Wear Calculation Method Selection

Component Geometry	Single Outage Wear Calculation Method
Elbow, Bend, Reducing Elbow, Expanding Elbow, Eccentric Reducer, Eccentric Expander, or Forged Tee	Blanket Method
Pipe (Main or Upstream, Downstream, or Branch Extension), Concentric Reducer, Concentric Expander, Fabricated Tee, or Orifice	Band Method or Average Band Method
All Others	Band Method or Average Band Method
None (selected by Engineering Judgment)	Area Method

The area method is generally not used for any geometry type because it tends to be overly conservative and not as accurate as the band or blanket methods.

5.5.3. 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.

The Point-to-Point Method calculates wear between two periods at each point of a grid by subtracting the thickness value of the latter period from the former. Wear for the entire component (between the two outages) is set equal to either the maximum wear value calculated, or the average value, depending on the option selected.

The Point-to-Point Method was selected for instances where the following was true:

- Multiple inspections have been performed on the component; and
- The two inspections being compared are at least three outages apart or one of the inspections is baseline data; and
- The two inspections have the same grid layout (equal number of rows and columns, same offset angle, etc.); and
- The two inspections represent successive readings taken at the exact same locations; and
- The calculated Point-to-Point wear is reasonable based on engineering judgment.

5.5.3.1. Non-Lifetime Measured Wear Options

Point-to-Point wear can be calculated by ignoring past (or lifetime) wear and calculating the difference between two inspections. "Max Delta" calculates the maximum measured difference between the two selected outages. "Avg Delta" calculates the average measured difference between the two selected outages. "Cutoff Delta" calculates the maximum delta in the collection of data points (the cutoff region) that are near in thickness to the minimum reading (as calculated by a cutoff value). "Fast Delta" calculates the delta value at the location that has the fastest Time to T_{crit}.

For all delta wear methods, the option "Treat Neg. Wear as Zero" can be selected to eliminate calculated negative wear caused by variances in measurements.

5.5.3.2. Lifetime Measured Wear Options

Each of the methods described in Section 5.5.3.1 can also be combined with past wear to obtain a lifetime measured wear value. Past wear is the lifetime wear calculated upon the first selected outage. Total lifetime wear is then past wear plus the delta value from Section 5.5.3.1.

For all lifetime wear methods, the option "Treat Neg. Wear as Zero" can be selected to eliminate calculated negative wear caused by variances in measurements.

5.5.4. Minimum Measured Thickness

For each inspected component, CHECWORKS SFA allows a number of options to determine the value of the minimum measured thickness (T_{meas}) of a component. The T_{meas} value is involved in predicting thickness and remaining service life. A lower value results in a shorter remaining service life.

The option "Min. Meas Thickness from Region of Max. Wear" (GW) uses the smallest thickness value from the region that has the highest wear. The option "Minimum Measured Thickness" (MT) uses the smallest thickness value from any region.

5.5.5. Use of Inspections in Model Calibration

For each inspection and/or component the option "Do Not Use for LCF" is selected if the wear value for the component or inspection will not be included in the calibration of the model. When this option is selected, the results of the inspection are not used in calculation of the Line Correction Factor (LCF) during Pass 2 Wear Rate Analysis (see Section 5.8.6.1). The selection of this option was in accordance with the recommendations made

in the EPRI's "Guidelines for Plant Modeling and Evaluation of Component Inspection Data" [7.4].

A complete listing of reasons why an inspection was excluded from model calibration appears in Appendix F. Each inspection is marked as to whether or not it was included for use in the LCF.

Removal of an inspection from the calculation of the LCF is achieved by selecting the option "Do Not Use MW" on the UT Wear Calculation form. Removal of an entire component (and all inspections on that component) is achieved by selecting "Do Not Use Measured Wear" on the Component Form.

Note that in cases where a component or component section has UT data from multiple outages, only one wear value for that component or component section (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 outage 8 and outage 9, and both inspections were available for use in the LCF. In this case, only the wear from outage 9 would be used. Since the outage 8 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.

5.6. 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 chemistry conditions at various locations around the steam cycle. These values strongly affect FAC rates.

Water Chemistry Analysis calculates pH, dissolved oxygen concentration, constituent concentration, and hydrazine concentration (depending on plant type) at each location on the CHECWORKS SFA Heat Balance Diagram. The appropriate values are then used in the calculation of predicted wear rates for each component through the association of the line to the HBD (see Section 5.2).

When Water Chemistry Analysis is run, CHECWORKS SFA generates a report displaying the water chemistry results, as well as critical global data. A Water Chemistry Analysis was performed on every Water Chemistry Treatment in order to review the results to ensure that chemistry values were reasonable.

The water chemistry reports are presented in Appendix G.

5.7. 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. There are no NFAs in this model.

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 critical thickness (T_{crit}). WRA automatically takes into account all global input through the use of the Water Chemistry Analysis results.

5.8.1. Wear Rate Analysis (WRA) Run Definitions

WRA runs were defined to contain the CHECWORKS SFA lines, and a separate WRA was performed upon each. WRA runs are defined by the following inputs.

- **Run Name:** Wear Rate Analysis runs were named for identification purposes.
- **Run Note**: This field contains a more detailed description of the run.
- **Ending Period:** The ending period is used by CHECWORKS SFA to calculate current wear rates based on current operating periods. The ending period selected was the current operating cycle.
- **Lines to Analyze**: Each run was composed of lines from the model. Lines of similar function and operating conditions were grouped together to form a run as recommended by EPRI [7.4]. The runs defined for this model and the lines composing these runs are presented in Appendix B and Appendix D.
- **Analysis Options**: The Wear Rate Analysis Option determines the source of operating conditions (pressure, enthalpy, temperature, quality, and flow rate) in the model. The possible sources are the component form (COMP), the heat balance diagram (HBD), the Advanced Run Definition (ARD), or Network Flow Analysis (NFA). The analysis option was selected based on the desired source of operating conditions for each WRA run (see Appendix D).

  The option "NFA->HBD->ARD->COMP" was selected for all lines since the model includes multiple power levels.
- **Do Not Use Measured Wear**: This option determines whether or not inspection data will be used to calibrate the model. This option was selected during Pass 1 analysis and deselected during Pass 2 Analysis.

- **Global 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.

5.8.2. 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 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 diagram [7.2], and the flow diagrams [7.10]. Flow factors for each line appear in Appendix D.

  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 [7.4].

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 5.8.3) and COLA lines (see Section 5.8.4) 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) [7.4]. 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 5.8.3) and COLA lines (see Section 5.8.4) 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.

5.8.3. 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.

No Z-type lines exist in this model. CHECWORKS SFA Water Chemistry Analysis (see Section 5.6) was used as the source of chemistry data in all cases.

5.8.4. 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.

5.8.5. Pass 1 Wear Rate Analysis

A Pass 1 Wear Rate Analysis was performed to generate predicted wear rate and remaining service life for every component in the CHECWORKS SFA model. Pass 1 Wear Rate Analysis results are not calibrated to inspection data. Pass 1 wear rates and remaining service life predictions are useful only as relative rankings; no credence should be given to the absolute values. The analysis was performed to screen the model input for errors, without the complications of UT data, and to provide a relative ranking of components. The Pass 1 results should not be used for selection of inspection locations if calibrated Pass 2 results are available.

5.8.6. Pass 2 Wear Rate Analysis

A Pass 2 Wear Rate Analysis generates predicted wear rate and remaining service life similar to a Pass 1 Wear Rate Analysis with one significant difference; results are calibrated to inspection data. Calibration is achieved by comparing predicted wear and measured wear of inspected components. Comparison of predicted wear and measured wear is presented in tabular form in the Wear Report and graphically in the Wear Plot. These results of the Wear Report and Wear Plot are important measurements of the relationship between predicted wear and measured wear. Wear Rate Analysis runs are defined (see Section 5.8.1) to optimize the relationship between predicted wear and measured wear.

5.8.6.1. Line Correction Factor (LCF)

CHECWORKS SFA calibrates Pass 1 Wear Rate predictions to inspection data by calculating a Line Correction Factor (LCF) for each WRA run. For each inspected component in the WRA run where the option “Do Not Use for LCF” is not chosen, CHECWORKS SFA generates a ratio of the measured wear to the predicted wear. The LCF for a run is defined as the median value of these ratios. CHECWORKS SFA multiplies the Pass 1 wear predictions by the LCF to generate the Pass 2 wear predictions.

The LCF indicates the degree to which CHECWORKS SFA over-predicts or under-predicts wear. The range considered reasonable for an LCF is between 0.5 and 2.5 [7.4]. An LCF less than one indicates that CHECWORKS is predicting higher wear rates than are actually occurring. The LCF will lower the predicted wear rates. An LCF greater than one indicates that

CHECWORKS is under predicting the wear rates and the LCF will raise the predicted wear rates accordingly. An LCF outside this range may be the result of inaccuracies in the database (e.g., incomplete chemistry history) or non-representative inspection data.

5.8.6.2. Wear Plot

The Wear Plot (or "Comparison of Wear Predictions" plot) graphically displays the relationship between measured wear and predicted wear. Each point on the Wear Plot represents an inspected component section. Points on an ideal plot form a line (with slope equal to one) indicating that measured wear exactly equals predicted wear. For reference purposes, 50% error margins appear on the plot. Points that lay outside of the 50% error margins are termed outliers.

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 Wear Rate Analysis Results

The results of the Pass 1 Wear Rate Analysis 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 Wear Rate Analysis Results

The wear rate results of the Pass 2 Analysis are presented in Appendix I. 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)

The Wear Plots (with LCF values) for each WRA run are presented in Appendix J A summary of the results of the Pass 2 Wear Rate Analysis is presented in Appendix B.

6.4. Discussion of Pass 2 Wear Rate Analysis

A CHECWORKS SFA predictive model was developed. Input was performed in accordance with the CHECWORKS SFA User Guide [7.6] 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 Non-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 Non-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 Non-Calibrated is discussed in the sections below. No single criterion is definitive in classifying a WRA run as either Calibrated or Non-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 five locations be included in a Pass 2 Analysis WRA run to provide reasonable confidence in the results [7.4 and 7.14.3]. In this context, a "location" is a CHECWORKS SFA 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 (see Section 5.8.6.2), one per section.

  For runs in which less than five 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 Wear Rate Analysis results.

- **Number of Outliers**: The number of outliers (see Section 5.8.6.2) on the Wear Plot 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 WRA run results may not be considered properly calibrated.

- **Wear Plot Correlation**: Aside from the number of inspection locations, the Wear Plot correlation (or scatter) is generally the most important factor when determining calibration status. Good correlation can allow a run with a low number of inspection points and/or a poor LCF to be considered properly calibrated. The categories of Wear Plot correlation are listed in Table 6.1.

Table 6.1 Wear Plot Correlation Categories

Category	Description
Poor	The inspection data exhibits significant scatter that does not adhere to the 45° line or a significant number of outliers is 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.

- **Line Correction Factor (LCF) Value**: If there were perfect agreement between the CHECWORKS SFA Pass 2 predictions and measured wall thickness, the analysis of each run would result in an LCF of 1. The range considered reasonable for an LCF is from 0.5 to 2.5 [7.4]. 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. An LCF significantly outside of the recommended range may result in a WRA run classification of Non-Calibrated. EPRI's "Recommendations for an Effective Flow-Accelerated Corrosion Program" advises that if the LCF is outside this range, a minimum of 10 inspection locations are required for the run to be considered Calibrated [7.15].
- **Geometry Coverage**: 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 only 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.
- **Parallel Train Coverage**: EPRI Guidelines advise that inspections be performed on parallel trains. As a consequence, there should be adequate train coverage to categorize a WRA run as calibrated. In addition, EPRI's "Recommendations for an Effective Flow-Accelerated Corrosion Program" advises inspections on every two-phase line [7.15].
- **Inspections on Control Valves and Orifices**: Finally, EPRI recommends inspecting components immediately downstream of control valves and orifices [7.15]. In general these locations represent the most severe locations of wear. Also, these locations are often susceptible to cavitation and droplet impingement damage. In general, for a WRA run to be considered calibrated, inspections immediately downstream of control valves and orifices should be performed.

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 predicted 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 is acceptable for continued service. 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 2 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. Previous CSI Calculations

7.2.1. "Indian Point Unit 2 CHECWORKS SFA Conversion" CSI Calculation 0719-01, Revision 0, 7/27/2007.

7.2.2. "Indian Point Unit 2 CHECWORKS FAC Model", CSI Calculation 050714b-01, Revision 1, 9/12/2006.

7.2.3. "Indian Point Unit 2 CHECWORKS Power Uprate Analysis", CSI Calculation 040711-02, Revision 0, 3/23/2005

7.3. Indian Point 2 Heat Balance Diagrams

7.3.1. Original HBD, 3090.2 MWt: Indian Point 2 Nuclear Power Plant "Benchmark PEPSE Model Tuned to 1-22-03 Data", Sheets 1-6, Run Date 1/10/05.

7.3.2. Appendix K HBD, 3127.0 MWt: Indian Point 2 Nuclear Power Plant "Benchmark PEPSE Model Tuned to 1-22-03 Data", Sheets 1-6, Run Date 11/11/04.

7.3.3. Stretch Power Uprate HBD, 3228.5 MWt: Indian Point 2 Nuclear Power Plant "Uprate PEPSE Model with New HP Turbine", Sheets 1-6, S&W Calc 58030-HU(S)-001 Rev. 0, Attachment 8.3 pages 1-6.

7.4. "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.

7.5. Indian Point 2 CHECWORKS SFA model, input model (as-received), electronic files provided to CSI on 8/1/2008.

7.6. "CHECWORKS Flow-Accelerated Corrosion Application, Version 3.0 User Guide," EPRI, Palo Alto, CA: 2006. EPRI Product 1018102.

7.7. Chemistry Data

7.7.1. Electronic spreadsheets title "U2 Cycle 18 CPD.xls" and "U2 Cycle 18 HPFW.xls" received as attachment to email from Ian Mew to Brian Trudeau dated 5/21/2008.

7.7.2. Electronic spreadsheet titled "Cycle 17 Chemistry Data.xls", received as an attachment to letter from Harry G. Hartjen to Dan Poe dated 6/22/06.

7.7.3. Cycle 16 Feedwater Chemistry Data, electronic spreadsheet titled "IP2HPFWdatacycle16.xls", received as an attachment to letter IP-PCE-05-004, 3/10/2005.

7.7.4. Cycle 16 Condensate Dissolved Oxygen, electronic spreadsheet titled "IP2 CPD DO.xls", received as an attachment to email 050714b03, 4/27/2005.

7.8. Referenced Correspondence and Communications (see Attachment A)

7.8.1. Email from Ian Mew (IP) to Brian Trudeau (CSI Technologies), dated 5/21/2008, regarding IP2 Cycle information, CSI Doc. No. 0507.101.13.

7.8.2. Email from Harry Hartjen (IP) to Mike Aplington (CSI Technologies), dated 8/8/2006, regarding 2R17 replacements, CSI Doc. No. 071704.

7.9. Indian Point 2 FAC Program Isometrics/Sketches

SK-1 Rev D	SK-33A Rev C	SK-50B Rev C
SK-2 Rev D	SK-33B Rev C	SK-50C Rev C
SK-3 Rev D	SK-34A Rev C	SK-51 Rev D
SK-4 Rev C	SK-34B Rev C	SK-52 Rev C
SK-5 Rev E	SK-35A Rev C	SK-53 Rev C
SK-6 Rev E	SK-35B Rev C	SK-54 Rev C
SK-7 Rev C	SK-36A Rev C	SK-56 Rev D
SK-7A Rev B	SK-36B Rev C	SK-57 Rev C
SK-8 Rev D	SK-37A Rev C	SK-66A Rev C
SK-9 Rev D	SK-37B Rev C	SK-68A Rev D
SK-12 Rev D	SK-38A Rev C	SK-69A Rev D
SK-19 Rev C	SK-38B Rev D	SK-71 Rev C
SK-20 Rev E	SK-39 Rev B	SK-72 Rev B
SK-21A Rev C	SK-40 Rev B	SK-73 Rev D
SK-21B Rev C	SK-41 Rev B	SK-74 Rev C
SK-22A Rev C	SK-42 Rev B	SK-75 Rev C
SK-22B Rev C	SK-43 Rev B	SK-76 Rev C
SK-23A Rev C	SK-44 Rev B	SK-77 Rev C
SK-23B Rev D	SK-45A Rev C	SK-78 Rev C
SK-24A Rev B	SK-45B Rev B	SK-80 Rev B
SK-24B Rev C	SK-45C Rev B	SK-81 Rev B
SK-25A Rev B	SK-45D Rev B	SK-82 Rev C
SK-25B Rev C	SK-46A Rev C	SK-83 Rev C
SK-26A Rev B	SK-46B Rev C	SK-84 Rev C

SK-26B Rev C	SK-47 Rev B	SK-92 Rev C
SK-27 Rev C	SK-48A Rev C	SK-93 Rev B
SK-28 Rev C	SK-48B Rev D	SK-94 Rev B
SK-29 Rev C	SK-49A Rev D	SK-95 Rev B
SK-30 Rev C	SK-49B Rev B	SK-242 Rev A
SK-31 Rev C	SK-49C Rev D	SK-243 Rev A
SK-32 Rev C	SK-50A Rev D	SK-244 Rev A

7.10. Indian Point 2 Flow Diagrams

System	Drawing Number
Main Steam	9321-F-2017, Rev. 83
Condensate & Boiler Feed Pump Suction	9321-2018, Rev. 137
Boiler Feedwater	9321-F-2019, Rev. 110
Extraction Steam	9321-F-2020, Rev. 41
Heater Drain & Vents	9321-F-2022-52, Rev. 52
Moisture Separator and Reheater Drains & Vents	9321-F-2023-21, Rev. 31
Boiler Feed Pump Turbine Steam Lines Drains & Vents	9321-H-2024-23, Rev. 23
Steam Supply & Condensate Return	9321-F-2027, Rev. 61
Main Steam	227780, Rev. 50
Moisture PreSeparator	A-228272, Rev. 15
Condensate & Boiler Feed Pump Suction	A-235307, Rev. 29
Heater Drain & Vents	A-235304, Rev. 23
Steam Generator Blowdown & Blowdown Sample System	9321-F-2729, Rev. 66

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

7.12. Replaced Components PDF “IP2 2R18 Replacements.pdf”, received as an attachment to email 0705.101.04 from Ian Mew (IP) to Gary Daniell (CSI Technologies), 8/14/2008.

7.13. Ultrasonic Examination Grid Files

7.13.1. 2R16 UT Exam Electronic Grid Files, electronic text files received as an attachment to letter IP-PCE-05-004, 3/10/2005.

7.13.2. 2R17 UT Exam Electronic Grid Files, electronic text files received as an attachment to letter from Harry G. Hartjen to Dan Poe dated 6/22/06.

7.13.3. 2R18 UT Exam Electronic Grid Files, electronic text files received as file transfer from Ian Mew to Brian Trudeau, 5/21/2008.

7.14. Ultrasonic Examination Reports

7.14.1. 2R16 UT Exam Reports, hardcopy reports received as an attachment to letter IP-PCE-05-004, 3/10/2005.

7.14.2. 2R17 UT Exam Reports, hardcopy reports received as an attachment to letter from Harry G. Hartjen to Dan Poe dated 6/22/06.

7.14.3. 2R18 UT Exam Reports, PDF reports received as a ftp transfer on 5/21/08.

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

7.16. Indian Point Energy Center Unit 2 System Susceptibility Evaluation (SSE), Report No. 0700.104-02 Rev. 1, dated 1/22/2010.

7.17. Hand-marked isometric drawings showing the newly modeled 21, 22, 24 and 24 extraction lines in condenser, electronic file "marked up sketches.pdf" provided to CSI on 8/8/2006 (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. Component Names for Newly Modeled Lines Between Feedwater Heaters 22 and Feedwater Heaters 23, electronic file "UNIT 2 COMP NOS.xls" provided to CSI on 11/15/2004 (for information only).

Appendix A

Modeling Changes

This Appendix describes any modeling changes that have been made to the CHECWORKS SFA model since the initial issue of this document. This may include any changes made due to plant modifications, modeling errors, or discoveries of new information. These changes are listed below.

Updates prior to 2R16

Updates to the model prior to 2R16 are not documented in this Appendix.

Updates for 2R16

- The model was updated with all information necessary to run Wear Rate Analysis (WRA) for plant conditions through 2R16, such as updates to the plant period table, water treatments, WRA run definitions, the Advanced Run Definition, replacements, UT inspection data, etc.
- All 2R16 (and some Cycle 16) FAC inspections were imported to the appropriate component. These inspections are listed in Appendix F.
- Cycle 16 water chemistry was updated to reflect measured concentrations. This data appears in Appendix C.
- The plant period table was updated with the actual Cycle 16 start date, end date, and operating hours. Refuel Outage 16 was updated with actual start and end dates. Cycle 17 was updated with the actual start date and estimated end date, operating hours, and water chemistry. Please note, the actual Cycle 17 end date, operating hours, and water chemistry were entered during the update for 2R17. This data appears in Appendix C.
- Several components were shown on the isometric sketches but did not exist in the field. These components were deleted from the model: MS-2B55N, BFD-23P, and BFD-56P [7.9].
- Components MS-2B33P, MS-2B35, MS-2B35P, and MS-2B36 were replaced with chrome-moly. Pipe replacements were A335 Grade P22 seamless, schedule 80; elbow replacements were A234 Grade WP22 seamless, schedule 80 [7.2].
- It was discovered that component 4EXB-14P was replaced in 2R15 (based on the 2R16 inspection). The model was updated with this replacement.
- Vent chamber drain lines to the condensers were replaced with chrome-moly, schedule 40. These lines were replaced on all six MSR's from the control valve though the connection to the condenser. These lines are not part of the "official" model scope, but were updated with replacement information for historical tracking purposes. The following table list the components updated with replacement information [7.2].

Line	Component
xNCW_65A	1A-VCD15
xNCW_65A	1A-VCD15P
xNCW_66A	2A-VCD20
xNCW_66A	2A-VCD36P
xNCW_66A	2A-VCD36
xNCW_66A	2A-VCD36P-1 US
xNCW_66A	2A-VCD41P DS
xNCW_66A	2A-VCD42
xNCW_67A	3A-VCD16
xNCW_68A	1B-VCD16P
xNCW_68A	1B-VCD17
xNCW_68A	1B-VCD17P

Line	Component
xNCW_68A	1B-VCD19P US
xNCW_69A	2B-VCD8E
xNCW_69A	2B-VCD39P
xNCW_69A	2B-VCD39
xNCW_70A	3B-VCD7P
xNCW_273	273-9P DS
xNCW_273	273-10E
xNCW_273	273-1P US
xNCW_273	273-7P DS
xNCW_273	273-8E
xNCW_273	273-9P US
xNCW_285	285-13P DS

Line	Component
xNCW_68A	1B-VCD18P
xNCW_68A	1B-VCD19E

Line	Component
xNCW_285	285-1B-VCD-XE
xNCW_285	285-15P US

- Flow element FE-1102-2 was added to the model as component CD-76FE. This is an original component that was omitted during prior modeling. The orifice size (inner diameter) was assumed to be 80% of the upstream pipe inner diameter. The geometry code of the downstream pipe, CD-76P DS, was updated to type 56 and the orifice size was entered for this pipe as well.
- The table below lists nozzles that were modeled in CHECWORKS due to the Power Uprate Engineering Report and Feedwater Heater 21 and 22 studies. These components were entered in line "xNCW_FWH 21&22 Nozzles". Note that these nozzles are not part of the "official" CHECWORKS model [7.4].

Name	Location	Geometry Code	Diameter (in.)	Tnom (in.)	Material
LPFW21A-1N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21A-2N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21A-3N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21A-4N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21A-5N	Condensate inlet nozzle	30	14	0.438	A106 Gr B
LPFW21A-6N	Condensate outlet nozzle	31	14	0.438	A106 Gr B
LPFW21A-7N	Heater drain outlet nozzle	31	12	0.250	A106 Gr B
LPFW21B-1N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21B-2N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21B-3N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21B-4N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21B-5N	Condensate inlet nozzle	30	14	0.438	A106 Gr B
LPFW21B-6N	Condensate outlet nozzle	31	14	0.438	A106 Gr B
LPFW21B-7N	Heater drain outlet nozzle	31	12	0.250	A106 Gr B
LPFW21C-1N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21C-2N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21C-3N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21C-4N	Ext Stm inlet nozzle	30	26	0.375	A53 Gr B
LPFW21C-5N	Condensate inlet nozzle	30	14	0.438	A106 Gr B
LPFW21C-6N	Condensate outlet nozzle	31	14	0.438	A106 Gr B
LPFW21C-7N	Heater drain outlet nozzle	31	12	0.250	A106 Gr B
LPFW22A-1N	Ext Stm inlet nozzle	30	22	0.375	A53 Gr B
LPFW22A-2N	Ext Stm inlet nozzle	30	22	0.375	A53 Gr B
LPFW22A-3N	Condensate inlet nozzle	30	14	0.438	A106 Gr B
LPFW22B-1N	Ext Stm inlet nozzle	30	22	0.375	A53 Gr B
LPFW22B-2N	Ext Stm inlet nozzle	30	22	0.375	A53 Gr B
LPFW22B-3N	Condensate inlet nozzle	30	14	0.438	A106 Gr B
LPFW22C-1N	Ext Stm inlet nozzle	30	22	0.375	A53 Gr B
LPFW22C-2N	Ext Stm inlet nozzle	30	22	0.375	A53 Gr B
LPFW22C-3N	Condensate inlet nozzle	30	14	0.438	A106 Gr B

Update for 2R17

- The model was updated with all information necessary to run Wear Rate Analysis (WRA) for plant conditions through 2R17, such as updates to the plant period table, water treatments, WRA run definitions, the Advanced Run Definition, replacements, UT inspection data, etc.
- All 2R17 (and some Cycle 17) FAC inspections were imported to the appropriate component. These inspections are listed in Appendix F.
- Cycle 17 water treatment was updated to reflect measured concentrations. This data appears in Appendix C.
- The plant period table was updated with actual the actual Cycle 17 start date, end date, and operating hours. Refuel Outage 17 was updated with actual start and end dates. Cycle 18 was updated with the actual start date and estimated end date, operating hours, and water chemistry. This data appears in Appendix C.
- All components in the extraction stream lines from the LP turbine to the 22C feedwater heater were replaced with P22 Cr-Mo during 2R17 [7.2].
- The 1st, 2nd, 3rd and 4th point extraction lines in the condenser were added to the CHECWORKS model [7.2]. The newly created lines appear in Appendix D.
- The Refuel 12 UT grid for component 3EXA-9P was re-imported as the D/S EXT of component 3EXA-10. This was done to avoid a conflict in where CHECWORKS pulled measured wear data for use in the LCF calculation.
- The Interim 13 UT grid for component CD-72P-1 US was re-imported as the D/S EXT of CD-72FE. This was done to avoid a conflict in where CHECWORKS pulled measured wear data for use in the LCF calculation.
- The option "Use D/S Ext of Previous Component" was un-checked for component CD-19P. This was done to avoid a conflict in where CHECWORKS pulled measured wear data for use in the LCF calculation.
- The Refuel 12 UT grid for component BFD-16P was re-imported as the D/S EXT of BFD-16. This was done to avoid a conflict in where CHECWORKS pulled measured wear data for use in the LCF calculation.
- The Refuel 12 UT grid for component MS-2A11P-1 was re-imported as the D/S EXT of MS-2A11N. This was done to avoid a conflict in where CHECWORKS pulled measured wear data for use in the LCF calculation.
- The Refuel 12 UT grid for component MS-2B18P-1 US was re-imported as the D/S EXT of MS-2B18R. This was done to avoid a conflict in where CHECWORKS pulled measured wear data for use in the LCF calculation.

Update for 2R18

The model was updated with all information necessary to run Wear Rate Analysis (WRA) for plant conditions through 2R18, such as updates to the plant period table, water treatments, WRA run definitions, the Advanced Run Definition, replacements, UT inspection data, etc. The CHECWORKS SFA model has been converted from version 2.2 (build 70) to version 3.0 (build 105).

Global Data Updates

- Cycle 18 water treatment was updated to reflect measured concentrations. This data appears in Appendix C.
- The plant period table was updated with actual the actual Cycle 18 start date, end date, and operating hours. Refuel Outage 18 was updated with actual start and end dates. Cycle 19 was updated with the actual start date and estimated end date, operating hours, and water chemistry. Refuel Outage 19 was updated with estimated start and end dates. This data appears in Appendix C.

UT Data Updates

- All 2R18 in-model FAC inspections were imported to the appropriate component. These inspections are listed in Appendix F.
- Inspections within one cycle must all be run using single or multiple outage wear methods. These methods cannot be used interchangeable between different sections of a component within one cycle. Wear method was change for the USM of components "BFD-99" and "MS-3B14." Wear method was changed to reflect single outage wear method for Refuel Outage 18. These changes were documented in Appendix F.
- Some UT data was marked as "Do Not Used Measured Wear" due to measured wear below 0.030" or manufacturing variances. These changes have been documented in Appendix F and reflected in Appendix B, I, and J.
- To improve the calibration of the model, inspections on the components in the following table were altered.

WRA Run Name	Component	Change	Reason
1ST POINT EXTRAC STM	LPFW21A-1P1	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.
1ST POINT EXTRAC STM	LPFW21A-3P1	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.

WRA Run Name	Component	Change	Reason
1ST POINT EXTRAC STM	LPFW21A-4P1	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.
3RD POINT EXTRAC STM	3EXC-14	"Do Not Use MW" was checked to exclude the branch from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a tee.
3RD POINT EXTRAC STM	3EXA-6P DS	"Do Not Use MW" was checked to exclude the R14 inspection from the LCF calculation	The measured wear was not indicative of FAC.
3RD POINT EXTRAC STM	3EXC-12R	"Do Not Use MW" was checked to exclude the component from the LCF calculation	The component had a user-specified wear value that could not be confirmed.
5TH POINT EXTRAC STM	5EX-1	Recalculated the wear excluding the counterbore	Wear measured on the counterbore is not indicative of FAC. The calculated wear is due to manufacturing variances.
BLOWDOWN	MS47-5	"Do Not Use MW" was checked to exclude the component from the LCF calculation	After the exclusion of the counter bore, only two rows of data exist. Wear in these rows does not appear to be indicative of FAC.
CND FWH 22 TO FWH 23	CD-101N	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.
CND FWH 23 TO FWH 24	CD-42N	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.
CND FWH 23 TO FWH 24	CD-43N	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.

WRA Run Name	Component	Change	Reason
FW BFP TO FWH 26	BFD-14P	"Do Not Use MW" was checked to exclude the replaced and current components from the LCF calculation	Measured wear was due to heavy machining on the component and was not indicative of FAC.
FWH 23 DRNS DSCV	244-9R	"Do Not Use MW" was checked to exclude the U/S Main from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a reducer.
FWH 23 DRNS DSCV	242-8R	"Do Not Use MW" was checked to exclude the U/S and D/S Main from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a reducer.
FWH 24 DRNS DSCV	4EXD-59	"Do Not Use MW" was checked to exclude the U/S and D/S Main from the LCF calculation	Measured wear was due to heavy machining on the component and was not indicative of FAC.
FWH 24 DRNS DSCV	4EXD-4P	"Do Not Use MW" was checked to exclude the component from the LCF calculation	Data between R11 and R15 inspections was not consistent and wear could not be trusted.
RHTR DTK A DRN DSCV	MS-1A52P DS	Changed inspection method to Band from Blanket	It is improper to use Blanket method on a pipe.
RHTR DTK A DRN DSCV	MS-1A43P US	Changed inspection method to Band from Blanket	It is improper to use Blanket method on a pipe.
RHTR DTK A DRN DSCV	MS-1A47P US	Changed inspection method to Band from Blanket	It is improper to use Blanket method on a pipe.
RHTR DTK A DRN DSCV	MS-1A64P US	Changed inspection method to Band from Blanket	It is improper to use Blanket method on a pipe.
RHTR DTK A DRN DSCV	MS-1A41P-1 US	Changed inspection method to Band from Blanket	It is improper to use Blanket method on a pipe.
RHTR DRN TK 23B USCV	MS-3B25	Changed inspection method for U/S Main to Blanket.	It is improper to use Band method on an elbow.

WRA Run Name	Component	Change	Reason
RHTR DRN TK 23B USCV	MS-3B21P	"Do Not Use MW" was checked to exclude the component from the LCF calculation	Data includes unrealistic high points that skew measured wear values.
RHTR DRN TK 23B USCV	MS-3B22P	"Do Not Use MW" was checked to exclude the component from the LCF calculation	Measured wear is less than 30 mils.
RHTR DRN TK 22B USCV	MS-2B12	Changed inspection method for U/S Main to Blanket.	It is improper to use Band method on an elbow.
RHTR DRN TK 22A USCV	MS-2A11N	"Do Not Use MW" was checked to exclude the component from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a nozzle.
RHTR DRN TK 21B USCV	MS-1B14P-1 US	"Do Not Use MW" was checked to exclude the component from the LCF calculation	Data includes unrealistic high points that skew measured wear values.
RHTR DRN TK 21B USCV	MS-1B33R	"Do Not Use MW" was checked to exclude the U/S Main from the LCF calculation	It is difficult to obtain an accurate wear calculation from a single inspection on a reducer.
RHTR DRN TK 21A USCV	MS-1A25P	Removed value at grid point H-10 (0.503) and recalculated wear.	H-10 was an unrealistic high reading that skewed measured wear values.
FW FWH 26 TO STM GEN	BFD-77R	Excluded first row of data on U/S Main due to counterbore and recalculated wear.	Wear measured on the counterbore is not indicative of FAC. The calculated wear is due to manufacturing variances.
FW FWH 26 TO STM GEN	BFD-3R	"Do Not Use MW" was checked to exclude the U/S Main from the LCF calculation	Wear could not be accurately analyzed on this component due to heavy machining.

- Appendix B has been updated to reflect the enhanced Pass 2 write-ups.
- Appendix K has been added to further explain components with negative Times to Tcrit.

Line and Component Data Updates

- The following components were replaced in the 2R18 outage. In all cases the component was replaced with P22 CrMo and the option "Do Not Use Meas Wear" was checked.

Component Name	Line Name	Reference
3EXB-10R	ES2-5-3RDPT ES to FWH 23B	7.12
LPFWH22A-1N	ES?-1-2NDPT ES TO FWH22A	7.12
LPFWH22A-1P1	ES?-1-2NDPT ES TO FWH22A	7.12
LPFWH22A-1P2	ES?-1-2NDPT ES TO FWH22A	7.12
LPFWH22A-1P3	ES?-1-2NDPT ES TO FWH22A	7.12
LPFWH22A-1P4	ES?-1-2NDPT ES TO FWH22A	7.12
LPFWH22A-1P5	ES?-1-2NDPT ES TO FWH22A	7.12
LPFWH22A-2N	ES?-2-2NDPT ES TO FWH22A	7.12
LPFWH22A-2P1	ES?-2-2NDPT ES TO FWH22A	7.12
LPFWH22A-2P2	ES?-2-2NDPT ES TO FWH22A	7.12
LPFWH22B-1N	ES?-1-2NDPT ES TO FWH22B	7.12
LPFWH22B-1P1	ES?-1-2NDPT ES TO FWH22B	7.12
LPFWH22B-1P2	ES?-1-2NDPT ES TO FWH22B	7.12
LPFWH22B-1P3	ES?-1-2NDPT ES TO FWH22B	7.12
LPFWH22B-1P4	ES?-1-2NDPT ES TO FWH22B	7.12
LPFWH22B-1P5	ES?-1-2NDPT ES TO FWH22B	7.12
LPFWH22B-2N	ES?-2-2NDPT ES TO FWH22B	7.12
LPFWH22B-2P1	ES?-2-2NDPT ES TO FWH22B	7.12
LPFWH22B-2P2	ES?-2-2NDPT ES TO FWH22B	7.12
LPFWH22B-2P3	ES?-2-2NDPT ES TO FWH22B	7.12

- The following lines were added to the model as per the Unit 2 System Susceptibility Evaluation [7.16].

WRA Run Name	SFA Line Name	Line Description
ES - BFPT DRN TO COND	ES-BFPT Drain to Condenser 21	Boiler Feed Pump Turbine Drain to Condenser #21
ES - BFPT DRN TO COND	ES-BFPT Drain to Condenser 22	Boiler Feed Pump Turbine Drain to Condenser #22
HD - FWH 21 TO COND	HD-FWH 21A Drain to Cond 23	Feedwater Heater 21A Drain line to Condenser 23 through valve LCV 1124
HD - FWH 21 TO COND	HD-FWH 21B Drain to Cond 22	Feedwater Heater 21B Drain line to Condenser 22 through valve LCV 1125
HD - FWH 21 TO COND	HD-FWH 21C Drain to Cond 21	Feedwater Heater 21C Drain line to Condenser 21 through valve LCV 1126
HD - FWH 22 TO FWH 21	HD-FWH 22A Drain to FWH 21A	Feedwater Heater 22A Drain to Feedwater Heater 21A
HD - FWH 22 TO FWH 21	HD-FWH 22B Drain to FWH 21B	Feedwater Heater 22B Drain to Feedwater Heater 21B

WRA Run Name	SFA Line Name	Line Description
HD - FWH 22 TO FWH 21	HD-FWH 22C Drain to FWH 21C	Feedwater Heater 22C Drain to Feedwater Heater 21C
MS - HP TURB TO MOPS	MS-HP Turbine to MPS A	HP Turbine Crossunder to Moisture Preseparator A
MS - HP TURB TO MOPS	MS-HP Turbine to MPS B	HP Turbine Crossunder to Moisture Preseparator B
MS - HP TURB TO MOPS	MS-HP Turbine to MPS C	HP Turbine Crossunder to Moisture Preseparator C
MS - HP TURB TO MOPS	MS-HP Turbine to MPS D	HP Turbine Crossunder to Moisture Preseparator D
PD - MPS TO SEP TNK A	PD-MPS A to Separating Tk A	Moisture Preseparator A to Separating Tank A
PD - MPS TO SEP TNK A	PD-MPS B to Separating Tk A	Moisture Preseparator B to Separating Tank A
PD - MPS TO SEP TNK A	PD-MPS C to Separating Tk B	Moisture Preseparator C to Separating Tank B
PD - MPS TO SEP TNK A	PD-MPS D to Separating Tk B	Moisture Preseparator D to Separating Tank B
N/A	PD-Sep Tk A Drn thru LCV-5198	Preseparator Separating Tank A Drain through LCV-5198
N/A	PD-Sep Tk A Drn thru LCV-5199	Preseparator Separating Tank A Drain through LCV-5199
N/A	PD-Sep Tk A Drn to Ctrl Valves	Preseparator Separating Tank A Drain to Control Valves upstream of Heater Drain Tank
N/A	PD-Sep Tk A Valves to HD Tk	Preseparator Separating Tank A Drain Control Valves to Heater Drain Tank
N/A	PD-Sep Tk B Drn thru LCV-5205	Preseparator Separating Tank B Drain through LCV-5205
N/A	PD-Sep Tk B Drn thru LCV-5206	Preseparator Separating Tank B Drain through LCV-5206
N/A	PD-Sep Tk B Drn to Ctrl Valves	Preseparator Separating Tank B Drain to Control Valves upstream of Heater Drain Tank
N/A	PD-Sep Tk B Valves to HD Tk	Preseparator Separating Tank B Drain Control Valves to Heater Drain Tank

Lines from the Preseparator Drain Tank to the Heater Drain Tank were not assigned to the CHECWORKS HBD or given WRA Runs. These lines could not be accurately assigned to the HBD and operating conditions for previous power levels were not sufficient for modeling. When this information is obtained, these WRA Runs should be created, run, and evaluated. (See Section 4.2.8,)

- The WRA Run "4TH POINT EXTRAC STM" was removed, and the associated lines, shown below, and line segments were archived by placing an "x" before the current line name. These lines are superheated and are not susceptible to FAC.

Old Line Name	New Line Name
ES4-1-4THPT ES to FWH 24A	xES4-1-4THPT ES to FWH 24A
ES5-1-4THPT ES to FWH 24B	xES5-1-4THPT ES to FWH 24B
ES6-1-4THPT ES to FWH 24C	xES6-1-4THPT ES to FWH 24C

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 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 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	Is Run Calibrated?	Inspection Locations	Outliers	Correlation (Scatter)	LCF	Average Current Wear Rate	Geometry Coverage	Parallel Train Coverage	Insp. D/S of CVs & Orifices
1ST POINT EXTRAC STM	**No**	20	6	Moderate	0.951	5.05	Good	Poor	N/A
2ND POINT EXTRAC STM	**Yes**	21	5	Moderate	0.792	0.01	Good	Good	N/A
3RD POINT EXTRAC STM	**No**	56	19	Good	0.823	1.92	Moderate	Moderate	1 of 6
5TH POINT EXTRAC STM	**No**	22	6	Moderate	0.831	0.44	Good	Poor	N/A
6TH POINT EXTRAC STM	**No**	2	0	N/A	0.909	0.56	Poor	Poor	N/A

WRA Run Name	Is Run Calibrated?	Inspection Locations	Outliers	Correlation (Scatter)	LCF	Average Current Wear Rate	Geometry Coverage	Parallel Train Coverage	Insp. D/S of CVs & Orifices
BLOWDOWN	**Yes**	24	6	Moderate	1.020	1.04	Good	Good	5 of 5
CND DWNSTRM HDPD	**Yes**	21	4	Good	0.540	1.58	Good	Good	2 of 2
CND FWH 22 TO FWH 23	**No**	11	3	Moderate	0.632	1.84	Poor	Poor	N/A
CND FWH 23 TO FWH 24	**Yes**	19	5	Good	0.439	2.15	Good	Good	N/A
CND FWH 24 TO FWH 25	**Yes**	19	4	Good	0.340	1.94	Good	Good	N/A
CND FWH 25 TO HEADER	**Yes**	15	5	Moderate	0.383	1.52	Good	Good	N/A
CROSSUNDER	N/A	0	N/A	N/A	N/A	0.01	Poor	Poor	4 of 20
ES – BFPT DRN TO COND	**No**	0	N/A	N/A	N/A	0.27	N/A	N/A	N/A
FW BFP TO FWH 26	**Yes**	48	11	Good	0.492	1.72	Good	Good	N/A
FW FWH 26 TO STM GEN	**Yes**	67	13	Good	1.144	1.39	Good	Good	4 of 4
FWH 23 DRNS DSCV	**Yes**	5	0	Good	0.994	1.61	Good	Good	3 of 3
FWH 23 DRNS USCV	**No**	41	4	Poor	1.332	1.71	Moderate	Good	N/A
FWH 24 DRNS DSCV	**No**	9	6	Poor	1.230	2.88	Good	Good	2 of 3
FWH 24 DRNS USCV	**Yes**	17	3	Moderate	1.131	2.63	Moderate	Good	N/A
FWH 25 DRNS TO HDT	**Yes**	28	6	Good	0.922	1.06	Moderate	Good	N/A
FWH 26 DRNS DSCV	**No**	1	0	N/A	0.485	0.20	Good	Poor	0 of 3
FWH 26 DRNS USCV	**Yes**	10	1	Good	0.664	1.10	Good	Good	N/A
HD – FWH 21 TO COND	**No**	0	N/A	N/A	N/A	1.02	N/A	N/A	N/A

WRA Run Name	Is Run Calibrated?	Inspection Locations	Outliers	Correlation (Scatter)	LCF	Average Current Wear Rate	Geometry Coverage	Parallel Train Coverage	Insp. D/S of CVs & Orifices
HD – FWH 22 TO FWH 21	**No**	0	N/A	N/A	N/A	0.84	N/A	N/A	N/A
HTR DRN PMP DISCH	**No**	13	6	Good	0.464	1.92	Poor	Good	2 of 2
HTR DRN TANK DRN	**Yes**	6	0	Good	0.554	1.08	Good	Good	N/A
MS – HP TURB TO MOPS	**No**	0	N/A	N/A	N/A	18.19	N/A	N/A	N/A
MSDT DRNS TO HDT	**No**	40	9	Poor	0.976	0.05	Good	Poor	N/A
MSR SHELL DRAINS	**No**	12	3	Moderate	3.228	0.58	Poor	Moderate	N/A
PD – MPS TO SEP TNK A	**No**	0	N/A	N/A	N/A	10.36	N/A	N/A	N/A
RHTR DRN TK 21A USCV	**Yes**	53	13	Moderate	1.033	0.99	Good	Good	1 of 1
RHTR DRN TK 21B USCV	**Yes**	20	2	Good	0.840	0.83	Moderate	Good	1 of 1
RHTR DRN TK 22A USCV	**Yes**	36	9	Poor	1.357	1.13	Good	Good	1 of 1
RHTR DRN TK 22B USCV	**Yes**	23	12	Moderate	1.573	1.07	Good	Good	1 of 1
RHTR DRN TK 23A USCV	**Yes**	16	1	Good	1.033	1.04	Good	Good	1 of 1
RHTR DRN TK 23B USCV	**Yes**	33	9	Good	0.990	0.89	Moderate	Good	1 of 1
RHTR DTK A DRN DSCV	**Yes**	91	22	Good	1.102	0.77	Good	Good	0 of 3
RHTR DTK B DRN DSCV	**Yes**	65	24	Moderate	1.193	0.93	Good	Good	0 of 3
RHTR TO RHTR DRN TK	**Yes**	9	2	Moderate	0.806	1.10	Good	Moderate	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 1st POINT EXTRAC STM

This line consists of 12 lines which contain 69 components. All geometry types in this run have had inspections. Geometry types are grouped on the LCF plot in primarily horizontal patterns, indicating similar predicted wear and a range of measured wear. There are 20 inspection locations and only 6 outliers in this run. This run has poor parallel train coverage, as only 4 out of 12 lines have had inspections. Inspection on more lines is required before this line can be considered calibrated.

B 2.02 2ND POINT EXTRAC STM

This run consists of 6 extraction steam lines. All lines have had inspections. There have been 21 inspections locations out of 28 components in the run. Four of the 5 outliers in this run are over predicted tees. Every component within these lines has been replaced with non-susceptible material. Good correlation between predicted and measured wear, along with good geometry and low number of outliers allows this run can be considered calibrated.

B 2.03 3RD POINT EXTRAC STM

This run has good correlation between predicted and measured wear. The LCF is within EPRI's recommended range at 0.823. Only 10 of the 15 lines in this run have inspections. Of the 6 orifices in this run, only one has a downstream inspection. Inspections are required downstream of the other 5 orifices to allow for calibration. It is recommended that inspections be performed on nozzles to have a complete geometry coverage. Until these inspections are complete, this run cannot be considered calibrated.

B 2.04 5TH POINT EXTRAC STM

Nearly all components have been replaced with FAC-resistant material (Cr-Mo, stainless steel, or stainless steel ID clad) except some valves, 90 degree elbows and nozzles, which remain carbon steel. All previously inspected components have been replaced. Inspections on nozzles will increase geometry coverage. Several valves (see Appendix K) have a negative time to Tcrit. These should all be inspected according to plant procedure as downstream components have been replaced and will not accurately reflect wear on the valve. Of the 7 lines in this run, only 2 have inspections. This run cannot be considered calibrated.

B 2.05 6TH POINT EXTRAC STM

Override material alloy content has been select for most components in this run (18% Cr). Some nozzles and valves remain carbon steel. This run does not meet EPRI's minimum number of inspections. Inspections are needed on all lines within the run and across all carbon steel component types. This run cannot be considered calibrated.

B 2.06 BLOWDOWN

This run consists of 4 lines and 126 components. All lines have had inspections. This run has moderate correlation between predicted and measured wear. Note that run consists mainly of small-bore, socket-welded components so CHECWORKS predictions may be questionable (see EPRI Guidelines for Plant Modeling). This run can be considered calibrated.

B 2.07 CND DWNSTRM HDPD

This run has good correlation between predicted and measured wear. Of the 4 outliers, 3 fall slightly to the left of the ±50% error bar. The LCF is inside EPRI's recommended range at 0.540. With the exception of inlet nozzles, all geometry types within this run have inspections. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.08 CND FWH 22 TO FWH 23

The LCF is within EPRI's recommended range at 0.632. Only 4 of the 9 lines in this run have had inspections. Inspections are recommended on lines such as "CD80A-5-FWH 22 to FWH 23 HEAD" which have a significant number of components. Better parallel train coverage is required for the run to be considered calibrated.

B 2.09 CND FWH 23 TO FWH 24

This run has good correlation between predicted and measured wear and fulfillment of all other criterion. LCF is slightly below desired range at 0.439. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.10 CND FWH 24 TO FWH 25

This run has good correlation between predicted and measured wear. The LCF is slightly below desired range at 0.340. The only component with a negative time to Tcrit is exit nozzle "CD-37N." Inspections on this nozzle

may improve its time to Tcrit as seen with inspected component "CD-24N" and "CD-21N" on parallel lines in this run, which have Times to Tcrit of 439,926 hours and 213,569 hours respectively. Except for inlet nozzles, this run has good geometry coverage. All lines in this run have inspections. This run can be considered calibrated.

B 2.11 CND FWH 25 TO HEADER

This run has moderate correlation between predicted and measured wear. LCF is below desired range at 0.383. This is due to the over prediction of tee's in this run. Of the 5 outliers, 4 are tees. All five lines in this run have inspections. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.12 CROSSUNDER

Of the 87 components in this run, none have inspections which are included in the calculation of the LCF. Override material alloy content has been selected for all components in this run (18% Cr). Since all components have 18% Cr, they can be considered non-susceptible to FAC. Since the entire run in non-susceptible, run calibration does not apply.

B 2.13 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 2.14 FW BFP TO FWH 26

With the exception of concentric reducers, this run has good geometry coverage. All lines have inspections; however, only 6 lines have had inspections which are included in the calculation of the LCF. The LCF is slightly outside the recommended range at 0.492. This run can be considered calibrated.

B 2.15 FW FWH 26 TO STM GEN

The LCF for this run is within EPRI's recommended range at 1.144. Inspections have been conducted on all 11 lines in this run. All geometry types have been inspected with the exception of exit nozzles. There are 34 components with a negative time to Tcrit. These include 90-degree elbows, valves, exit nozzles, and straight pipes. Of these 34, 19 are valves. Since valves are typically not inspected, CHECWORKS is predicting a negative time to Tcrit based on the Tnom the component. Inspections on these components may improve their time to Tcrit, as seen with similar components in parallel lines. This run can be considered calibrated.

B 2.16 FWH 23 DRNS DSCV

This run has a low number of inspections, but this run only has 21 components so a significant percent of components have been inspected. All geometry types with the exception of an inlet nozzle have been inspected and all lines have inspections. All expanders are slightly over predicted, while tees and pipes are slightly under predicted. This run has good correlation between predicted and measured wear. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.17 FWH 23 DRNS USCV

This run consists of 126 components and 41 inspection locations. The 4 outliers are due to over predictions within CHECWORKS. All 3 lines in this run have inspections. Although they have a significant time to Tcrit, inspections on concentric reducers or exit nozzles are recommended. Predicted wear for components of the same geometry type has very little variation, but the measured wear shows a larger variance. This results in three horizontal distributions between each geometry grouping (pipes, elbows and tees). Although the LCF is within range at 1.332 this run cannot be considered calibrated due to poor correlation.

B 2.18 FWH 24 DRNS DSCV

The LCF for this run is within EPRI's recommended range at 1.230. All three lines have inspections. However, this run has poor correlation with a high ratio of outliers to inspection locations (6:9). There are three control valves all of which have had an inspection downstream. However, the component downstream of valve 4EXD-VALVE- LCV-1115 has been replaced. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. This run cannot be considered calibrated.

B 2.19 FWH 24 DRNS USCV

All 3 lines inspections in this run have inspections. There are 17 inspection locations and only 3 outliers. Inspections are recommended on tees, reducers and exit nozzles. This run has moderate correlation between predicted and measured wear. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.20 FWH 25 DRNS TO HDT

This LCF is within EPRI's recommended range at 0.922. This run has good correlation between predicted and measured wear. All 3 lines in this run have inspections. It is recommended to inspect inlet and exit nozzles. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.21 FWH 26 DRNS DSCV

There are 3 nozzles and 3 valves that are of FAC susceptible material. The valves are A217 WC6 material, which has some Cr, but is not guaranteed to have enough to resist FAC. It is recommended to test the Cr content of the valves. If the Cr content is below 1.25% or if testing cannot be done, an inspection should be performed on the valve per plant procedure. Inspections on the downstream components will not be an accurate estimate of valve wear because the downstream component is composed of FAC-resistant material. Inspections are also recommended on the nozzles. The remaining components consist of Chrome-Moly materials. This run cannot be considered calibrated due to the lack of inspections.

B 2.22 FWH 26 DRNS USCV

This run has good correlation between predicted and measured wear. There are 10 inspection locations and 1 outlier which lies slightly to the left of the ±50% error lines. All geometry types have been inspected with the exception of nozzles. This run has good parallel train coverage and the LCF is within range at 0.663. This run can be considered calibrated.

B 2.23 HD – FWH 21 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 2.24 HD – FWH 22 TO FWH 21

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 2.25 HTR DRN PMP DISCH

The LCF is slightly outside of the recommended range at 0.464. This run has good correlation between predicted and measured wear. Inspections are recommended on nozzles, 45 degree elbows, and tees. This run cannot be considered calibrated because of poor geometry coverage and a high outlier to inspection ratio (6:13).

B 2.26 HTR DRN TANK DRN

This run has 6 inspection locations and 0 outliers. Additional inspections are recommended, especially on other geometries such as nozzles. The LCF is within the recommended range at 0.554. With good correlation and good parallel train coverage, this run can be considered calibrated.

B 2.27 MS – HP TURB TO MOPS

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 2.28 MSDT DRNS TO HDT

Most components in this run have an override material alloy or are stainless steel. The components without this override are either nozzles or valves. Only 3 of the 6 lines in this run have inspections used in the calculation of the LCF. Predicted wear for components of the same geometry type has very little variation, but the measured wear shows a larger variance. This results in three horizontal distributions between each geometry grouping (pipes, 45 degree elbows and 90 degree elbows). Future inspections should be done in accordance with plant procedure for inspections on non-susceptible materials. This run cannot be considered calibrated.

B 2.29 MSR SHELL DRAINS

Only two geometry types, elbows and straight pipes, have been inspected. Inspections are distributed horizontally across the wear plot by geometry type. Pipes are predicted in the 29-80 mils range while 90-degree elbows are predicting 115-130 mils. Future inspections of other geometry types in this run such as nozzles and tees are recommended. Seven of the twenty-five lines have no inspections, but only one of these lines contains more than two components. This run cannot be considered calibrated until more geometry types and lines are inspected.

B 2.30 PD – MPS TO SEP TNK A

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 2.31 RHTR DRN TK 21A USCV

This run has moderate correlation between predicted and measured wear. All but 2 of the 60 components in this run have inspections. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs or trended re-inspection interval. With an LCF of 1.033, this run can be considered calibrated.

B 2.32 RHTR DRN TK 21B USCV

This run has good correlation between predicted and measured wear. There are 20 inspection locations and 2 outliers. Inspections are recommended on 45-degree elbows, concentric expanders, and exit nozzles. With an LCF of 0.840, this run can be considered calibrated.

B 2.33 RHTR DRN TK 22A USCV

This run has poor correlation between predicted and measured wear. Geometry types are horizontally distributed, meaning measured wear varies drastically while predicted wear is the same for grouped geometry types. CHECWORKS is predicting two drastically different wear values for pipes; 65 and 39 mills, for upstream and downstream of the orifice respectively. However, the measured wear shows a wear evenly distributed between 35 and 78 mils for all inspected pipes. This same relationship occurs with the inspected elbows. Predicting wear ranges between 97 and 57 mills, for upstream and downstream of the orifice respectively. However, the measured wear shows a wear evenly distributed between 41 and 81 mils for all inspected elbows. All but 1 of the 46 components in this run have inspections. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs or trended re-inspection interval. With an LCF of 1.357, this run can be considered calibrated.

B 2.34 RHTR DRN TK 22B USCV

All geometry types in this run have inspections; however, not all types have had inspections which are included in the LCF calculation. There are 23 inspection locations and 12 outliers. These outliers are primarily over predicted and lie to the left of the ±50% error line. There is moderate correlation between predicted and measured wear. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.35 RHTR DRN TK 23A USCV

This run consists of 16 inspection locations and has only 1 outlier. This run has moderate geometry coverage. Although there is only 1 of each, inspections are recommended on tees, concentric expanders, and exit nozzles. There is good correlation between predicted and measured wear. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. With an LCF of 1.033, this run can be considered calibrated.

B 2.36 RHTR DRN TK 23B USCV

This run has 33 inspection locations and 9 outliers. Inspections are recommended on the 45-degree elbows, the concentric reducer, the exit nozzle and the tee. This run has moderate correlation between predicted and measured wear. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. With in LCF of 0.990, this run can be considered calibrated.

B 2.37 RHTR DTK A DRN DSCV

There are 91 inspection locations and 22 outliers in this run. The downstream of the three control valves are stainless steel; however, the valves are carbon steel. Inspections should be done as per plant procedure

on the valves because the downstream components will not be an accurate estimate of valve wear. There is good correlation between predicted and measured wear. This run has good parallel train and geometry coverage. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.38 RHTR DTK B DRN DSCV

There are 65 inspection locations and 24 outliers in this run. The downstream of the three control valves are stainless steel; however, the valves are carbon steel. Inspections should be done as per plant procedure on the valves because the downstream components will not be an accurate estimate of valve wear. There is moderate correlation between predicted and measured wear. Future inspections should be done in accordance with FAC program guidelines for Pass 2 runs. This run can be considered calibrated.

B 2.39 RHTR TO RHTR DRN TK

This run has moderate correlation between predicted and measured wear. Of the 6 lines in the run, all have inspections except for "MSD44-1-RHTR 23B to RHDT 23B," which consist of only 3 components. This run has good geometry coverage and an LCF within range at 0.806. This run can be considered calibrated.

Appendix C

CHECWORKS SFA Global Data

Table C.1 Original Power Level Input Data

CHECWORKS Field	Power Level 100.00%	Reference
Steam Rate (Mlb/hr)	13.205620	7.3.1
Pressure (psia)	754.0	7.3.1
Temp (F)	511.4	7.3.1
Blowdown Rate (Mlb/hr)	0.0542	7.3.1
Carryover (%)	0.01	7.3.1
Feedwater Vent Rate (%)	x	7.4
Reheater Vent Rate (%)	x	7.4
Moisture Separator Carryunder (%)	x	7.4
Notes: Original Power Level 3090.2 MWt		

x - Field should be left blank for a PWR.

Table C.2 Appendix K Power Level Input Data

CHECWORKS Field	Power Level 101.19%	Reference
Steam Rate (Mlb/hr)	13.383160	7.3.2
Pressure (psia)	765.0	7.3.2
Temp (F)	513.1	7.3.2
Blowdown Rate (Mlb/hr)	0.0542	7.3.2
Carryover (%)	0.02	7.3.2
Feedwater Vent Rate (%)	x	7.4
Reheater Vent Rate (%)	x	7.4
Moisture Separator Carryunder (%)	x	7.4
Notes: Stretch Power Uprate. 3127.0MWt		

x - Field should be left blank for a PWR.

Table C.3 SPU Power Level Input Data

CHECWORKS Field	Power Level 104.48%	Reference
Steam Rate (Mlb/hr)	13.903750	7.3.3
Pressure (psia)	765.0	7.3.3
Temp (F)	513.1	7.3.3
Blowdown Rate (Mlb/hr)	0.0542	7.3.3
Carryover (%)	0.02	7.3.3
Feedwater Vent Rate (%)	x	7.4
Reheater Vent Rate (%)	x	7.4
Moisture Separator Carryunder (%)	x	7.4
Notes: Stretch Power Uprate. 3228.5 MWt		

x - Field should be left blank for a PWR.

Table C.4 Original 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	424.4	7.3.1
	Shell side outlet	x	x	X	385.2	7.2.1
FWHTR 2	Tube side outlet	x	x	X	379.5	7.3.1
	Shell side outlet	x	x	X	383.0	7.2.1
FWHTR 3	Tube side outlet	X	x	x	298.3	7.3.1
	Shell side outlet	x	x	X	261.0	7.2.1
FWHTR 4	Tube side outlet	x	x	X	253.7	7.3.1
	Shell side outlet	X	x	x	209.9	7.2.1
FWHTR 5	Tube side outlet	X	x	x	202.6	7.3.1
	Shell side outlet	x	x	X	166.68	7.2.1
FWHTR 6	Tube side outlet	x	x	X	155.4	7.3.1
	Shell side outlet	x	x	x	92.4	7.2.1
SPUMP 1	Driven steam and drain enthalpy and pressure	0.138423	967.3	1.0	x	7.3.1
MSEP 1	Moist Sep & Moist PreSep Drains[2]	0.740767	354.5	200.6	x	7.3.1
TANK 1	Heater Drain Tank exiting steam	0	330.6	220.7	x	Note 4
TANK 2	Blowdown tank exiting steam	0	501.6	754.0	x	Note 4
RHTR 1	Reheater Drain	1.032256	503.3	619.9	x	Note 6
HPEXTLINE 1	Conditions in line to FWH 6	0.693459	1147.5	372.9	x	7.3.1
HPEXTLINE 2	Conditions in line (Presep Outlet to FWH 5)[3]	1.021481	1138.9	206.5	x	7.3.1
LPEXTLINE 1	Conditions in line to FWH 4	0.446424	1192.3	72.58	x	7.3.1
LPEXTLINE 2	Conditions in line to FWH 3	0.509995	1087.1	34.86	x	Note 5
LPEXTLINE 3	Conditions in line to FWH 2	0.507215	931.9	14.04	x	Note 5
LPEXTLINE 4	Conditions in line to FWH 1	0.729863	899.9	5.52	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 26 at Indian Point 2). 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 [7.4].

(3) HPEXTLINE 2 is a fictitious high-pressure extraction line representing the steam lines between the pre-separator and main separator as recommended by EPRI Guidelines [7.4].

(4) Flow rate is for exiting steam flow was entered as zero as recommended by EPRI Guidelines [7.4]. Pressure and enthalpy were obtained from the Appendix K PEPSE model [7.3.2].

(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.

(6) Reheater drain flow was entered as the sum of the flow through the reheater drain tanks and the vent chamber drains [7.3.2]. Pressure and enthalpy were entered as the conditions through the reheater drain tank [7.3.2].

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	425.2	7.3.2
	Shell side outlet	x	x	X	386.5	7.2.1
FWHTR 2	Tube side outlet	x	x	x	380.5	7.3.2
	Shell side outlet	x	x	X	348.1	7.2.1
FWHTR 3	Tube side outlet	x	x	x	299.0	7.3.2
	Shell side outlet	x	x	X	261.8	7.2.1
FWHTR 4	Tube side outlet	x	x	x	251.4	7.3.2
	Shell side outlet	x	x	X	210.8	7.2.1
FWHTR 5	Tube side outlet	x	x	x	203.3	7.3.2
	Shell side outlet	x	x	X	168.05	7.2.1
FWHTR 6	Tube side outlet	x	x	x	156.8	7.3.2
	Shell side outlet	x	x	X	96.67	7.2.1
SPUMP 1	Driven steam and drain enthalpy and pressure	0.142106	966.9	1.0	x	7.3.2
MSEP 1	Moist Sep & Moist PreSep Drains[2]	0.754560	355.7	203.4	x	7.3.2
TANK 1	Heater Drain Tank exiting steam	0	332.6	222.8	x	Note 4
TANK 2	Blowdown tank exiting steam	0	503.6	765.0	x	Note 4
RHTR 1	Reheater Drain	1.048264	506.8	656.0	x	Note 6
HPEXTLINE 1	Conditions in line to FWH 6	0.688561	1147.0	378.3	x	7.3.2
HPEXTLINE 2	Conditions in line (Presep Outlet to FWH 5)[3]	1.041833	1138.9	209.4	x	7.3.2
LPEXTLINE 1	Conditions in line to FWH 4	0.453736	1191.5	73.47	x	7.3.2
LPEXTLINE 2	Conditions in line to FWH 3	0.518228	1085.2	35.32	x	Note 5
LPEXTLINE 3	Conditions in line to FWH 2	0.508950	929.5	14.23	x	Note 5
LPEXTLINE 4	Conditions in line to FWH 1	0.710848	887.5	5.62	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 26 at Indian Point 2). 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 [7.4].

(3) HPEXTLINE 2 is a fictitious high-pressure extraction line representing the steam lines between the pre-separator and main separator as recommended by EPRI Guidelines [7.4].

(4) Flow rate is for exiting steam flow was entered as zero as recommended by EPRI Guidelines [7.4]. Pressure and enthalpy were obtained from the Appendix K PEPSE model [7.3.2].

(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.

(6) Reheater drain flow was entered as the sum of the flow through the reheater drain tanks and the vent chamber drains [7.3.2]. Pressure and enthalpy were entered as the conditions through the reheater drain tank [7.3.2].

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	429.6	7.3.3
	Shell side outlet	x	x	X	389.3	7.2.1
FWHTR 2	Tube side outlet	x	x	x	382.4	7.3.3
	Shell side outlet	x	x	X	386.3	7.2.1
FWHTR 3	Tube side outlet	x	x	x	300.5	7.3.3
	Shell side outlet	x	x	X	263.27	7.2.1
FWHTR 4	Tube side outlet	x	x	x	255.5	7.3.3
	Shell side outlet	x	x	X	212.0	7.2.1
FWHTR 5	Tube side outlet	x	x	x	204.3	7.3.3
	Shell side outlet	x	x	X	169.35	7.2.1
FWHTR 6	Tube side outlet	x	x	x	158.0	7.3.3
	Shell side outlet	x	x	X	100.03	7.2.1
SPUMP 1	Driven steam and drain enthalpy and pressure	0.153175	969.1	1.0	X	7.3.3
MSEP 1	Moist Sep & Moist PreSep Drains[2]	1.060624	359.2	210.7	X	7.3.3
TANK 1	Heater Drain Tank exiting steam	0	337.5	225.7	X	Note 4
TANK 2	Blowdown tank exiting steam	0	501.6	754.0	X	Note 4
RHTR 1	Reheater Drain	0.917845	506.8	656.0	X	7.3.3
HPEXTLINE 1	Conditions in line to FWH 6	0.799284	1142.0	400.7	X	7.3.3
HPEXTLINE 2	Conditions in line (Presep Outlet to FWH 5)[3]	1.079704	1134.2	214.9	X	7.3.3
LPEXTLINE 1	Conditions in line to FWH 4	0.464923	1196.2	75.4	X	7.3.3
LPEXTLINE 2	Conditions in line to FWH 3	0.525277	1095.2	36.1	X	Note 5
LPEXTLINE 3	Conditions in line to FWH 2	0.513168	937.0	14.56	X	Note 5
LPEXTLINE 4	Conditions in line to FWH 1	0.702033	887.3	5.77	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 26 at Indian Point 2). 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 [7.4].

(3) HPEXTLINE 2 is a fictitious high-pressure extraction line representing the steam lines between the pre-separator and main separator as recommended by EPRI Guidelines [7.4].

(4) Flow rate is for exiting steam flow was entered as zero as recommended by EPRI Guidelines [7.4]. Pressure and enthalpy were obtained from the SPU PEPSE model [7.3.3].

(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.

Table C.7 CHEM_1 Water Treatment Input Data

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	5.00	ppb	7.5
Ammonia	Condensate	0.55	ppm	7.5
Hydrazine	Condensate	20.0	ppb	7.5
Hydrazine	SG Outlet	6.312	ppb	7.5
Hydrazine	MSR Drain	12.624	ppb	7.5

Note: This water treatment was used for Cycles 1-13.
See Assumption 4.2.3 concerning this water treatment.

Table C.8 Cycle 14 Water Treatment Input Data

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	5.00	ppb	7.5
ETA	Final Feedwater	2.25	ppm	7.5
Ammonia	Condensate	1.00	ppm	7.5
Hydrazine	Condensate	30.0	ppb	7.5
Hydrazine	SG Outlet	15.0	ppb	7.5
Hydrazine	MSR Drain	36.0	ppb	7.5

See Assumption 4.2.3 concerning this water treatment.

Table C.9 Cycle 15 Water Treatment Input Data

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	5.00	ppb	7.5
ETA	Final Feedwater	2.25	ppm	7.5
Ammonia	Condensate	3.00	ppm	7.5
Hydrazine	Condensate	100.0	ppb	7.5
Hydrazine	SG Outlet	60.0	ppb	7.5
Hydrazine	MSR Drain	120.0	ppb	7.5

See Assumption 4.2.3 concerning this water treatment.

Table C.10 Cycle 16 Water Treatment Input Data

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	3.73	ppb	7.5
ETA	Final Feedwater	2.68	ppm	7.5
Ammonia	Final Feedwater	2.81	ppm	7.5
Hydrazine	Final Feedwater	131.0	ppb	7.5
Hydrazine	SG Outlet	78.6	ppb	7.5
Hydrazine	MSR Drain	157.2	ppb	7.5

Table C.11 Cycle 17 Water Treatment Input Data

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	6.06	ppb	7.5
ETA	Final Feedwater	3.634	ppm	7.5
Ammonia	Final Feedwater	2.638	ppm	7.5
Hydrazine	Final Feedwater	95.349	ppb	7.5
Hydrazine	SG Outlet	57.209	ppb	7.5
Hydrazine	MSR Drain	114.219	ppb	7.5

Table C.12 Cycle 18 Water Treatment Input Data

Species	Sample Location	Concentration	Units	Reference
Dissolved Oxygen	Condensate	6.72	ppb	7.7.1
ETA	Final Feedwater	5.068423194	ppm	7.7.1
Ammonia	Final Feedwater	2.542689093	ppm	7.7.1
Hydrazine	Final Feedwater	89.96697408	ppb	7.7.1
Hydrazine	SG Outlet	53.98018445	ppb	7.5
Hydrazine	MSR Drain	107.9603689	ppb	7.5

Table C.13 Plant Period Input Data

Period	Start Date	End Date	Type	Water Treatment	Power Level	Operating Hours	Notes	Ref
CYCLE 1A	5/21/1973	5/22/1973	Op.	CHEM_1	100	0	CYCLE GENERATED AS WORKAROUND TO CHECWORKS PROBLEM. (REF. CHECWORKS FAC VERSION 1.0E OPEN ISSUES MEMO)	7.5
CYCLE 1	5/22/1973	3/30/1976	Op.	CHEM_1	100	12432		7.5
REFUEL 1	3/31/1976	9/20/1976	Maint.	----	----	----		7.5
CYCLE 2	9/21/1976	2/13/1978	Op.	CHEM_1	100	8040		7.5
REFUEL 2	2/14/1978	5/22/1978	Maint.	----	----	----		7.5
CYCLE 3	5/23/1978	6/16/1979	Op.	CHEM_1	100	8136		7.5
REFUEL 3	6/17/1979	9/10/1979	Maint.	----	----	----		7.5
CYCLE 4	9/11/1979	10/17/1980	Op.	CHEM_1	100	7416		7.5
REFUEL 4	10/18/1980	5/20/1981	Maint.	----	----	----		7.5
CYCLE 5	5/21/1981	9/18/1982	Op.	CHEM_1	100	9288		7.5
REFUEL 5	9/19/1982	12/28/1982	Maint.	----	----	----		7.5
CYCLE 6	12/29/1982	6/2/1984	Op.	CHEM_1	100	10080		7.5
REFUEL 6	6/3/1984	10/16/1984	Maint.	----	----	----		7.5
CYCLE 7	10/17/1984	1/13/1986	Op.	CHEM_1	100	9552		7.5
REFUEL 7	1/14/1986	3/11/1986	Maint.	----	----	----		7.5
CYCLE 8	3/12/1986	10/5/1987	Op.	CHEM_1	100	10584		7.5
REFUEL 8	10/6/1987	1/18/1988	Maint.	----	----	----		7.5
CYCLE 9	1/19/1988	3/18/1989	Op.	CHEM_1	100	8808		7.5
REFUEL 9	3/19/1989	6/30/1989	Maint.	----	----	----		7.5

Period	Start Date	End Date	Type	Water Treatment	Power Level	Operating Hours	Notes	Ref
CYCLE 10	7/1/1989	2/1/1991	Op.	CHEM_1	100	9216		7.5
REFUEL 10	2/2/1991	7/11/1991	Maint.	----	----	----		7.5
CYCLE 11	7/12/1991	1/30/1993	Op.	CHEM_1	100	12576		7.5
REFUEL 11	1/31/1993	4/19/1993	Maint.	----	----	----		7.5
CYCLE 12	4/20/1993	2/4/1995	Op.	CHEM_1	100	12960		7.5
REFUEL 12	2/5/1995	6/5/1995	Maint.	----	----	----		7.5
CYCLE 13A	6/6/1995	2/9/1996	Op.	CHEM_1	100	6371		7.5
CYCLE 13B	1/20/1996	4/28/1997	Op.	CHEM_1	100	11149		7.5
INTERIM 13	2/10/1996	2/19/1996	Maint.	----	----	----		7.5
REFUEL 13	4/28/1997	7/10/1997	Maint.	----	----	----		7.5
CYCLE 14	7/11/1997	2/15/2000	Op.	Cycle 14	100	12964.7	Steam Generator tube rupture occurred 2/15/00. Plant rolled into the refueling outage as a result.	7.5
REFUEL 14	2/16/2000	1/2/2001	Maint.	----	----	----		7.5
CYCLE 15A	1/3/2001	10/27/2001	Op.	Cycle 15	100	7148.9	Mid cycle outage 10/27/01 due to pzr leak	7.5
INTERIM 15	10/28/2001	11/5/2001	Maint.	----	----	----	MID CYCLE OUTAGE.	7.5
CYCLE 15B	11/5/2001	10/26/2002	Op.	Cycle 15	100	8390.8	Total Cycle 15 turbine on line hours provided by e-mail from Hazel Pearsall to Scot Blodgett dated 10/28/02. The length of Cycle 15B was determined by subtracting the hours at Cycle 15A from the total operating hours for the cycle (15539.70).	7.5
REFUEL 15	10/26/2002	11/27/2002	Maint.	----	----	----	32 DAY OUTAGE	7.5
CYCLE 16A	11/27/2002	5/22/2003	Op.	Cycle 16	100	4132		7.5
CYCLE 16B	5/23/2003	10/22/2004	Op.	Cycle 16	101.19	12232	Appendix K Uprate implementation	7.5
REFUEL 16	10/23/2004	11/18/2004	Maint.	----	----	----		7.5
CYCLE 17	11/19/2004	4/19/2006	Op.	Cycle 17	104.48	12292	Stretch Power Uprate (SPU) implementation.	7.7
REFUEL 17	4/20/2006	5/18/2006	Maint.	----	----	----		7.7
CYCLE 18	5/19/2006	3/23/2008	Op.	Cycle 18	104.48	16036.56	Period end date and Op hours provided by plant personnel.	7.7
REFUEL 18	3/24/2008	5/21/2008	Maint.	----	----	----	2R18 Outage	7.7
CYCLE 19	5/22/2008	11/22/2009	Op.	Cycle 18	104.48	13140	End date and Op hours assume 18 month cycle with same Water Chem as previous cycle.	7.7
REFUEL 19	11/23/2009	12/23/2009	Maint.	----	----	----	Start and End Date estimated. Should be adjusted when actual data becomes available.	N/A

Appendix D

CHECWORKS Modeled Lines

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
CD80-1-FWH 23A to FWH 24A	Feedwater Heater 23A to Feedwater Heater 24A	CND FWH 23 TO FWH 24	A235307-29	HBD	0.333	1
CD80-2-FWH 23B to FWH 24B	Feedwater Heater 23B to Feedwater Heater 24B	CND FWH 23 TO FWH 24	A235307-29	HBD	0.333	1
CD80-3-FWH 23C to FWH 24C	Feedwater Heater 23C to Feedwater Heater 24C	CND FWH 23 TO FWH 24	A235307-29	HBD	0.333	1
CD80A-1-FWH 22A to HEADER	Feedwater Heater 22A to Header	CND FWH 22 TO FWH 23	A235307-29	HBD	0.333	1
CD80A-2-FWH 22B to HEADER	Feedwater Heater 22B to Header	CND FWH 22 TO FWH 23	A235307-29	HBD	0.333	1
CD80A-3-FWH 22C to HEADER	Feedwater Heater 22C to Header	CND FWH 22 TO FWH 23	A235307-29	HBD	0.333	1
CD80A-4-FWH 22 OUTLET HEADER	Feedwater Heater 22 Outlet Header Between 22BT and 22CT	CND FWH 22 TO FWH 23	A235307-29	HBD	0.667	1
CD80A-5-FWH 22 to FWH 23 HEAD	Feedwater Heater 22 Outlet Header to Feedwater Heater 23 Inlet Header	CND FWH 22 TO FWH 23	A235307-29	HBD	1	1
CD80A-6-FWH 23 INLET HEADER	Feedwater Heater 22 Inlet Header Between 23CT and 23BT	CND FWH 22 TO FWH 23	A235307-29	HBD	0.667	1
CD80A-7-HEADER to FWH 23A	Feedwater Heater 23 Inlet Header to Feedwater Heater 23A	CND FWH 22 TO FWH 23	A235307-29	HBD	0.333	1
CD80A-8-HEADER to FWH 23B	Feedwater Heater 23 Inlet Header to Feedwater Heater 23B	CND FWH 22 TO FWH 23	A235307-29	HBD	0.333	1
CD80A-9-HEADER to FWH 23C	Feedwater Heater 23 Inlet Header to Feedwater Heater 23C	CND FWH 22 TO FWH 23	A235307-29	HBD	0.333	1
CD81-1-FWH 24A to FWH 25A	Feedwater Heater 24A to Feedwater Heater 25A	CND FWH 24 TO FWH 25	A235307-29	HBD	0.333	1
CD81-2-FWH 24B to FWH 25B	Feedwater Heater 24B to Feedwater Heater 25B	CND FWH 24 TO FWH 25	A235307-29	HBD	0.333	1
CD81-3-FWH 24C to FWH 25C	Feedwater Heater 24C to Feedwater Heater 25C	CND FWH 24 TO FWH 25	A235307-29	HBD	0.333	1
CD82-1-FWH 25A to HDR	Feedwater Heater 25A to Header	CND FWH 25 TO HEADER	A235307-29	HBD	0.333	1
CD82-2-FWH 25B to HDR	Feedwater Heater 25B to Header	CND FWH 25 TO HEADER	A235307-29	HBD	0.333	1
CD82-3-FWH 25C to HDR	Feedwater Heater 25C to Header	CND FWH 25 TO HEADER	A235307-29	HBD	0.333	1
CD82-4-HDR 25BT to 25CT	Feedwater Heater 25 Outlet Header Between 25B Tee and 25C Tee	CND FWH 25 TO HEADER	A235307-29	HBD	0.667	1
CD82-5-HDR 25CT to HDP OUT	Feedwater Heater 25 Outlet Header Between 25C Tee and Heater Drain Pump Outlet Connection	CND FWH 25 TO HEADER	A235307-29	HBD	1	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
CD83-1-HDR HDP to BFP21T	Feedwater Heater 25 Outlet Header Between Connection from HDP Discharge and Boiler Feed Pump 21 Tee	CND DWNSTRM HDPD	A235307-29	Z-type	1	1
CD83-2-HDR to BFP21	Feedwater Heater Header to Boiler FeedPump21	CND DWNSTRM HDPD	A235307-29	Z-type	0.5	1
CD83-3-HDR to BFP22	Feedwater Heater Header to Boiler FeedPump22	CND DWNSTRM HDPD	A235307-29	Z-type	0.5	1
ES?-1-1STPT ES TO FWH 21A	Extraction Steam to Feedwater Heater 21A	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-1-1STPT ES TO FWH 21B	Extraction Steam to Feedwater Heater 21B	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-1-1STPT ES TO FWH 21C	Extraction Steam to Feedwater Heater 21C	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-1-2NDPT ES TO FWH 22A	Extraction Steam to Feedwater Heater 22A	2ND POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES?-1-2NDPT ES TO FWH 22B	Extraction Steam to Feedwater Heater 22B	2ND POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES?-1-2NDPT ES TO FWH 22C	Extraction Steam to Feedwater Heater 22C	2ND POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES?-2-1STPT ES TO FWH 21A	Extraction Steam to Feedwater Heater 21A	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-2-1STPT ES TO FWH 21B	Extraction Steam to Feedwater Heater 21B	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-2-1STPT ES TO FWH 21C	Extraction Steam to Feedwater Heater 21C	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-2-2NDPT ES TO FWH 22A	Extraction Steam to Feedwater Heater 22A	2ND POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES?-2-2NDPT ES TO FWH 22B	Extraction Steam to Feedwater Heater 22B	2ND POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES?-2-2NDPT ES TO FWH 22C	Extraction Steam to Feedwater Heater 22C	2ND POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES?-3-1STPT ES TO FWH 21A	Extraction Steam to Feedwater Heater 21A	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-3-1STPT ES TO FWH 21B	Extraction Steam to Feedwater Heater 21B	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-3-1STPT ES TO FWH 21C	Extraction Steam to Feedwater Heater 21C	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
ES?-4-1STPT ES TO FWH 21A	Extraction Steam to Feedwater Heater 21A	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-4-1STPT ES TO FWH 21B	Extraction Steam to Feedwater Heater 21B	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES?-4-1STPT ES TO FWH 21C	Extraction Steam to Feedwater Heater 21C	1ST POINT EXTRAC STM	9321-F-2020-41	HBD	0.083	1
ES1-1-3RDPT ES to FWH 23A	3rd Point Extraction Steam from 21 LP Turbine to Extration header to Feedwater Heater 23A (Line 1 or 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES1-2-3RDPT ES to FWH 23A	3rd Point Extraction Steam from 21 LP Turbine to Extration header to Feedwater Heater 23A (Line 2 or 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES1-3-3RDPT ES to FWH 23A	Condenser Outlet 3rd Point Extraction Steam to Tee Upstream of Feedwater Heater 23A	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES1-4-3RDPT ES to FWH 23A	3rd Point Extraction Steam Tee to Feedwater Heater 23A (Line 1 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES1-5-3RDPT ES to FWH 23A	3rd Point Extraction Steam Tee to Feedwater Heater 23A (Line 2 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES2-1-3RDPT ES to FWH 23B	3rd Point Extraction Steam from 22 LP Turbine to Extration header to Feedwater Heater 23B (Line 1 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES2-2-3RDPT ES to FWH 23B	3rd Point Extraction Steam from 22 LP Turbine to Extration header to Feedwater Heater 23B (Line 2 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES2-3-3RDPT ES to FWH 23B	Condenser Outlet 3rd Point Extraction Steam to Tee Upstream of Feedwater Heater 23B	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES2-4-3RDPT ES to FWH 23B	3rd Point Extraction Steam Tee to Feedwater Heater 23B (Line 1 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES2-5-3RDPT ES to FWH 23B	3rd Point Extraction Steam Tee to Feedwater Heater 23B (Line 2 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES3-1-3RDPT ES to FWH 23C	3rd Point Extraction Steam from 23 LP Turbine to Extraction header to Feedwater Heater 23C (Line 1 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES3-2-3RDPT ES to FWH 23C	3rd Point Extraction Steam from 23 LP Turbine to Extraction header to Feedwater Heater 23C (Line 2 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
ES3-3-3RDPT ES to FWH 23C	Condenser Outlet 3rd Point Extraction Steam to Tee Upstream of Feedwater Heater 23C	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES3-4-3RDPT ES to FWH 23C	3rd Point Extraction Steam Tee to Feedwater Heater 23C (Line 1 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES3-5-3RDPT ES to FWH 23C	3rd Point Extraction Steam Tee to Feedwater Heater 23C (Line 2 of 2)	3RD POINT EXTRAC STM	9321-F-2020-41	HBD	0.167	1
ES4-1-4THPT ES to FWH 24A	Condenser Outlet 4th Point Extraction Steam to Feedwater Heater 24A	4TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES5-1-4THPT ES to FWH 24B	Condenser Outlet 4th Point Extraction Steam to Feedwater Heater 24B	4TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES6-1-4THPT ES to FWH 24C	Condenser Outlet 4th Point Extraction Steam to Feedwater Heater 24C	4TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES7-1-5THPT ES to FWH 25ABC	5th Point Extraction Steam Header to Feedwater Heater 25A,B,C	5TH POINT EXTRAC STM	9321-F-2020-41	HBD	1	1
ES7-2-5THPT ESHDR to FWH 25C	5th Point Extraction Steam Header to Feedwater Heater 25C	5TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES7-3-5THPT ESHDR 25CT to BT	5th Point Extraction Steam Header Between Tee to Feedwater Heater 25C and Feedwater Heater 25B	5TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.667	1
ES7-4-5THPT ESHDR to FWH 25B	5th Point Extraction Steam Header to Feedwater Heater 25B	5TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES7-5-5THPT ESHDR to FWH 25A	5th Point Extraction Steam Header to Feedwater Heater 25A	5TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES7A-1-SEP TKA VNT to FWH25	Moisture Preseparator Separating Tank A Vent to Header Upstream of Feedwater Heaters 25A,B,C	5TH POINT EXTRAC STM	A228272-15	HBD	0.5	1
ES7A-2-SEP TKB VNT to FWH25	Moisture Preseparator Separating Tank B Vent to Header Upstream of Feedwater Heaters 25A,B,C	5TH POINT EXTRAC STM	A228272-15	HBD	0.5	1
ES8-1-6THPT ES to HDR	HP Turbine 6th Point Extraction Steam to Header	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.5	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
ES8-2-6THPT ES to HDR	HP Turbine 6th Point Extraction Steam to Header	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.5	1
ES8-3-6THPT ESHDR to FWH 26	HP Turbine 6th Point Extraction Steam Header to Feedwater Heater 26A,B,C	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	1	1
ES8-4-6THPT ESHDR to FWH 26C	HP Turbine 6th Point Extraction Steam Header to Feedwater Heater 26C	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES8-5-6THPT ESHDR 26CT to BT	HP Turbine 6th Point Extraction Steam to Header Between Tee to Feedwater Heater 26C and Feedwater Heater 26B	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.667	1
ES8-6-6THPT ESHDR to FWH 26B	HP Turbine 6th Point Extraction Steam Header to Feedwater Heater 26B	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES8-7-6THPT ESHDR to FWH 26A	HP Turbine 6th Point Extraction Steam Header to Feedwater Heater 26A	6TH POINT EXTRAC STM	9321-F-2020-41	HBD	0.333	1
ES-BFPT Drain to Condenser 21	Boiler Feed Pump Turbine Drain to Condenser #21	ES - BFPT DRN TO COND	9321-F-2019	HBD	0.5	1
ES-BFPT Drain to Condenser 22	Boiler Feed Pump Turbine Drain to Condenser #22	ES - BFPT DRN TO COND	9321-F-2019	HBD	0.5	1
FW71-1-BFP21 DISCH to HDR	Boiler Feedpump 21 Discharge to Header	FW BFP TO FWH 26	9321-F-2019-110	Z-type	0.5	1
FW72-1-BFP22 DISCH to HDR	Boiler Feedpump 22 Discharge to Header	FW BFP TO FWH 26	9321-F-2019-110	Z-type	0.5	1
FW73-1-BFPHDR to FWH26ABC	Boiler Feedpump Header to Feedwater Heater 26A,B,C Between BFP Discharge Tee and High Pressure Feedwater Heater Bypass Tee	FW BFP TO FWH 26	9321-F-2019-110	Z-type	1	1
FW73-2-BFPHDR to FWH26ABC	Boiler Feedpump Header to Feedwater Heater 26A,B,C Between High Pressure Feedwater Heater Bypass Tee and Feedwater Heater 26C Tee	FW BFP TO FWH 26	9321-F-2019-110	Z-type	1	1
FW73-3-BFPHDR to FWH26C	Boiler Feedpump Header to Feedwater Heater 26C	FW BFP TO FWH 26	9321-F-2019-110	Z-type	0.333	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
FW73-4-BFPHDR to FWH26ABC	Boiler Feedpump Header to Feedwater Heater 26A,B,C Between Feedwater Heater 26C Tee and Feedwater Heater 26B Tee	FW BFP TO FWH 26	9321-F-2019-110	Z-type	0.667	1
FW73-5-BFPHDR to FWH26B	Boiler Feedpump Header to Feedwater Heater 26B	FW BFP TO FWH 26	9321-F-2019-110	Z-type	0.333	1
FW73-6-BFPHDR to FWH26A	Boiler Feedpump Header to Feedwater Heater 26A	FW BFP TO FWH 26	9321-F-2019-110	Z-type	0.333	1
FW74-1-FWH26A to DISHDR	Feedwater Heater 26A to Heater Discharge Header	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.333	1
FW74-2-FWH26B to DISHDR	Feedwater Heater 26B to Heater Discharge Header	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.333	1
FW74-3-FWH26 to DISHDR	Feedwater Heater 26 Discharge Header Between 26B Tee and 26C Tee	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.667	1
FW74-4-FWH26C to DISHDR	Feedwater Heater 26C to Heater Discharge Header	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.333	1
FW74-5-FWH26 to DISHDR	Feedwater Heater 26 Discharge Header Between 26C Tee and Steam Generator Takeoff	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	1	1
FW75-1-DISHDR to SG21	Feedwater Heater 26 Discharge Header to Steam Generator 21	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.25	1
FW76-1-DISHDR to SG22	Feedwater Heater 26 Discharge Header to Steam Generator 22	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.25	1
FW76-2-DISHDR to SG22	Feedwater Heater 26 Discharge Header to Steam Generator 22	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.75	1
FW77-1-DISHDR to SG24	Feedwater Heater 26 Discharge Header to Steam Generator 24	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.25	1
FW77-2-DISHDR to SG24	Feedwater Heater 26 Discharge Header to Steam Generator 24	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.5	1
FW78-1-DISHDR to SG23	Feedwater Heater 26 Discharge Header to Steam Generator 23	FW FWH 26 TO STM GEN	9321-F-2019-110	HBD	0.25	1
HD12-1-FWH26A to CV	Feedwater Heater 26A to CV Upstream of Heater Drain Tank	FWH 26 DRNS USCV	9321-F-2022-52	Z-type	0.333	1
HD12-2-FWH26B to CV	Feedwater Heater 26B to CV Upstream of Heater Drain Tank	FWH 26 DRNS USCV	9321-F-2022-52	Z-type	0.333	1
HD12-3-FWH26C to CV	Feedwater Heater 26C to CV Upstream of Heater Drain Tank	FWH 26 DRNS USCV	9321-F-2022-52	Z-type	0.333	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
HD12-4-FWH26A CV to HTR DR TK	Feedwater Heater 26A CV to Heater Drain Tank	FWH 26 DRNS DSCV	9321-F-2022-52	Z-type	0.333	1
HD12-5-FWH26B CV to HTR DR TK	Feedwater Heater 26B CV to Heater Drain Tank	FWH 26 DRNS DSCV	9321-F-2022-52	Z-type	0.333	1
HD12-6-FWH26C CV to HTR DR TK	Feedwater Heater 26C CV to Heater Drain Tank	FWH 26 DRNS DSCV	9321-F-2022-52	Z-type	0.333	1
HD19-1-HDT to HDP 21 SUCT	Heater Drain Tank to Heater Drain Pump 21	HTR DRN TANK DRN	9321-F-2022-52	HBD	0.5	1
HD19-2-HDT to HDP 22 SUCT	Heater Drain Tank to Heater Drain Pump 22	HTR DRN TANK DRN	9321-F-2022-52	HBD	0.5	1
HD20-1-HDP21 to BFP SUCTION	Heater Drain Pump 21 to Boiler Feed Pump Suction	HTR DRN PMP DISCH	9321-F-2022-52	HBD	0.5	1
HD20-2-HDP22 to BFP SUCTION	Heater Drain Pump 22 to Boiler Feed Pump Suction	HTR DRN PMP DISCH	9321-F-2022-52	HBD	0.5	1
HD20-3-HDP DIS T to BFP SUC	Heater Drain Pump Discharge Tee to Boiler Feed Pump Suction	HTR DRN PMP DISCH	9321-F-2022-52	HBD	1	1
HD21A-1-FWH24A to CV	Feedwater Heater 24A to CV Upstream of Feedwater Heater 23A	FWH 24 DRNS USCV	A235304-23	Z-type	0.333	1
HD21A-2-FWH24A CV to FWH23A	Feedwater Heater 24A CV to Feedwater Heater 23A	FWH 24 DRNS DSCV	A235304-23	Z-type	0.333	1
HD22A-1-FWH24B to CV	Feedwater Heater 24B to CV Upstream of Feedwater Heater 23B	FWH 24 DRNS USCV	A235304-23	Z-type	0.333	1
HD22A-2-FWH24B CV to FWH23B	Feedwater Heater 24B CV to Feedwater Heater 23B	FWH 24 DRNS DSCV	A235304-23	Z-type	0.333	1
HD23A-1-FWH24C to CV	Feedwater Heater 24C to CV Upstream of Feedwater Heater 23C	FWH 24 DRNS USCV	A235304-23	Z-type	0.333	1
HD23A-2-FWH24C CV to FWH23C	Feedwater Heater 24C CV to Feedwater Heater 23C	FWH 24 DRNS DSCV	A235304-23	Z-type	0.333	1
HD242A-1-FWH23A CV to FWH22A	Feedwater Heater 23A CV to Feedwater Heater 22A	FWH 23 DRNS DSCV	A235304-23	Z-type	0.333	1
HD243A-1-FWH23B CV to FWH22B	Feedwater Heater 23B CV to Feedwater Heater 22B	FWH 23 DRNS DSCV	A235304-23	Z-type	0.333	1
HD244A-1-FWH23C CV to FWH22C	Feedwater Heater 23C CV to Feedwater Heater 22C	FWH 23 DRNS DSCV	A235304-23	Z-type	0.333	1
HD24A-1-FWH23A to CV	Feedwater Heater 23A to CV Upstream of Feedwater Heater 22A	FWH 23 DRNS USCV	A235304-23	Z-type	0.333	1
HD25A-1-FWH23B to CV	Feedwater Heater 23B to CV	FWH 23 DRNS USCV	A235304-23	Z-type	0.333	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
	Upstream of Feedwater Heater 22B					
HD26A-1-FWH23C to CV	Feedwater Heater 23C to CV Upstream of Feedwater Heater 22C	FWH 23 DRNS USCV	A235304-23	Z-type	0.333	1
HD9-1-FWH25A to HTR DRN TK	Feedwater Heater 25A Drain to Heater Drain Tank	FWH 25 DRNS TO HDT	9321-F-2022-52	Z-type	0.333	1
HD9-2-FWH25B to HTR DRN TK	Feedwater Heater 25B Drain to Heater Drain Tank	FWH 25 DRNS TO HDT	9321-F-2022-52	Z-type	0.333	1
HD9-3-FWH25C to HTR DRN TK	Feedwater Heater 25C Drain to Heater Drain Tank	FWH 25 DRNS TO HDT	9321-F-2022-52	Z-type	0.333	1
HD-FWH 21A Drain to Cond 23	Feedwater Heater 21A Drain line to Condenser 23 through valve LCV 1124	HD - FWH 21 TO COND	A235304	HBD	0.333	1
HD-FWH 21B Drain to Cond 22	Feedwater Heater 21B Drain line to Condenser 22 through valve LCV 1125	HD - FWH 21 TO COND	A235304	HBD	0.333	1
HD-FWH 21C Drain to Cond 21	Feedwater Heater 21C Drain line to Condenser 21 through valve LCV 1126	HD - FWH 21 TO COND	A235304	HBD	0.333	1
HD-FWH 22A Drain to FWH 21A	Feedwater Heater 22A Drain to Feedwater Heater 21A	HD - FWH 22 TO FWH 21	A235304	HBD	0.333	1
HD-FWH 22B Drain to FWH 21B	Feedwater Heater 22B Drain to Feedwater Heater 21B	HD - FWH 22 TO FWH 21	A235304	HBD	0.333	1
HD-FWH 22C Drain to FWH 21C	Feedwater Heater 22C Drain to Feedwater Heater 21C	HD - FWH 22 TO FWH 21	A235304	HBD	0.333	1
MS56-1-PRESEP to MSR-A	Pre-Separator to Moisture Separator Reheater - A (Line 1 of 2)	CROSSUNDER	A235308	Z-type	0.25	1
MS56-2-PRESEP to MSR-A	Pre-Separator to Moisture Separator Reheater - A (Line 2 of 2)	CROSSUNDER	A235308	Z-type	0.25	1
MS56-3-PRESEP to MSR-A	Pre-Separator to Moisture Separator Reheater - A	CROSSUNDER	A235308	Z-type	0.5	1
MS56-4-PRESEP to MSR23A	Pre-Separator to Moisture Separator Reheater - 23A	CROSSUNDER	A235308	Z-type	0.167	1
MS56-5-PRESEP to MSR-A	Pre-Separator to Moisture Separator Reheater - A	CROSSUNDER	A235308	Z-type	0.333	1
MS56-6-PRESEP to MSR22A	Pre-Separator to Moisture Separator Reheater - 22A	CROSSUNDER	A235308	Z-type	0.167	1
MS56-7-PRESEP to MSR21A	Pre-Separator to Moisture	CROSSUNDER	A235308	Z-type	0.167	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
	Separator Reheater - 21A					
MS57-1-PRESEP to MSR-B	Pre-Separator to Moisture Separator Reheater - B (Line 1 of 2)	CROSSUNDER	A235308	Z-type	0.25	1
MS57-2-PRESEP to MSR-B	Pre-Separator to Moisture Separator Reheater - B (Line 2 of 2)	CROSSUNDER	A235308	Z-type	0.25	1
MS57-3-PRESEP to MSR-B	Pre-Separator to Moisture Separator Reheater - B	CROSSUNDER	A235308	Z-type	0.5	1
MS57-4-PRESEP to MSR23B	Pre-Separator to Moisture Separator Reheater - 23B	CROSSUNDER	A235308	Z-type	0.167	1
MS57-5-PRESEP to MSR-B	Pre-Separator to Moisture Separator Reheater - B	CROSSUNDER	A235308	Z-type	0.333	1
MS57-6-PRESEP to MSR22B	Pre-Separator to Moisture Separator Reheater - 22B	CROSSUNDER	A235308	Z-type	0.167	1
MS57-7-PRESEP to MSR21B	Pre-Separator to Moisture Separator Reheater - 21B	CROSSUNDER	A235308	Z-type	0.167	1
MSD27-1-MS21A to MSDT 21A	Moisture Separator 21A to Header Upstream of Moisture Separator Drain Tank 21A (Line 1 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD27-2-MS21A to MSDT 21A	Moisture Separator 21A to Header Upstream of Moisture Separator Drain Tank 21A (Line 2 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD27-3-MS21A to MSDT 21A	Moisture Separator 21A to Header Upstream of Moisture Separator Drain Tank 21A (Line 3 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD27-4-MS21A to MSDT 21A	Moisture Separator 21A Header Upstream of Moisture Separator Drain Tank 21A	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.112	1
MSD27-5-MS21A to MSDT 21A	Moisture Separator 21A Header to Moisture Separator Drain Tank 21A	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.167	1
MSD28-1-MS22A to MSDT 22A	Moisture Separator 22A to Header Upstream of Moisture Separator Drain Tank 22A (Line 1 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD28-2-MS22A to MSDT 22A	Moisture Separator 22A to Header Upstream of Moisture Separator Drain Tank 22A (Line 2 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
MSD28-3-MS22A to MSDT 22A	Moisture Separator 22A to Header Upstream of Moisture Separator Drain Tank 22A (Line 3 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD28-4-MS22A to MSDT 22A	Moisture Separator 22A Header Upstream of Moisture Separator Drain Tank 22A	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.112	1
MSD28-5-MS22A to MSDT 22A	Moisture Separator 22A Header to Moisture Separator Drain Tank 22A	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.167	1
MSD29-1-MS23A to MSDT 23A	Moisture Separator 23A to Header Upstream of Moisture Separator Drain Tank 23A (Line 1 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD29-2-MS23A to MSDT 23A	Moisture Separator 23A to Header Upstream of Moisture Separator Drain Tank 23A (Line 2 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD29-3-MS23A to MSDT 23A	Moisture Separator 23A to Header Upstream of Moisture Separator Drain Tank 23A (Line 3 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD29-4-MS23A to MSDT 23A	Moisture Separator 23A Header Upstream of Moisture Separator Drain Tank 23A	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.112	1
MSD29-5-MS23A to MSDT 23A	Moisture Separator 23A Header to Moisture Separator Drain Tank 23A	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.167	1
MSD30-1-MS21B to MSDT 21B	Moisture Separator 21B to Header Upstream of Moisture Separator Drain Tank 21B (Line 1 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD30-2-MS21B to MSDT 21B	Moisture Separator 21B to Header Upstream of Moisture Separator Drain Tank 21B (Line 2 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD30-3-MS21B to MSDT 21B	Moisture Separator 21B to Header Upstream of Moisture Separator Drain Tank 21B (Line 3 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD30-4-MS21B to MSDT 21B	Moisture Separator 21B Header Upstream of Moisture Separator Drain Tank 21B	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.112	1
MSD30-5-MS21B to MSDT 21B	Moisture Separator 21B Header to Moisture Separator Drain Tank 21B	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.167	1
MSD31-1-MS22B to MSDT 22B	Moisture Separator 22B to Header Upstream of Moisture Separator	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
	Drain Tank 22B (Line 1 of 3)					
MSD31-2-MS22B to MSDT 22B	Moisture Separator 22B to Header Upstream of Moisture Separator Drain Tank 22B (Line 2 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD31-3-MS22B to MSDT 22B	Moisture Separator 22B to Header Upstream of Moisture Separator Drain Tank 22B (Line 3 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD31-4-MS22B to MSDT 22B	Moisture Separator 22B Header Upstream of Moisture Separator Drain Tank 22B	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.112	1
MSD31-5-MS22B to MSDT 22B	Moisture Separator 22B Header to Moisture Separator Drain Tank 22B	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.167	1
MSD32-1-MS23B to MSDT 23B	Moisture Separator 23B to Header Upstream of Moisture Separator Drain Tank 23B (Line 1 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD32-2-MS23B to MSDT 23B	Moisture Separator 23B to Header Upstream of Moisture Separator Drain Tank 23B (Line 2 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD32-3-MS23B to MSDT 23B	Moisture Separator 23B to Header Upstream of Moisture Separator Drain Tank 23B (Line 3 of 3)	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.056	1
MSD32-4-MS23B to MSDT 23B	Moisture Separator 23B Header Upstream of Moisture Separator Drain Tank 23B	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.112	1
MSD32-5-MS23B to MSDT 23B	Moisture Separator 23B Header to Moisture Separator Drain Tank 23B	MSR SHELL DRAINS	9321-F-2023-31	Z-type	0.167	1
MSD33A-1-MSDT 21A to HDT	Moisture Separator Drain Tank 21A to Heater Drain Tank	MSDT DRNS TO HDT	9321-F-2023-31	Z-type	0.167	1
MSD34A-1-MSDT 22A to HDT	Moisture Separator Drain Tank 22A to Heater Drain Tank	MSDT DRNS TO HDT	9321-F-2023-31	Z-type	0.167	1
MSD35A-1-MSDT 23A to HDT	Moisture Separator Drain Tank 23A to Heater Drain Tank	MSDT DRNS TO HDT	9321-F-2023-31	Z-type	0.167	1
MSD36A-1-MSDT 21B to HDT	Moisture Separator Drain Tank 21B to Heater Drain Tank	MSDT DRNS TO HDT	9321-F-2023-31	Z-type	0.167	1
MSD37A-1-MSDT 22B to HDT	Moisture Separator Drain Tank 22B to Heater Drain Tank	MSDT DRNS TO HDT	9321-F-2023-31	Z-type	0.167	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
MSD38A-1-MSDT 23B to HDT	Moisture Separator Drain Tank 23B to Heater Drain Tank	MSDT DRNS TO HDT	9321-F-2023-31	Z-type	0.167	1
MSD39-1-RHTR 21A to RHDT 21A	Moisture Separator Reheater 21A to Moisture Separator Reheater Drain Tank 21A	RHTR TO RHTR DRN TK	9321-F-2023-31	HBD	0.167	1
MSD40-1-RHTR 22A to RHDT 22A	Moisture Separator Reheater 22A to Moisture Separator Reheater Drain Tank 22A	RHTR TO RHTR DRN TK	9321-F-2023-31	HBD	0.167	1
MSD41-1-RHTR 23A to RHDT 23A	Moisture Separator Reheater 23A to Moisture Separator Reheater Drain Tank 23A	RHTR TO RHTR DRN TK	9321-F-2023-31	HBD	0.167	1
MSD42-1-RHTR 21B to RHDT 21B	Moisture Separator Reheater 21B to Moisture Separator Reheater Drain Tank 21B	RHTR TO RHTR DRN TK	9321-F-2023-31	HBD	0.167	1
MSD43-1-RHTR 22B to RHDT 22B	Moisture Separator Reheater 22B to Moisture Separator Reheater Drain Tank 22B	RHTR TO RHTR DRN TK	9321-F-2023-31	HBD	0.167	1
MSD44-1-RHTR 23B to RHDT 23B	Moisture Separator Reheater 23B to Moisture Separator Reheater Drain Tank 23B	RHTR TO RHTR DRN TK	9321-F-2023-31	HBD	0.167	1
MSD45A-1-RHDT21A to CV	Reheater Drain Tank 21A to CV Upstream of Feedwater Heater 26 Header	RHTR DRN TK 21A USCV	9321-F-2023-31	HBD	0.167	1
MSD45B-1-RHDT21A CV to FWH26	Reheater Drain Tank 21A CV to Feedwater Heater 26 Header	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD45C-1-RHDT A HDR to FWH26	Reheater Drain Tank A Header to Feedwater Heater 26 Between RHDT 22A and RHDT 23A Connections	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD45C-2-RHDT A HDR to FWH26	Reheater Drain Tank A Header to Feedwater Heater 26 Between RHDT 23A and RHDT 21A Connections	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.333	1
MSD45C-3-RHDT A HDR to FWH26	Reheater Drain Tank A Header to Feedwater Heater 26 Between RHDT 21A Connection and Feedwater Heater 26C Tee	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.5	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
MSD45C-4-RHDT A HDR to FWH26C	Reheater Drain Tank A Header to Feedwater Heater 26C	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD45C-5-RHDT A HDR to FWH26	Reheater Drain Tank A Header Between Feedwater Heater 26C Tee and Feedwater Heater 26B Tee	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.333	1
MSD45D-1-RHDT A HDR to FWH26B	Reheater Drain Tank A Header to Feedwater Heater 26B	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD45D-2-RHDT A HDR to FWH26A	Reheater Drain Tank A Header to Feedwater Heater 26A	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD46A-1-RHDT22A to CV	Reheater Drain Tank 22A to CV Upstream of Feedwater Heater 26 Header	RHTR DRN TK 22A USCV	9321-F-2023-31	HBD	0.167	1
MSD46A-2-RHDT22A CV to FWH26	Reheater Drain Tank 22A CV to Feedwater Heater 26 Header	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD47-1-RHDT23A to CV	Reheater Drain Tank 23A to CV Upstream of Feedwater Heater 26 Header	RHTR DRN TK 23A USCV	9321-F-2023-31	HBD	0.167	1
MSD47-2-RHDT23A CV to FWH26	Reheater Drain Tank 23A CV to Feedwater Heater 26 Header	RHTR DTK A DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD48A-1-RHDT21B to CV	Reheater Drain Tank 21B to CV Upstream of Feedwater Heater 26 Header	RHTR DRN TK 21B USCV	9321-F-2023-31	HBD	0.167	1
MSD48B-1-RHDT21B CV to FWH26	Reheater Drain Tank 21B CV to Feedwater Heater 26 Header	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD48B-2-RHDT B HDR to FWH26	Reheater Drain Tank B Header to Feedwater Heater 26 Between RHDT 23B and RHDT 22B Connections	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.333	1
MSD49A-1-RHDT22B to CV	Reheater Drain Tank 22B to CV Upstream of Feedwater Heater 26 Header	RHTR DRN TK 22B USCV	9321-F-2023-31	HBD	0.167	1
MSD49B-1-RHDT22B CV to FWH26	Reheater Drain Tank 22B CV to Feedwater Heater 26 Header	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD49C-1-RHDT B HDR to FWH26	Reheater Drain Tank B Header to Feedwater Heater 26 Between RHDT Connections and Feedwater Heater 26 Connections	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.5	1

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
MSD49C-2-RHDT B HDR to FWH26C	Reheater Drain Tank B Header to Feedwater Heater 26C	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD49C-3-RHDT B HDR	Reheater Drain Tank B Header Between Feedwater Heater 26C Tee and Feedwater Heater 26B Tee	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.333	1
MSD49C-4-RHDT B HDR to FWH26B	Reheater Drain Tank B Header to Feedwater Heater 26B	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD49C-5-RHDT B HDR to FWH26A	Reheater Drain Tank B Header to Feedwater Heater 26A	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.167	1
MSD50A-1-RHDT23B to CV	Reheater Drain Tank 23B to CV Upstream of Feedwater Heater 26 Header	RHTR DRN TK 23B USCV	9321-F-2023-31	HBD	0.167	1
MSD50C-1-RHDT23B CV to FWH26	Reheater Drain Tank 23B CV to Feedwater Heater 26 Header	RHTR DTK B DRN DSCV	9321-F-2023-31	HBD	0.167	1
MS-HP Turbine to MPS A	HP Turbine Crossunder to Moisture Preseparator A	MS - HP TURB TO MOPS	A228272	HBD	0.25	1
MS-HP Turbine to MPS B	HP Turbine Crossunder to Moisture Preseparator B	MS - HP TURB TO MOPS	A228272	HBD	0.25	1
MS-HP Turbine to MPS C	HP Turbine Crossunder to Moisture Preseparator C	MS - HP TURB TO MOPS	A228272	HBD	0.25	1
MS-HP Turbine to MPS D	HP Turbine Crossunder to Moisture Preseparator D	MS - HP TURB TO MOPS	A228272	HBD	0.25	1
PD-MPS A to Separating Tk A	Moisture Preseparator A to Separating Tank A	PD - MPS TO SEP TNK A	A228272	HBD	0.25	1
PD-MPS B to Separating Tk A	Moisture Preseparator B to Separating Tank A	PD - MPS TO SEP TNK A	A228272	HBD	0.25	1
PD-MPS C to Separating Tk B	Moisture Preseparator C to Separating Tank B	PD - MPS TO SEP TNK A	A228272	HBD	0.25	1
PD-MPS D to Separating Tk B	Moisture Preseparator D to Separating Tank B	PD - MPS TO SEP TNK A	A228272	HBD	0.25	1
PD-Sep Tk A Drn thru LCV-5198	Preseparator Separating Tank A Drain through LCV-5198	N/A	A228272	N/A	N/A	N/A
PD-Sep Tk A Drn thru LCV-5199	Preseparator Separating Tank A Drain through LCV-5199	N/A	A228272	N/A	N/A	N/A
PD-Sep Tk A Drn to Ctrl Valves	Preseparator Separating Tank A Drain to Control Valves upstream of	N/A	A228272	N/A	N/A	N/A

CHECWORKS Line Name	Line Description	Wear Rate Analysis Run Name	Flow Diagram No.	Op Cond Source	Flow Factor	Duty Factor
	Heater Drain Tank					
PD-Sep Tk A Valves to HD Tk	Preseparator Separating Tank A Drain Control Valves to Heater Drain Tank	N/A	A228272	N/A	N/A	N/A
PD-Sep Tk B Drn thru LCV-5205	Preseparator Separating Tank B Drain through LCV-5205	N/A	A228272	N/A	N/A	N/A
PD-Sep Tk B Drn thru LCV-5206	Preseparator Separating Tank B Drain through LCV-5206	N/A	A228272	N/A	N/A	N/A
PD-Sep Tk B Drn to Ctrl Valves	Preseparator Separating Tank B Drain to Control Valves upstream of Heater Drain Tank	N/A	A228272	N/A	N/A	N/A
PD-Sep Tk B Valves to HD Tk	Preseparator Separating Tank B Drain Control Valves to Heater Drain Tank	N/A	A228272	N/A	N/A	N/A
SG51-1-CONT PEN to SGBFTK	Steam Generator Blowdown from SG 21 to SG Blowdown Flash Tank	BLOWDOWN	9321-F-2729-66	Z-type	0.25	1
SG52-1-CONT PEN to SGBFTK	Steam Generator Blowdown from SG 22 to SG Blowdown Flash Tank	BLOWDOWN	9321-F-2729-66	Z-type	0.25	1
SG53-1-CONT PEN to SGBFTK	Steam Generator Blowdown from SG 23 to SG Blowdown Flash Tank	BLOWDOWN	9321-F-2729-66	Z-type	0.25	1
SG54-1-CONT PEN to SGBFTK	Steam Generator Blowdown from SG 24 to SG Blowdown Flash Tank	BLOWDOWN	9321-F-2729-66	Z-type	0.25	1

Appendix E

Component Summary Report

Table of Contents

Company : ENTERGY NUCLEAR NORTHEAST
Plant : INDIAN POINT
Unit : 2
DB Name: IPEC2(v3)

Report Date : 25-Feb-2010
Report Time : 14:07:50

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 : CD80-1-FWH 23A to FWH 24A																								
CD-11N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-11	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-12	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-12P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-1	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-1P	51	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-2	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-2P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-17	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-17P	51	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-5	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-5P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-41	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-41N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
Line Name : CD80-2-FWH 23B to FWH 24B																								
CD-14N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-14	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-13	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-13P US	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-3	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-4	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-4P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-19	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-19P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-42	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-42N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
Line Name : CD80-3-FWH 23C to FWH 24C																								
CD-16N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-16	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-15	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-15P US	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-39	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-40	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-40P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000

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.
CD-22	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-22P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-43	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000
CD-43N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	249	0.000	0.000	3.32518	0.00000	0.00000

Line Name : CD80A-1-FWH 22A to HEADER

CD-101N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-101P	61	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	30	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-102	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-102P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-8	22	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-103	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-104	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-104P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-105	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-105P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	16	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-106	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-106P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-107P	9	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-107	18	20.000	40	0.594	0.000	0.000	14.000	0.438	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : CD80A-4-FWH 22 OUTLET HEADER

CD-118T	12	20.000	40	0.594	0.000	0.000	14.000	0.438	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : CD80A-2-FWH 22B to HEADER

CD-108N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-108P	61	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	30	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-109	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-109P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-110	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-111	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-8-1	22	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-111P	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-112	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-112P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : CD80A-3-FWH 22C to HEADER

CD-113N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-113P	61	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	30	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-114	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-114P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-115	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-116	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-116P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-8-2	22	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-116P-1	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-117	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-117P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : CD80A-4-FWH 22 OUTLET HEADER

CD-118P	62	20.000	40	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-119P	9	20.000	40	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-120	18	24.000	40	0.688	0.000	0.000	20.000	0.594	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : CD80A-5-FWH 22 to FWH 23 HEAD																								
CD-121	12	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-121P	62	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-122	15	24.000	40	0.688	0.000	0.000	12.000	0.406	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-122P	65	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-123	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-124	3	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-124P	53	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-125	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-125P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-126	1	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-126P	51	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-127P	9	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-128	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-128P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-129	4	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-129P	54	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-130	14	24.000	40	0.688	0.000	0.000	18.000	0.500	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-130P	62	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-131	7	24.000	40	0.688	0.000	0.000	20.000	0.594	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-1110	23	20.000	40	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-131P-1	58	20.000	40	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-132	19	24.000	40	0.688	0.000	0.000	20.000	0.594	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-132P	69	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-133	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-134	12	24.000	40	0.688	0.000	0.000	18.000	0.562	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-135	14	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : CD80A-6-FWH 23 INLET HEADER																								
CD-136	15	24.000	40	0.688	0.000	0.000	12.000	0.406	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-136P	65	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-137	14	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : CD80A-7-HEADER to FWH 23A																								
CD-137P	64	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-138	14	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-138P	64	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-139	2	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-139P	52	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-16	22	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-140	2	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-140P	52	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-141	1	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-141N	30	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : CD80A-8-HEADER to FWH 23B																								
CD-141P	64	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-142	2	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-142P	52	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-16-1	22	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-143	2	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-143P	52	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-144	1	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-144N	30	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : CD80A-9-HEADER to FWH 23C																								

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.
CD-144P	64	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-145	2	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-145P	52	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-16-2	22	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-146	2	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-146P	52	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-147	1	14.000	40	0.438	0.000	0.305	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
CD-147N	30	14.000	40	0.438	0.000	0.305	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : CD81-1-FWH 24A to FWH 25A

CD-37N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-37	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-18	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-18P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-46	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-46P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-47	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-47P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-48	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-48P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-28	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-28P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-56	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-56N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000

Line Name : CD81-2-FWH 24B to FWH 25B

CD-21N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-21	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-20	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-20P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-49	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-50	3	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-50P	53	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-51	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-51P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-52	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-52P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-57	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-29	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-29P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-44	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-44N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000

Line Name : CD81-3-FWH 24C to FWH 25C

CD-24N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-24	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-23	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-23P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-53	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-53P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-54	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-54P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-55	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-55P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-30	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-30P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000
CD-45	1	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000

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.
CD-45N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	298	0.000	0.000	3.32518	0.00000	0.00000

Line Name : CD82-1-FWH 25A to HDR

CD-32N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-32	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-31	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-31P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-VALVE-CD-18	22	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A216/WCB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-31P-1 US	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-31P-1 DS	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-60	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-60P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-61	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-61P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-61R	18	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	3.32518	0.00000

Line Name : CD82-4-HDR 25BT to 25CT

CD-62T	12	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	6.65036	3.32518

Line Name : CD82-2-FWH 25B to HDR

CD-34N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-34	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-33	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-33P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-VALVE-CD-18-1	22	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A216/WCB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-33P-1 US	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-33P-1 DS	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-62	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-62P	52	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000

Line Name : CD82-3-FWH 25C to HDR

CD-36N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-36	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-35	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-35P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-VALVE-CD-18-2	22	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A216/WCB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-35P-1	58	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-63	2	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-58	4	14.000	40	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000
CD-58P	54	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	3.32518	0.00000	0.00000

Line Name : CD82-4-HDR 25BT to 25CT

CD-62P-1	62	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	6.65036	0.00000	0.00000

Line Name : CD82-5-HDR 25CT to HDP OUT

CD-59T	12	24.000	40	0.688	0.000	0.000	14.000	0.438	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	6.65036	9.97554	3.32518
CD-59	4	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	9.97554	0.00000	0.00000
CD-59P	54	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	9.97554	0.00000	0.00000
CD-80T	12	30.000	SPE	0.626	0.000	0.000	24.000	0.687	0.00	90	0.00	A155/KCF701/	0.00	0.00	0.00	665	400	460	384	0.000	0.000	9.97554	0.00000	9.97554

Line Name : CD83-1-HDR HDP to BFP21T

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.
CD-81T	12	30.000	SPE	0.626	0.000	0.000	16.000	0.656	0.00	90	0.00	A155/KCF701/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	9.97554	13.26297	3.28743
CD-82T	14	30.000	SPE	0.626	0.000	0.000	24.000	0.687	0.00	0	0.00	A155/KCF701/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	13.26297	6.63148	6.63149

Line Name : CD83-2-HDR to BFP21

CD-9P	64	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-9	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-66P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-66	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-67P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-67	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-VALVE-CD-21	22	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-68P	58	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-68	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-69P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-69	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-70P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-70	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-71P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-71	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-38P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-38	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-8P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-8	4	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-72	4	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-72P US	54	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-72P DS	54	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-72FE	6	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-72P-1 US	56	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-72P-1 DS	56	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-73	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-73P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-7	4	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-7P	54	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-74	1	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-64	3	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-64P	53	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-65	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-65P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-65R	17	24.000	40	0.688	0.000	0.000	18.000	0.562	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	6.63149	0.00000
CD-65N	30	18.000	40	0.562	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000

Line Name : CD83-3-HDR to BFP22

CD-82R	7	30.000	SPE	0.626	0.000	0.000	24.000	0.687	0.00	90	0.00	A234/WPC/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	6.63149	0.00000
CD-82P US	57	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	0.00000	0.00000
CD-83T	15	24.000	40	0.688	0.000	0.000	12.750	0.406	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	6.63149	0.00000
CD-84T	12	24.000	40	0.688	0.000	0.000	24.000	0.688	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	0.00000	6.63149
CD-84 C	62	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	0.00000	0.00000	0.00000
CD-VALVE-CD-21-1	22	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-6	4	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-76P US	54	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-76FE	6	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-76P DS	56	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-76	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-10P DS	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-10	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-75P US	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-75	2	24.000	40	0.688	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-75P	52	24.000	40	0.688	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000
CD-75R	17	24.000	40	0.688	0.000	0.000	18.000	0.562	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	6.63149	0.00000
CD-75N	30	18.000	40	0.562	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	325	386	0.000	0.000	6.63149	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : ES-BFPT Drain to Condenser 21																								
TEMP05	31	48.000		0.625	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES-BFPT Drain to Condenser 22																								
TEMP06	31	48.000		0.625	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-1-1STPT ES TO FWH 21A																								
LPFW21A-1P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-1P2	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-1P3	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-1P4	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-1N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-1-1STPT ES TO FWH 21B																								
LPFW21B-1P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-1P2	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-1P3	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-1P4	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-1N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-1-1STPT ES TO FWH 21C																								
LPFW21C-1P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-1P2	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-1P3	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-1P4	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-1N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-1-2NDPT ES TO FWH 22A																								
LPFW22A-1P1	31	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-1P2	3	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-1P3	53	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-1P4	53	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-1P5	1	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-1N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-1-2NDPT ES TO FWH 22B																								
LPFW22B-1P1	31	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-1P2	3	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-1P3	53	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-1P4	53	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-1P5	1	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-1N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-1-2NDPT ES TO FWH 22C																								
LPFW22C-1P1	31	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-1E	2	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-1P2	52	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-1P3	52	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-1P4	3	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
LPFW22C-1N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-2-1STPT ES TO FWH 21A																								
LPFW21A-2P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-2P2	61	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-2P3	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-2P4	52	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-2P5	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-2N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-2-1STPT ES TO FWH 21B																								
LPFW21B-2P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-2P2	61	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-2P3	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-2P4	52	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-2P5	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-2N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-2-1STPT ES TO FWH 21C																								
LPFW21C-2P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-2P2	61	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-2P3	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-2P4	52	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-2P5	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-2N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-2-2NDPT ES TO FWH 22A																								
LPFW22A-2P1	31	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-2P2	3	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-2N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-2-2NDPT ES TO FWH 22B																								
LPFW22B-2P1	31	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-2P2	3	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-2P3	53	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-2N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-2-2NDPT ES TO FWH 22C																								
LPFW22C-2P1	31	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-2P2	3	22.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-2N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-3-1STPT ES TO FWH 21A																								
LPFW21A-3P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-3P2	61	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-3P3	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-3P4	52	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-3P5	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-3N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES?-3-1STPT ES TO FWH 21B																								

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. (Mlbm/hr)	Br.
LPFW21B-3P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-3P2	61	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-3P3	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-3P4	52	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-3P5	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-3N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : ES?-3-1STPT ES TO FWH 21C

LPFW21C-3P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-3P2	61	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-3P3	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-3P4	52	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-3P5	2	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-3N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : ES?-4-1STPT ES TO FWH 21A

LPFW21A-4P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-4P2	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-4P3	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-4P4	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-4P5	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-4N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : ES?-4-1STPT ES TO FWH 21B

LPFW21B-4P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-4P2	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-4P3	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-4P4	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-4P5	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-4N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : ES?-4-1STPT ES TO FWH 21C

LPFW21C-4P1	31	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-4P2	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-4P3	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-4P4	51	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-4P5	1	26.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-4N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : ES1-1-3RDPT ES to FWH 23A

3EXA-18N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-18X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-18	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-17	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-17P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-16	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-16P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-15P	60	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : ES1-3-3RDPT ES to FWH 23A

3EXA-14	12	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : ES1-2-3RDPT ES to FWH 23A																								
3EXA-22N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-22X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-22	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-21	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-21P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-20	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-20P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-19	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-19P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES1-3-3RDPT ES to FWH 23A																								
3EXA-14P US	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-14P DS1	62	28.000	SPE	0.313	0.381	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.17686	0.00000	0.00000
3EXA-14P DS	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-VALVE 3EX-1	22	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-13P	58	28.000	SPE	0.313	0.342	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-VALVE 3EX-2	25	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-12P	58	28.000	SPE	0.313	0.338	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-10	2	28.000	SPE	0.313	0.413	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-9P	52	28.000	SPE	0.313	0.345	0.000	0.000	0.000	0.00	180	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-9	4	28.000	SPE	0.313	0.417	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-8P	54	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-8	4	28.000	SPE	0.313	0.434	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-7P	54	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-7	2	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-6P DS	52	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-6	2	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-5P	52	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	180	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-5	4	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-4P US	54	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A691/2.25C22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXA-4	14	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.08843	0.08843
Line Name : ES1-4-3RDPT ES to FWH 23A																								
3EXA-1P	64	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-1A	64	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-1	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-1N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
Line Name : ES1-5-3RDPT ES to FWH 23A																								
3EXA-11R	7	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A234/WP22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.08843	0.00000
3EXA-11RP	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-3	4	20.000	10	0.250	0.388	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-2P	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-2A	54	20.000	10	0.250	0.411	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-2	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXA-2N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
Line Name : ES2-1-3RDPT ES to FWH 23B																								
3EXB-14N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-14X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-14	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-13	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-13P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-12	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
3EXB-12P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-11P	60	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**ES2-3-3RDPT ES to FWH 23B**																							
3EXB-10	12	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
Line Name :	**ES2-2-3RDPT ES to FWH 23B**																							
3EXB-18N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-18X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-18	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-17	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-17P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-16	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-16P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-15	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-15P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**ES2-3-3RDPT ES to FWH 23B**																							
3EXB-10P US	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXB-10P DS1	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-10P DS	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-VALVE 3EX-3	22	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-9P	58	28.000	SPE	0.313	0.333	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-VALVE 3EX-4	25	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-9A	58	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-9	2	28.000	SPE	0.313	0.420	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-8	3	28.000	SPE	0.313	0.403	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-7P	53	28.000	SPE	0.313	0.322	0.000	0.000	0.000	0.00	135	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-7	1	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-6P US	51	28.000	SPE	0.313	0.349	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-6P DS	51	28.000	SPE	0.313	0.338	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-6	2	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-5P	52	28.000	SPE	0.313	0.355	0.000	0.000	0.000	0.00	180	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-5	4	28.000	SPE	0.313	0.414	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-4A US	54	28.000	SPE	0.313	0.328	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-4A DS	54	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXB-4	14	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.08843	0.08843
Line Name :	**ES2-4-3RDPT ES to FWH 23B**																							
3EXB-4P US	64	20.000	10	0.250	0.262	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-1A	64	20.000	10	0.250	0.272	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-1	2	20.000	10	0.250	0.367	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-1N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
Line Name :	**ES2-5-3RDPT ES to FWH 23B**																							
3EXB-10R	7	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.08843	0.00000
3EXB-3P US	57	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-3P DS	57	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-3	2	20.000	10	0.250	0.454	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-2P US	52	20.000	10	0.250	0.402	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-2P DS	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-2A	52	20.000	10	0.250	0.378	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-2	2	20.000	10	0.250	0.477	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXB-2N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : ES3-1-3RDPT ES to FWH 23C																								
3EXC-18N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-18X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-18	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-17	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-17P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-16	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-16P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-15P	60	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES3-3-3RDPT ES to FWH 23C																								
3EXC-14	12	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES3-2-3RDPT ES to FWH 23C																								
3EXC-22N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-22X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-22	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-21	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-21P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-20	3	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-20P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-19	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-19P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : ES3-3-3RDPT ES to FWH 23C																								
3EXC-14P US	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.17686	0.00000	0.00000
3EXC-14P DS1	62	28.000	SPE	0.313	0.440	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.17686	0.00000	0.00000
3EXC-14P DS	62	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-VALVE 3EX-5	22	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-13P	58	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-VALVE 3EX-6	25	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-13R	7	28.000	SPE	0.313	0.000	0.000	24.000	0.250	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.17686	0.00000
3EXC-VALVE PCV-1161	23	24.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-12R	18	28.000	SPE	0.313	0.000	0.000	24.000	0.250	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.17686	0.00000
3EXC-12P	68	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-10	2	28.000	SPE	0.313	0.415	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-9P	52	28.000	SPE	0.313	0.364	0.000	0.000	0.000	0.00	180	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-9	4	28.000	SPE	0.313	0.418	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-8P	54	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-8	4	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-7P	54	28.000	SPE	0.313	0.314	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-7	2	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-6P	52	28.000	SPE	0.313	0.349	0.000	0.000	0.000	0.00	90	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-6	2	28.000	SPE	0.313	0.443	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-5P	52	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	180	0.00	A672/A5511/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-5	2	28.000	SPE	0.313	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-4P	52	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.00000	0.00000
3EXC-4	14	28.000	SPE	0.313	0.000	0.000	20.000	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.17686	0.08843	0.08843
Line Name : ES3-4-3RDPT ES to FWH 23C																								
3EXC-4P-1 US	64	20.000	10	0.250	0.267	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-1A	64	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-1	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-1N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : ES3-5-3RDPT ES to FWH 23C																								
3EXC-11R	7	28.000	SPE	0.313	0.319	0.000	20.000	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.08843	0.00000
3EXC-3P	57	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-3	4	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-2P	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-2A	54	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-2	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
3EXC-2N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	19	0	1125.600	0.000	0.08843	0.00000	0.00000
Line Name : ES7-1-5THPT ES to FWH 25ABC																								
5EX-VALVE-5EX-1	22	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-17P	58	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-VALVE-5EX-3	25	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-17P-1	58	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-VALVE-5EX-4	25	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-17	3	28.000	STD	0.375	0.570	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-16P US	53	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-16P DS	53	28.000	STD	0.375	0.539	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-16	4	28.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-15P US	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-15P DS	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-15	2	28.000	STD	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-14P	52	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-14	4	28.000	STD	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-13P US	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-13P	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-13P DS	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-13	2	28.000	STD	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-12	4	28.000	STD	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-11P	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-11	4	28.000	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-8P US	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-8P DS	54	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.00000	0.00000
5EX-8	14	28.000	STD	0.375	0.000	0.000	18.000	0.312	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	1.16379	0.77586	0.38793
Line Name : ES7-2-5THPT ESHDR to FWH 25C																								
5EX-VALVE 5EX-5-2	22	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-9	2	18.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-9-10	52	18.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-10	2	18.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-10N	30	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
Line Name : ES7-3-5THPT ESHDR 25CT to BT																								
5EX-5P US	64	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.77386	0.00000	0.00000
5EX-5P DS	64	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.77386	0.00000	0.00000
5EX-5	14	28.000	STD	0.375	0.000	0.000	18.000	0.312	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.77586	0.38793	0.38793
Line Name : ES7-4-5THPT ESHDR to FWH 25B																								
5EX-6P1	64	18.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-VALVE 5EX-5-1	22	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-6	2	18.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-6-7	52	18.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-7	2	18.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-7N	30	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000

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 : ES7-5-5THPT ESHDR to FWH 25A																								
5EX-4	7	28.000	STD	0.375	0.000	0.000	18.000	0.312	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-3P US	57	18.000	20	0.312	0.507	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-3	2	18.000	20	0.312	0.498	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-2P	52	18.000	20	0.312	0.513	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-VALVE 5EX-5	22	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-2	4	18.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-1-2	54	18.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-1	2	18.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
5EX-1N	30	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.38793	0.00000	0.00000
Line Name : ES7A-1-SEP TKA VNT to FWH25																								
MOPS1	31	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS2	3	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS3	3	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS4	53	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS5	2	20.000	20	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS6	4	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS7	4	20.000	20	0.375	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS8	54	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
Line Name : ES7A-2-SEP TKB VNT to FWH25																								
MOPS9	31	20.000	20	0.375	0.633	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS10	61	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS11	4	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS12	54	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS13	2	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS14	52	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS15	4	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS16	54	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS17	1	20.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
MOPS18	51	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	120	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	223	0	1137.900	0.000	0.58189	0.00000	0.00000
Line Name : ES8-1-6THPT ES to HDR																								
6EX-28N	31	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-28	4	12.750	40	0.406	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-27P	54	12.750	40	0.406	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-27	4	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-23P	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-23	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-22P	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-22R	18	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.31625	0.00000
6EX-22A	68	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
Line Name : ES8-3-6THPT ESHDR to FWH 26																								
6EX-22	12	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.63250	0.31625
Line Name : ES8-2-6THPT ES to HDR																								
6EX-26-1N	31	12.750	40	0.406	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-26-1	4	12.750	40	0.406	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-26P	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-26-2	1	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-25P	51	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000

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.
6EX-25	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-24P	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000
6EX-24	1	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.31625	0.00000	0.00000

Line Name : ES8-3-6THPT ESHDR to FWH 26

6EX-21P	62	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-21	4	18.000	30	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-21C	54	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-VALVE-6EX-1	22	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-20B	58	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-VALVE-6EX-3	25	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-20A	58	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-VALVE-6EX-4	25	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-20	4	18.000	30	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-19P	54	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-19	2	18.000	30	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-18P	52	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-18	2	18.000	30	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-17P	52	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-17	2	18.000	30	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-16P	52	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-16	2	18.000	30	0.438	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-46P	52	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.00000	0.00000
6EX-14	14	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.63250	0.42167	0.21083

Line Name : ES8-4-6THPT ESHDR to FWH 26C

6EX-14R	17	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	180	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.21083	0.00000
6EX-14P	64	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-15	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-15P	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-13C	1	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-13	4	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-13P	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-VALVE-6EX-5-2	22	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-12P	58	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-12	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-11	4	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-11N	30	12.750	30	0.330	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000

Line Name : ES8-5-6THPT ESHDR 26CT to BT

6EX-10P	64	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.42167	0.00000	0.00000
6EX-10	14	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.42167	0.21083	0.21083

Line Name : ES8-6-6THPT ESHDR to FWH 26B

6EX-10R	17	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	180	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.21083	0.00000
6EX-9P	64	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-9	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-8BP	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-8B	1	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-8	4	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-6P	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-VALVE-6EX-5-1	22	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-7P	58	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-7	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-6	4	12.750	XS	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-6N	30	12.750	XS	0.500	0.531	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : ES8-7-6THPT ESHDR to FWH 26A																								
6EX-51	64	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-5A	17	18.000	30	0.438	0.000	0.000	12.750	0.330	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.21083	0.00000
6EX-5P	67	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-5	4	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-4P	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-4	4	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-3P	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-3	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-1P	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-VALVE-6EX-5	22	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-2P	58	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-2	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-1	4	12.750	XS	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
6EX-1N	30	12.750	XS	0.500	0.661	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	362	0	1172.600	0.000	0.21083	0.00000	0.00000
Line Name : FW71-1-BFP21 DISCH to HDR																								
BFD-14N	31	16.000	100	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-14P	61	16.000	100	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-14R	18	20.000	80	1.031	0.000	0.000	16.000	1.031	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	6.63141	0.00000
BFD-14	4	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-14P-1	54	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD VALVE-BFD-1	25	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-14P-2	58	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD VALVE-BFD-2-21	22	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-2	4	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-2P US	54	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-2P DS	54	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-4	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-4P US	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-5	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-5P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-6	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-6P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-7	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-7P US	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-7P DS	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-8	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-8P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-9	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-9P US	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-9P DS	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-10	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-10P US	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-10P DS	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
Line Name : FW72-1-BFP22 DISCH to HDR																								
BFD-15N	31	16.000	100	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-15R	18	20.000	80	1.031	0.000	0.000	16.000	1.031	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	6.63141	0.00000
BFD-15P-1	68	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-15	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-15P US	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-15P DS	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-12	1	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-12P	51	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-VALVE-BFD-1-1	25	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-12P-1	58	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000

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.
BFD-VALVE-BFD-2-22	22	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-12P-2	58	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-16	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-16P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-13	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-13P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-17	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-17P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-18	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-18P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-19	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-19P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-20	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-20P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-21	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-21P US	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-21P DS	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-22	2	20.000	80	1.031	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-22P	52	20.000	80	1.031	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	0.00000	0.00000
BFD-23R	18	30.000	SPE	1.260	0.000	0.000	20.000	1.031	0.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	6.63141	0.00000

Line Name : FW73-1-BFPHDR to FWH26ABC

BFD-11	12	30.000	SPE	1.260	0.000	0.000	20.000	1.031	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	6.63141	13.26283	6.63141
BFD-23	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-24	4	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-24P DS	54	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-25	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-25P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-26	4	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-26P US	54	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-27	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-27P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-28	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-28P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-29	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-29P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	180	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-32	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-32P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-32T	15	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	13.26283	0.00000

Line Name : FW73-2-BFPHDR to FWH26ABC

BFD-32P-1	65	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	0.00000	0.00000
BFD-32T-C	14	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	13.26283	8.84188	4.42094

Line Name : FW73-3-BFPHDR to FWH26C

BFD-40P US	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-40	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-41P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-VALVE-BFD-3-2	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-41P-1	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-41	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-42P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-42	1	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-42N	30	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000

Line Name : FW73-4-BFPHDR to FWH26ABC

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.
BFD-32P-2	64	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	8.84188	0.00000	0.00000
BFD-32T-B	14	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	8.84188	4.42094	4.42094

Line Name : FW73-5-BFPHDR to FWH26B

BFD-37P	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-37	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-38P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-VALVE-BFD-3-1	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-38P-1	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-38	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-39P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-39	1	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-39N	30	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000

Line Name : FW73-6-BFPHDR to FWH26A

BFD-33R	7	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	4.42094	0.00000
BFD-33P-1 DS	57	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-33	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-33P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-33P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-34	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-34P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-34P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-VALVE-BFD-3	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-34P-1	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-35	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-35P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-36	1	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000
BFD-36N	30	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	4.42094	0.00000	0.00000

Line Name : FW74-1-FWH26A to DISHDR

BFD-55N	31	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-55	4	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-55P	54	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-56	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-VALVE-BFD-4	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-56P-1	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-57	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-57P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-58	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-58P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-59	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-59P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-59R	18	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	4.42094	0.00000

Line Name : FW74-3-FWH26 to DISHDR

BFD-54T	12	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	8.84188	4.42094

Line Name : FW74-2-FWH26B to DISHDR

BFD-51N	31	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-51	4	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-51P	54	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-52	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-52P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-VALVE-BFD-4-1	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000

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.
BFD-52P-1	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-53	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-53P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-54	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-54P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000

Line Name : FW74-3-FWH26 to DISHDR

BFD-54P-1	62	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	8.84188	0.00000	0.00000

Line Name : FW74-5-FWH26 to DISHDR

BFD-50T	12	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	8.84188	13.26283	4.42094

Line Name : FW74-4-FWH26C to DISHDR

BFD-47N	31	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-47	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-47P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-48	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-48P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-VALVE-BFD-4-2	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-48P-1	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-49	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	180	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-49P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-50	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-50P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000
BFD-50P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	4.42094	0.00000	0.00000

Line Name : FW74-5-FWH26 to DISHDR

BFD-50P-1	62	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-46T	15	30.000	SPE	1.260	0.000	0.000	18.000	0.937	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	13.26283	0.00000
BFD-46P	65	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-60	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-30	4	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-30P US	54	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-30P DS	54	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-31	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-31P US	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-61	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-61P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-62	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-62P US	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-62P DS	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-63	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-63P US	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	0	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-63P DS	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	0	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-64	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-64P	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-65	2	30.000	SPE	1.260	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPC/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-65P-1	52	30.000	SPE	1.260	0.000	0.000	0.000	0.000	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	13.26283	0.00000	0.00000
BFD-72T	13	30.000	SPE	1.260	0.000	0.000	18.000	0.938	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	0.00000	0.00000	0.00000

Line Name : FW76-2-DISHDR to SG22

BFD-78T	13	30.000	SPE	1.260	0.000	0.000	18.000	0.938	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : FW77-2-DISHDR to SG24

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. (Mlbm/hr)	Br.
BFD-84T	13	30.000	SPE	1.260	0.000	0.000	18.000	0.938	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : FW78-1-DISHDR to SG23																								
BFD-89T	12	30.000	SPE	1.260	0.000	0.000	18.000	0.938	0.00	90	0.00	A672/B7021/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : FW75-1-DISHDR to SG21																								
BFD-72P US	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-72P DS	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-72	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-72P-1 US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-72P-1 DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-5	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-72R	7	18.000	80	0.938	0.000	0.000	12.750	0.844	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	3.31571	0.00000
BFD-VALVE-FCV-417	24	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-71R	18	18.000	80	0.938	0.000	0.000	12.750	0.843	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	3.31571	0.00000
BFD-71	4	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-70P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-70P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-70	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-69P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-69P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-69	1	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-68P US	51	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-68P DS	51	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-68	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-67P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-67P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-6	25	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-7	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-67	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-66	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-66P	54	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-96	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-96P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-97	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-97P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-98	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-98P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-98P-1	9	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-99	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-99N	30	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
Line Name : FW76-1-DISHDR to SG22																								
BFD-78P	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-78	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-78P-1 US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-5-1	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-78P-2	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-FCV-427	24	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-77R	18	18.000	80	0.938	0.000	0.000	12.750	0.843	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	3.31571	0.00000
BFD-77P	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-77	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-76P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-76	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-75P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-75	1	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-74P	51	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000

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.
BFD-74	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-73P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-6-1	25	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-7-1	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-73	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-73P	54	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-91	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-91P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92-1	1	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92P-1	51	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	45	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92-2	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92P-2	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-92P-3	9	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-93	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-93P US	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-93P DS	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-94	1	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-95	3	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-95P	53	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-95R	18	20.000	60	0.812	0.000	0.000	18.000	0.750	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	3.31571	0.00000
BFD-95N	30	20.000	60	0.812	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000

Line Name : FW77-1-DISHDR to SG24

BFD-84P	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-84	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-84P-1	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-5-3	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-84P-2	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-FCV-447	24	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-83R	18	18.000	80	0.938	0.000	0.000	12.750	0.843	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	3.31571	0.00000
BFD-83	4	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-82P US	54	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-82P DS	54	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-82	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-81P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-81	1	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-80	4	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-80P	54	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-6-3	25	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-7-3	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-79	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-104P	54	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-104	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-105P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-105	2	18.000	60	0.750	0.000	0.000	0.000	0.000	5.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-105-1	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-105P-1	54	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-105P-2	9	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-106	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-106P	54	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-106N	30	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000

Line Name : FW78-1-DISHDR to SG23

BFD-89P	64	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-89	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-89P-1	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-5-2	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-89P-2	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000

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.
BFD-VALVE-FCV-437	24	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-3R	18	18.000	80	0.938	0.000	0.000	12.750	0.843	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	3.31571	0.00000
BFD-3P	58	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-3	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-88P	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-88	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-87P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-87P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-87	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-86P US	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-86P DS	52	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-6-2	25	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-VALVE-BFD-7-2	22	18.000	80	0.938	0.000	0.000	0.000	0.000	0.00	0	0.00	A216/WCB/	0.00	0.00	0.00	1440	450	1127	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-86	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-85	4	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-100P	54	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-100	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-101P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-101	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-102P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	45	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-102	2	18.000	60	0.750	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-102P-1	52	18.000	60	0.750	0.000	0.000	0.000	0.000	5.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-102P-2	9	18.000	60	0.750	0.000	0.000	0.000	0.000	5.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-103	2	18.000	60	0.750	0.000	0.000	0.000	0.000	5.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-103P	52	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/C/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000
BFD-103N	30	18.000	60	0.750	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	450	1000	429	0.000	0.000	3.31571	0.00000	0.00000

Line Name : HD-FWH 21A Drain to Cond 23

1HD-208-1N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-Valve-LCV1124	24	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-1R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-Valve-1EX-1-5	22	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-1P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-2N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : HD-FWH 21B Drain to Cond 22

1HD-208-4N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-Valve-LCV1125	24	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-4R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-Valve-1EX-1-3	22	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-4P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-5N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : HD-FWH 21C Drain to Cond 21

1HD-208-6N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-Valve-LCV1126	24	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-6R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-Valve-1EX-1-1	22	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-6P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
1HD-208-7N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : HD-FWH 22A Drain to FWH 21A

2EX-A-1N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : HD-FWH 22B Drain to FWH 21B

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.
2EX-234-1N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-31E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-Valve-2EX-1-1	22	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-33P	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-Valve-LCV1122	25	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-36R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-Valve-2EX-7-1	22	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-3P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-3E	3	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-4P	53	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-5T	13	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-6P	63	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-6N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-7P	63	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-8E	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-9P	52	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
2EX-234-9N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : HD-FWH 22C Drain to FWH 21C

2EX-C-45N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : HD12-1-FWH26A to CV

6EXD-9N	31	10.750	30	0.307	1.614	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-9P US	61	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-8	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-8P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-7	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-7P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-6	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-6P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-1	2	10.750	30	0.307	0.395	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-1P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-1-1R	17	10.750	30	0.307	0.410	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.44354	0.00000

Line Name : HD12-2-FWH26B to CV

6EXD-13N	31	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-13P	61	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-12	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-12P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-11	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-11P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-2	2	10.750	30	0.307	0.407	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-2P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-2-1R	17	10.750	30	0.307	0.405	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.44354	0.00000

Line Name : HD12-3-FWH26C to CV

6EXD-18N	31	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-18P	61	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-18	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-17P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-17	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-16P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-16	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-15P-1	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-15	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-15P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000

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.
6EXD-3	2	10.750	30	0.307	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-3P	52	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.00000	0.00000
6EXD-3-1R	17	10.750	30	0.307	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	343	0	373.400	0.000	0.44354	0.44354	0.00000
Line Name : HD12-4-FWH26A CV to HTR DR TK																								
6EX1D-VALVE-LCV-1101	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A217/WC6/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX1D-R2	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WP5/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX1D-P2	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P5/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX1D-N2	30	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
Line Name : HD12-5-FWH26B CV to HTR DR TK																								
6EX2D-VALVE-LCV-1102	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A217/WC6/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX2D-R2	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WP5/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX2D-P2	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P5/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX2D-N2	30	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
Line Name : HD12-6-FWH26C CV to HTR DR TK																								
6EX3D-VALVE-LCV-1103	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A217/WC6/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX3D-R2	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WP5/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX3D-P2	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P5/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
6EX3D-N2	30	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	450	450	204	0	373.400	0.000	0.44354	0.00000	0.00000
Line Name : HD19-1-HDT to HDP 21 SUCT																								
5EX-21N	31	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-21P	61	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-21	16	24.000	20	0.375	0.436	0.000	18.000	0.312	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	1.64383	0.00000
5EX-22	3	18.000	20	0.312	0.417	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-22P	53	18.000	20	0.312	0.408	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-VALVE-5EX-16	22	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-23P-1	58	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-23N	30	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
Line Name : HD19-2-HDT to HDP 22 SUCT																								
5EX-26N	31	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-26P	61	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-26	16	24.000	20	0.375	0.423	0.000	18.000	0.312	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	1.64383	0.00000
5EX-27P	66	18.000	20	0.312	0.399	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-VALVE-5EX-16-1	22	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-28P-1	58	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
5EX-28N	30	18.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	190	388	0.000	0.000	1.64383	0.00000	0.00000
Line Name : HD20-1-HDP21 to BFP SUCTION																								
HD-8N	31	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-VALVE-HD-1	25	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-8P	58	8.625	40	0.322	0.410	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-VALVE-LCV-1127	24	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-7	18	12.750	XS	0.500	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-VALVE-HD-2	22	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-3P	52	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-3	2	12.750	XS	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-3P-1	52	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-5P US	9	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-5P DS	9	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000

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 : HD20-2-HDP22 to BFP SUCTION																								
HD-10N	31	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-VALVE-HD-1-1	25	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-10P	58	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-VALVE-LCV-1127A	24	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-9	18	12.750	XS	0.500	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	1.64383	0.00000
HD-VALVE-HD-2-1	22	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-4P	58	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-4	2	12.750	XS	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-4A	52	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-6P DS	9	12.750	XS	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-6	12	16.000	60	0.656	0.000	0.000	12.750	0.500	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	1.64383
HD-5AP US	62	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
HD-5AP DS	62	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	0.00000	0.00000
Line Name : HD20-3-HDP DIS T to BFP SUC																								
HD-5	12	16.000	60	0.656	0.000	0.000	12.750	0.500	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	1.64383	3.28767	1.64383
HD-11P DS	62	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-11	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-2P US	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-2	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-12P	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-12	1	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-13P	51	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-13	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-14P	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-14	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-15P	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-15	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-15P-1 DS	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-16	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-16P US	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-17	15	16.000	60	0.656	0.000	0.000	14.000	0.593	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-17P	65	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-1	2	16.000	60	0.656	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
HD-1P	52	16.000	60	0.656	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	730	400	550	388	0.000	0.000	3.28767	0.00000	0.00000
Line Name : HD21A-1-FWH24A to CV																								
4EXD-13N	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-13P	61	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-13T	15	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-13P-1	65	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-12	3	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-11P	53	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-11	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-10P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-10	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-9P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-9	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-8P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-8	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-7P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-7	16	6.625	40	0.280	0.000	0.000	4.500	0.237	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-VALVE-4EX-8	22	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-6	7	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-6P	57	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-181/60/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000

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 : HD21A-2-FWH24A CV to FWH23A																								
4EXD-VALVE- LCV-1115	24	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-5	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-4	12	6.625	40	0.280	0.444	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.17557
4EXD-4P	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-1-1	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-1	4	6.625	40	0.280	0.312	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-1P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-1N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
Line Name : HD22A-1-FWH24B to CV																								
4EXD-48N	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-48P	61	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-48	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-47P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	135	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-47	12	6.625	40	0.280	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.17557
4EXD-46P	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-46	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-45P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-45	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-44	3	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-44P	53	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-43	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-42P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-42	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-41P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-41	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-40P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-40P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-40	16	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-VALVE-4EX-8-1	22	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-39	7	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-39P	57	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
Line Name : HD22A-2-FWH24B CV to FWH23B																								
4EXD-VALVE-LCV-1116	24	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-38	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-37	12	6.625	40	0.280	0.444	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.17557
4EXD-2-1	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-37P US	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-2	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-2P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-2N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
Line Name : HD23A-1-FWH24C to CV																								
4EXD-71N	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-71P	61	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-71	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-70P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-70	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-69	12	6.625	40	0.280	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.17557
4EXD-69P	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-68	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-67P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-67	2	6.625	40	0.280	0.308	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000

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.
4EXD-66P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-66	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-65P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-65	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-64P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-64	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-63P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-63	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-62P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-62	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-61P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-61	16	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-VALVE-4EX-8-2	22	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-60	7	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-60P	57	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	0	228.100	0.000	0.17557	0.00000	0.00000

Line Name : HD23A-2-FWH24C CV to FWH23C

4EXD-VALVE-LCV-1117	24	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-59	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.17557	0.00000
4EXD-58	12	6.625	40	0.280	0.448	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.17557
4EXD-58P	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-3-1	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-3	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-3P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000
4EXD-3N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	17	0	228.100	0.000	0.17557	0.00000	0.00000

Line Name : HD242A-1-FWH23A CV to FWH22A

242-VALVE-LCV-1118	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
242-8R	18	8.625	20	0.250	0.344	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.37135	0.00000
242-VALVE-3EX-9	22	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
242-9P	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
242-10T	12	8.625	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.37135
242-11P	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
242-12N	18	10.750	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.37135	0.00000

Line Name : HD243A-1-FWH23B CV to FWH22B

243-VALVE-LCV-1119	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
243-9R	18	8.625	20	0.250	0.409	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.37135	0.00000
243-VALVE-3EX-9-1	22	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
243-10P	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
243-11T	12	8.625	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.37135
243-12P	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
243-13N	18	10.750	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.37135	0.00000

Line Name : HD244A-1-FWH23C CV to FWH22C

244-VALVE-LCV-1119	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
244-9R	18	8.625	20	0.250	0.319	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.37135	0.00000
244-VALVE-3EX-9-2	22	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
244-10P	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
244-11T	12	8.625	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.37135
244-12P	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.00000	0.00000
244-13N	30	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	-3	206	0.000	0.000	0.37135	0.37135	0.00000

Line Name : HD24A-1-FWH23A to CV

3EXD-1N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000

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.
3EXD-1P	61	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-1	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-2P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-2	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-2P-1 US	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-2P-1 DS	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-3	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-3P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-4	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-4P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-5	2	8.625	20	0.250	0.285	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-5P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-6	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-6P US	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-6P DS	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-7	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-7P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-8	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-8P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-9	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-9P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-10	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-10P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-11	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-11P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-12	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-12P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-13	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-13P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-14	15	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.37135	0.00000
3EXD-20P	65	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-20	2	8.625	20	0.250	0.299	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-20P-1 US	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-20P-1 DS	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-21	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-21P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-22	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-22P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-1P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-2E	1	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-3P	51	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	45	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-4E	1	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-5E	4	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-6P	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-7E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
242-7R	7	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.37135	0.00000

Line Name : HD25A-1-FWH23B to CV

3EXD-23N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-23P	61	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-23	2	8.625	20	0.250	0.278	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-24	4	8.625	20	0.250	0.309	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-24P	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-25	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-25P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-26	4	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-26P	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-27	3	8.625	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-27P	53	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-28	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-28P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-29	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000

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.
3EXD-29P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-30	2	8.625	20	0.250	0.287	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-30P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-31	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-31P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-32	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-32P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-33	2	8.625	20	0.250	0.292	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-33P US	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-33P DS	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-34	15	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.37135	0.00000
3EXD-40P	65	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-40	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-40P-1	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-41	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-41P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-42	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-42P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-1P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-2E	1	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-3P	51	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	45	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-4E	1	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-5P	51	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-6E	4	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-7P	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-8E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
243-8R	7	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.37135	0.00000

Line Name : HD26A-1-FWH23C to CV

3EXD-43N	31	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-43P	61	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-43	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-43P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-44	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-44P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-45	4	8.625	20	0.250	0.325	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-45P	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-46	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-46P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-47	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-47P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-48	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-48P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-49	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-49P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-50	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-50P US	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-50P DS	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-51	15	8.625	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.37135	0.00000
3EXD-58P US	65	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-58P DS	65	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-58	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-58P-1	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-59	2	8.625	20	0.250	0.299	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-59P US	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-59P DS	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-60	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
3EXD-60P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-1P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-2E	1	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-3P	51	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	45	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-4E	1	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000

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.
244-5P	51	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-6E	4	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-7P	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-8E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.00000	0.00000
244-8R	7	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	17	206	0.000	0.000	0.37135	0.37135	0.00000

Line Name : HD9-1-FWH25A to HTR DRN TK

5EXD-21N	31	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-21P	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-21	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-15P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-15	4	10.750	20	0.250	0.310	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-16P	54	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-16	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-17P US	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-17P DS	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-17	2	10.750	20	0.250	0.295	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-18P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-18	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-19P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-19	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-20P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-20P DS	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-20	2	10.750	20	0.250	0.304	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-VALVE-5EX-8	22	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-20N	30	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000

Line Name : HD9-2-FWH25B to HTR DRN TK

5EXD-9N	31	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-9P	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-9	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-10P DS	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-10	2	10.750	20	0.250	0.309	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-11P US	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-11	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-12P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-12	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-13P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-13	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-14P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-14P DS	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-14	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-VALVE-5EX-8-1	22	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-14N	30	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000

Line Name : HD9-3-FWH25C to HTR DRN TK

5EXD-1N	31	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-1P	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-3	2	10.750	20	0.250	0.296	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-2P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-4	2	10.750	20	0.250	0.285	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-3P US	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-3P DS	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-5	2	10.750	20	0.250	0.295	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-4P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-1	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-5P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-2	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000

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. (Mlbm/hr)	Br.
5EXD-6P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-6	2	10.750	20	0.250	0.285	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-7	4	10.750	20	0.250	0.280	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-8P	54	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-8	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-VALVE-5EX-8-2	22	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
5EXD-8N	30	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	204	389	0.000	0.000	0.38793	0.00000	0.00000
Line Name :	**MS-HP Turbine to MPS A**																							
TEMP01	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	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 MPS B**																							
TEMP02	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	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 MPS C**																							
TEMP03	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	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 MPS D**																							
TEMP04	31	32.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**MS56-1-PRESEP to MSR-A**																							
5EX-49N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49P1	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49EJ1	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49P2	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49EJ2	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-52	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-52P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-53	4	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-53R	18	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	2.68699	0.00000
5EX-53P	68	48.500	SPE	1.000	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
Line Name :	**MS56-3-PRESEP to MSR-A**																							
5EX-54	12	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	5.37398	2.68699
Line Name :	**MS56-2-PRESEP to MSR-A**																							
5EX-50N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50P1	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50P2	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-62	1	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50EJ1	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50P3	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50EJ2	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-51	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-51P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
Line Name :	**MS56-3-PRESEP to MSR-A**																							
5EX-54P	62	48.500	SPE	1.000	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37398	0.00000	0.00000

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.
5EX-55	14	48.500	SPE	1.000	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37397	3.58265	1.79132

Line Name : MS56-4-PRESEP to MSR23A

5EX-55EJ1	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-55EJ2	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-56	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-56P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-56N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000

Line Name : MS56-5-PRESEP to MSR-A

5EX-55R	7	48.500	SPE	1.000	0.000	0.000	38.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	3.58265	0.00000
5EX-55P-1	68	38.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	0.00000	0.00000
5EX-57	14	38.000	SPE	0.500	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	1.79132	1.79132

Line Name : MS56-6-PRESEP to MSR22A

5EX-57EJ1	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-57EJ2	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-58	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-58P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-58N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000

Line Name : MS56-7-PRESEP to MSR21A

5EX-57R	7	38.250	SPE	0.625	0.000	0.000	27.750	0.625	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	1.79132	0.00000
5EX-57P2	57	27.750	SPE	0.625	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59EJ1	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59P	56	27.750	SPE	0.625	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59EJ2	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-60	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-60P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-60N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000

Line Name : MS57-1-PRESEP to MSR-B

5EX-37N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37P1	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37EJ1	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37P2	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37EJ2	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-40	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-40P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-41	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-41R	18	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	2.68699	0.00000

Line Name : MS57-3-PRESEP to MSR-B

5EX-42	12	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	5.37397	2.68699

Line Name : MS57-2-PRESEP to MSR-B

5EX-38N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-38P	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-38	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000

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.
5EX-61P1	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61	1	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61EJ1	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61P2	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61EJ2	6	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-39	2	33.250	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-39P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
Line Name :	**MS57-3-PRESEP to MSR-B**																							
5EX-41P	62	48.500	SPE	1.000	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37397	0.00000	0.00000
5EX-43	14	48.500	SPE	1.000	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37397	3.58265	1.79132
Line Name :	**MS57-4-PRESEP to MSR23B**																							
5EX-43EJ1	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-43EJ2	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-44	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-44N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
Line Name :	**MS57-5-PRESEP to MSR-B**																							
5EX-43R	7	48.500	SPE	1.000	0.000	0.000	38.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	3.58265	0.00000
5EX-43P1	57	38.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	0.00000	0.00000
5EX-45	14	38.000	SPE	0.500	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	1.79132	1.79132
Line Name :	**MS57-6-PRESEP to MSR22B**																							
5EX-45EJ1	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-45EJ2	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-46	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-46N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
Line Name :	**MS57-7-PRESEP to MSR21B**																							
5EX-45R	7	38.250	SPE	0.625	0.000	0.000	27.750	0.625	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	1.79132	0.00000
5EX-47P2	57	27.750	SPE	0.625	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-47	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-47EJ1	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-47EJ2	6	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-48	2	27.750	SPE	0.625	0.000	0.000	0.000	0.000	1.50	90	0.00	SA-31/TP304/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-48N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A285/C/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
Line Name :	**MSD27-1-MS21A to MSDT 21A**																							
1A-16N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1A-16P-1	61	12.750	20	0.250	0.410	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1A-16P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name :	**MSD27-4-MS21A to MSDT 21A**																							
1A-17	12	12.750	20	0.250	0.405	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.08811	0.04406
Line Name :	**MSD27-2-MS21A to MSDT 21A**																							
1A-17N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1A-17P-1	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

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 : MSD27-3-MS21A to MSDT 21A																								
1A-19N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1A-19P-1	61	12.750	20	0.250	0.408	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1A-19P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD27-5-MS21A to MSDT 21A																								
1A-18	11	12.750	20	0.250	0.410	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.04406	0.13217
1A-18P US	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-18P DS	62	12.750	20	0.250	0.263	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-20	2	12.750	20	0.250	0.430	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-VALVE-5EX-19L	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-20P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-VALVE-5EX-19M	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-20P-1	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-20N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
Line Name : MSD28-1-MS22A to MSDT 22A																								
2A-16N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2A-16P-1	61	12.750	20	0.250	0.404	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2A-16P	62	12.750	20	0.250	0.399	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD28-4-MS22A to MSDT 22A																								
2A-17	12	12.750	20	0.250	0.000	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.08811	0.04406
Line Name : MSD28-2-MS22A to MSDT 22A																								
2A-17N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2A-17P1	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.00000	0.00000
Line Name : MSD28-3-MS22A to MSDT 22A																								
2A-19N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2A-19P-1	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2A-19P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD28-4-MS22A to MSDT 22A																								
2A-17P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD28-5-MS22A to MSDT 22A																								
2A-18	11	12.750	20	0.250	0.000	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.04406	0.13217
2A-18P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-20	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-VALVE-5EX-19J	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-20P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-VALVE-5EX-19K	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-20P-1	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-20N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
Line Name : MSD29-1-MS23A to MSDT 23A																								
3A-16N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

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.
3A-16P-1	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3A-16P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

Line Name : MSD29-4-MS23A to MSDT 23A

3A-17	12	12.750	20	0.250	0.402	0.000	12.750	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.08811	0.04406

Line Name : MSD29-2-MS23A to MSDT 23A

3A-17N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3A-17P1	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.00000	0.00000

Line Name : MSD29-3-MS23A to MSDT 23A

3A-19N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3A-19P-1	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3A-19P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

Line Name : MSD29-4-MS23A to MSDT 23A

3A-17P	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

Line Name : MSD29-5-MS23A to MSDT 23A

3A-18	11	12.750	20	0.250	0.393	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.04406	0.13217
3A-18P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-20	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-VALVE-5EX-19G	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-20P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-VALVE-5EX-19H	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-20P-1 US	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-20P-1 DS	58	12.750	20	0.250	0.278	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-21	2	12.750	20	0.250	0.305	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-21P	52	12.750	20	0.250	0.292	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-21N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD30-1-MS21B to MSDT 21B

1B-16N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1B-16P-1	61	12.750	20	0.250	0.435	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1B-16P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

Line Name : MSD30-5-MS21B to MSDT 21B

1B-17	11	12.750	20	0.250	0.415	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.04406	0.13217

Line Name : MSD30-2-MS21B to MSDT 21B

1B-18N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1B-18P	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

Line Name : MSD30-3-MS21B to MSDT 21B

1B-19N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1B-19P-1	61	12.750	20	0.250	0.407	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
1B-19P	62	12.750	20	0.250	0.398	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

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 : MSD30-4-MS21B to MSDT 21B																								
1B-18	12	12.750	20	0.250	0.396	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.08811	0.04406
Line Name : MSD30-5-MS21B to MSDT 21B																								
1B-17P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-20	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-VALVE-5EX-19	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-20P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-VALVE-5EX-19F	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-20P-1	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-20N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
Line Name : MSD31-1-MS22B to MSDT 22B																								
2B-16N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2B-16P-1	61	12.750	20	0.250	0.413	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2B-16P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD31-5-MS22B to MSDT 22B																								
2B-17	11	12.750	20	0.250	0.411	0.000	12.750	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.04406	0.13217
Line Name : MSD31-2-MS22B to MSDT 22B																								
2B-18N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2B-18P1	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.00000	0.00000
Line Name : MSD31-3-MS22B to MSDT 22B																								
2B-19N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2B-19P-1	61	12.750	20	0.250	0.419	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
2B-19P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD31-4-MS22B to MSDT 22B																								
2B-18	12	12.750	20	0.250	0.367	0.000	12.750	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.08811	0.04406
2B-18P	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD31-5-MS22B to MSDT 22B																								
2B-17P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-20	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-VALVE-5EX-19D	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-20P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-VALVE-5EX-19E	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-20P-1	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-20N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
Line Name : MSD32-1-MS23B to MSDT 23B																								
3B-16N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3B-16P-1	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3B-16P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000

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 : MSD32-5-MS23B to MSDT 23B																								
3B-17	11	12.750	20	0.250	0.437	0.000	12.750	0.250	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.04406	0.13217
Line Name : MSD32-2-MS23B to MSDT 23B																								
3B-18N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3B-18P1	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.08811	0.00000	0.00000
Line Name : MSD32-3-MS23B to MSDT 23B																								
3B-19N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3B-19P-1	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
3B-19P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD32-4-MS23B to MSDT 23B																								
3B-18	12	12.750	20	0.250	0.417	0.000	12.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.08811	0.04406
3B-18P	61	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.04406	0.00000	0.00000
Line Name : MSD32-5-MS23B to MSDT 23B																								
3B-17P	62	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-20	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-VALVE-5EX-19B	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-20P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-VALVE-5EX-19C	25	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-20P-1	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-21	2	12.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-21P	52	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-21N	30	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
Line Name : MSD33A-1-MSDT 21A to HDT																								
1A-12N	31	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-12P	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-12	15	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
1A-12P-1	64	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-11	16	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
1A-11P	66	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-10	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-10P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-1	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-VALVE-5EX-29-1	25	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-2	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-2P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-3	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-3P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-4	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-4P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-5	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-5P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-6	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-6P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-7	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-7P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-8	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-8P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-9	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

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.
1A-9P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-13P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-15	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1A-15N	30	6.625	40	0.280	0.438	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD34A-1-MSDT 22A to HDT

2A-3N	31	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-3P-1	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-3	15	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
2A-3P	64	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-4	16	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
2A-4P	66	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-5	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-5P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-1	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-VALVE-5EX-29-2	25	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-2P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	90.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-2	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-2P-1	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-6	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-6P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-7	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-7P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-8	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-8P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-9	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-9P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-10	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-10P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-12	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-12P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-13P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-15	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2A-15N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD35A-1-MSDT 23A to HDT

3A-16N	31	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-16P US	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-16	15	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
3A-1P	64	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-1	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
3A-VALVE-5EX-29-3	25	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-2P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-2	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-3	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-3P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-17	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-17P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-18	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-18P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-19	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-19P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-20	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-20P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-21	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-21P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-13P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

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.
3A-15	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3A-15N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD36A-1-MSDT 21B to HDT

1B-3N	31	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-3P	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-3	2	8.625	40	0.322	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-4P	52	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-4	2	8.625	40	0.322	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-5	15	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
1B-5R	7	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	180	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
1B-5P	57	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-1	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-VALVE-5EX-29-4	25	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-2P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-2	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-6P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-6	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-7P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-7	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-7P-1	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-8	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-8P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-9	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-9P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-10	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-10P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-10P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-11	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-11P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-11P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-12	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-12P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-12P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-14	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-14P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-13P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-15	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-15P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
1B-15N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD37A-1-MSDT 22B to HDT

2B-1N	31	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-1P	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-1	15	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
2B-2P	64	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-2	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
2B-3	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-3P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-4	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-VALVE-5EX-29-5	25	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-4P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-5	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-5P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-6	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-6P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-7	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-7P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-7P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

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.
2B-8	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-8P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-8P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-9	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-9P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-9P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-10	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-10P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-10P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-11	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-11P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-12	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-12P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-12P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-13P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-15	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-15P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
2B-15N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD38A-1-MSDT 23B to HDT

3B-3N	31	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-3P	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-3	15	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
3B-4P	64	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-4	16	8.625	40	0.322	0.000	0.000	6.625	0.280	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.13217	0.00000
3B-5	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-5P	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-1	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-VALVE-5EX-29-6	25	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-2P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-2	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-2P-1	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-6	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-6P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-7	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-7P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-8	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-8P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-9	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-9P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-10	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-10P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-10P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-11	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-11P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-11P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-12	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-12P US	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-14	1	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-14P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-13	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-13P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-15	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-15P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	18.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000
3B-15N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	200	0	365.000	0.000	0.13217	0.00000	0.00000

Line Name : MSD39-1-RHTR 21A to RHDT 21A

MS-1AN	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A0P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	165	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-1AN-1	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
Line Name : MSD40-1-RHTR 22A to RHDT 22A																								
MS-2AN	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A0P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	165	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2AN-1	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
Line Name : MSD41-1-RHTR 23A to RHDT 23A																								
MS-3AN	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A0P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	165	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3AN-1	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
Line Name : MSD42-1-RHTR 21B to RHDT 21B																								
MS-1BN	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B0P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	165	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1BN-1	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
Line Name : MSD43-1-RHTR 22B to RHDT 22B																								
MS-2BN	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B0P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	165	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2BN-1	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
Line Name : MSD44-1-RHTR 23B to RHDT 23B																								
MS-3BN	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B0P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	165	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3BN-1	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
Line Name : MSD45A-1-RHDT21A to CV																								
MS-1A11N	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A11P-1	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A11	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A11P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A11P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A12	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A12P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A12P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A13	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A13P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A13P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A14	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A14P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A14AP	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A14P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A14A	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A15	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A15P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A15P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A16	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A16P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A17	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A17P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A17P DS	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A18	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-1A18P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A19	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A20	3	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A20P	53	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A21	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A21P US	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A21P DS	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A21R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A21P-1	68	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A22	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A22P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A22P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A22P-1	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A23	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A24	4	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A24P DS	54	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A24R	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A24P-1	67	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A24FE	6	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A25P-1	56	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A25	15	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A25P	65	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A26	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A26P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A27	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A27P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A28	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A28P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A28P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A29	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A29P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A29P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A30	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A30P-1	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A30R-1	17	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000

Line Name : MSD45B-1-RHDT21A CV to FWH26

MS-1A-VALVE-LCV-1104	24	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A30R2	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A30P2	68	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A31	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A31P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A32	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A32P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD45C-1-RHDT A HDR to FWH26

MS-1A34P1	62	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD45C-2-RHDT A HDR to FWH26

MS-1A34T2	12	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.22367	0.11183
MS-1A34P2	62	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A35	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000

Line Name : MSD45C-3-RHDT A HDR to FWH26

MS-1A35T	12	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.33550	0.11183
MS-1A36	3	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000

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.
MS-1A36P US	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A36P DS	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A37	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A37P US	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A37P DS	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A38	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A38P	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A39	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A39P	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	45	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A40	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A40P	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-1A41	14	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.22367	0.11183

Line Name : MSD45C-4-RHDT A HDR to FWH26C

MS-1A63P US	64	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A63P DS	64	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A63	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A64P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A64P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A64	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A65P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A65P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A65	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A-VALVE-MS-14-2	22	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A66P US	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A66P DS	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A66	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-1A67P US	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A67P DS	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A67	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-1A67P-1	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A67R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A67N	30	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD45C-5-RHDT A HDR to FWH26

MS-1A41R	7	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.22367	0.00000
MS-1A41P-1 US	57	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A41P-1 DS	57	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A42	1	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A42P US	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A42P DS	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A43	1	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A43P US	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A43P DS	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A44	1	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A44P US	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A44P DS	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A45	1	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A45P US	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1A68	14	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.11183	0.11183

Line Name : MSD45D-1-RHDT A HDR to FWH26B

MS-1A68P	64	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A55	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A55P	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A56	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A57	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A57P	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-1A57P DS	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A58	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A58P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A59	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A59P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A59P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A60	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A-VALVE-MS-14-1	22	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A60P US	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A60P DS	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A61	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-1A61P US	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A61P DS	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A62	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-1A61P-1	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A62R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A62N	30	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD45D-2-RHDT A HDR to FWH26A

MS-1A45R	7	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A45P-1 US	67	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A45P-1 DS	67	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A46	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A46P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A47	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A47P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A47P DS	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A48	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A49	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A49P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A49P DS	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A50	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A50P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A51	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A51P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A51P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A52	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A-VALVE-MS-14	22	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A52P US	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A52P DS	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A53	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-1A53P US	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A53P DS	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A54	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-1A53P-1	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1A54R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1A54N	30	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD46A-2-RHDT22A CV to FWH26

MS-2A-VALVE-LCV-1104A	24	3.500	160	0.438	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A24R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2A23P	68	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A24	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A24P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A25	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A25P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD46A-1-RHDT22A to CV

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.
MS-2A11N	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A11P-1	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A11	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A11P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A11P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A12	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A12P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A12P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A13	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A13P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A14	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A14P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15R-1	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2A15P-1	68	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15R-2	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2A15P-2	67	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15FE	6	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15P-3	56	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15R-3	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2A15P-4	68	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A15P-5	15	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2A15P-6	65	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A16	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A16P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A17	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A17P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A17P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A18	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A18P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A18P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A19	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A19P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A19P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A20	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A20P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A21	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A21P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A21P DS	52	8.625	80	0.500	0.560	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A21R	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2A22	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A22P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A22P DS	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A23	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A23P-1	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2A23R	17	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000

Line Name : MSD47-1-RHDT23A to CV

MS-3A11N	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A11P	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A11	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A12P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	112	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A12	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A13P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A13	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A14P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A14	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A15P-1 US	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A15P-1 DS	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A15	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A15P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A16	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-3A16P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A16FE	6	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A17P-1	56	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A17R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A17	4	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A17P	54	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A18	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A18P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A19	15	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-3A19R	7	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A19P US	57	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A19P DS	57	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A20	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A21	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A21P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A21P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A22	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A22P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A23	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A23R	7	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD47-2-RHDT23A CV to FWH26

MS-3A-VALVE-LCV-1104B	24	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A24R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-3A23P	68	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A24	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A24P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A25	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3A25P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD48A-1-RHDT21B to CV

MS-1B11N	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B11P-1	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B11	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B11P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B12	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B12P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B13	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B13P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B14	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B14P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B14FE	6	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B14P-1 US	56	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B15	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B15P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B16	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B16P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B17	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B17P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B18	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B18P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B19	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B19P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B20	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B20P-1	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B20R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B20P	68	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B21	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B22	4	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B22P	54	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-1B23	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B23P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B23R	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1B24	15	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1B24P US	65	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1B25	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B25P	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	45	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B26	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B27P-1	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B27	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B27P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B28	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B28P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B29	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B29P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B30	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B30P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B31	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B31P US	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B31P DS	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B32	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B32P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B32P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B33	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B33P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B33R	17	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000

Line Name : MSD48B-1-RHDT21B CV to FWH26

MS-1B-VALVE-LCV-1105	24	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B34R	18	6.625	80	0.432	0.000	0.000	4.500	0.337	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-1B33P-1	68	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B34	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B34P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B34P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B35	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-1B35P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD48B-2-RHDT B HDR to FWH26

MS-1B36P US	62	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B36P DS	62	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B37	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B37P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B38	1	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B38P	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B39	1	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-1B39P	51	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000

Line Name : MSD49A-1-RHDT22B to CV

MS-2B11N	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B11P-1	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B11	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B11P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B12	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B12P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B13	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B13P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B14	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B14P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-2B15	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B15P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B16	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B16P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17P-3	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17R-1	18	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17P DS	68	10.750	80	0.594	0.636	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17R-2	17	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B17P-1 US	67	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17FE	6	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B17P-2 DS	56	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B18R	18	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B18P-1 US	68	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B18	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B18P	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B19	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B19P	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B20	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B20P	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B21	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B21P US	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B21P DS	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B22	2	10.750	80	0.594	0.633	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B23	4	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B23P US	54	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B23P DS	54	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B24	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B24P DS	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B25	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B25P US	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B26	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B26P	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B27	15	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B27P-1	65	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B27R	17	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B27P-2	67	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B28R	18	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B28P-1	68	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B28	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B28P	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B29	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B29P	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B30	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B30R1	7	10.750	80	0.594	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000

Line Name : MSD49B-1-RHDT22B CV to FWH26

MS-2B-VALVE-LCV-1105A	24	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B30R2	18	10.750	60	0.500	0.000	0.000	4.500	0.337	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B31P	68	10.750	60	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B31	2	10.750	60	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B31P US	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B31P DS	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B32	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B32P US	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B32P DS	51	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B33	1	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD49C-1-RHDT B HDR to FWH26

MS-2B34	12	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.33550	0.11183

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.
MS-2B33P	62	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-2B35	2	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-2B35P	52	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-2B36	4	10.750	80	0.594	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-2B36P US	54	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-2B36P DS	54	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.00000	0.00000
MS-2B63	14	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.33550	0.22367	0.11183

Line Name : MSD49C-2-RHDT B HDR to FWH26C

MS-2B63P	64	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B50	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B50P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B51	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B52	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B52P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B52P DS	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B53	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B-VALVE-MS-15-2	22	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B53P US	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B53P DS	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B54	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-2B54P	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B55	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-2B55P	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B55R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000

Line Name : MSD49C-3-RHDT B HDR

MS-2B63P-1 US	64	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.00000	0.00000
MS-2B64	14	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.22367	0.11183	0.11183

Line Name : MSD49C-4-RHDT B HDR to FWH26B

MS-2B64P	64	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B44	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B44P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B45	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B45P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B45P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B46	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B46P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B46P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B47	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B-VALVE-MS-15-1	22	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B47P US	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B47P DS	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B48	12	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-2B48P US	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B48P DS	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B49	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-2B49P	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B49R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B49N	30	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD49C-5-RHDT B HDR to FWH26A

MS-2B64R	7	10.750	80	0.594	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B64P-1 US	57	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B37	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-2B37P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B38	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B38P	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B39	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B39P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B40	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B40P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B40P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B41	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B-VALVE-MS-15	22	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B41P	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B42	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-2B42P US	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B42P DS	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B43	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.11183
MS-2B43P	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-2B43R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-2B43N	30	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD50A-1-RHDT23B to CV

MS-3B11N	31	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B11P-1	61	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B11	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B11P	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B12	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B12P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B13	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B13P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B14	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B14P	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B15	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B16	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B16P	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B17	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B17P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B18	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B18P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B19	2	6.625	80	0.432	0.457	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B20	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B20P US	54	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B21	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B21P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B21FE	6	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B21P-1	56	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B22	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B22P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B22P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B23	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B23P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B24	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B24P US	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B24P DS	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B25	2	6.625	80	0.432	0.441	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B25P	51	6.625	80	0.432	0.437	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B26	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B26P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B27	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B27P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B28	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B28P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B29	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B29P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000

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.
MS-3B30	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B30P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B31	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B31P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B30	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B30P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B31	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B31P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B32	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B32P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B33	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B33P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B34	12	6.625	80	0.432	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.11183
MS-3B34P	62	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B35	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B35P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B36	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B36P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B37	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B37P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B38	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B38P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B38P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B39	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B40	4	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B40R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000
MS-3B40P	68	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B41	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B41P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B41P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B42	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B42P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B42P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B42R	17	8.625	80	0.500	0.000	0.000	4.500	0.337	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.11183	0.11183	0.00000

Line Name : MSD50C-1-RHDT23B CV to FWH26

MS-3B-VALVE-LCV-1105B	24	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B43R	18	8.625	80	0.500	0.000	0.000	4.500	0.337	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.11183	0.00000
MS-3B43	4	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000
MS-3B43P US	54	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.00000	0.00000

Line Name : MSD48B-2-RHDT B HDR to FWH26

MS-1B36	12	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	343	0	462.300	0.000	0.11183	0.22367	0.11183

Line Name : PD-MPS A to Separating Tk A

TEMP07	31	20.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-MPS B to Separating Tk A

TEMP08	31	20.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-MPS C to Separating Tk B

TEMP09	31	20.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-MPS D to Separating Tk B

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.
TEMP10	31	20.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-Sep Tk A Drn thru LCV-5198																								
STD-271-Valve-MPS-749	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-22P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-23R	17	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-Valve-LCV5198	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-24R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-25P	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-Valve-MPS-750	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-26P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-26T	12	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-Sep Tk A Drn thru LCV-5199																								
STD-271-16E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-Valve-MPS-747	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-17P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-18R	17	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-Valve-LCV5199	24	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-19R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-20P	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-Valve-MPS-748	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-21E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-21P	54	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-Sep Tk A Drn to Ctrl Valves																								
STD-271-1N	31	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-2E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-3P	54	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-4E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-5P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-6E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-FE-5344	6	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-7P	56	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-8E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-9P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-10E	1	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-11P	51	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-12E	1	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-13P	51	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-14E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-Sep Tk A Drn thru LCV-5198																								
STD-271-15T	13	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-Sep Tk A Valves to HD Tk																								
STD-271-27P	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-271-28N	30	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : PD-Sep Tk B Drn thru LCV-5205																								
STD-249-Valve-MPS-778	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-17P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
STD-249-18R	17	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-Valve-LCV5205	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-19R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-20P	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-Valve-MPS-779	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-21P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-29T	12	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-Sep Tk B Drn thru LCV-5206

STD-249-22E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-Valve-MPS-776	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-23P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-24R	17	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-Valve-LCV5206	24	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-94-25R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-94-26P	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-Valve-MPS-777	22	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-27P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-28E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-28P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-Sep Tk B Drn to Ctrl Valves

STD-249-1N	31	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-1P	61	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-2E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-3P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-4E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-5P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-6E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-FE-5345	6	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-7P	56	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-8E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-9P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-10E	1	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-11P	51	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-12E	1	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-13P	51	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-14E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-15P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-Sep Tk B Drn thru LCV-5205

STD-249-16T	13	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : PD-Sep Tk B Valves to HD Tk

STD-249-30P	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
STD-249-31N	30	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : SG51-1-CONT PEN to SGBFTK

MS46-1P-1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-1	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-1P US	52	2.375	80	0.218	0.248	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-1P DS	52	2.375	80	0.218	0.244	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-2	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-2P-3	52	2.375	80	0.218	0.256	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-VALVE-PCV-1214	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

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.
MS46-2P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-VALVE-PCV-1214A	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-2P-1	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-2R	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS46-2P-2	68	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-3	3	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-3P	53	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-3FE	6	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-4P-1 US	56	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-4P-1 DS	56	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-4	16	3.500	80	0.300	0.317	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS46-4P US	66	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-4P DS	66	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-5	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-5P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-VALVE-MS-131-A	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-6P1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-6	1	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-6P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-6-1	1	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-6-1P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS46-7	15	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS46-VALVE-HCV-5046	24	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-7R	7	2.375	80	0.218	0.000	0.000	1.315	0.179	0.00	90	0.00	A-182/F316L/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS46-7P2	67	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS46-Valve-MS-71-A	20	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

Line Name : SG52-1-CONT PEN to SGBFTK

MS45-1P-1	52	2.375	80	0.218	0.252	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-1	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-1P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-2	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-VALVE-PCV-1215	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-2P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-VALVE-PCV-1215A	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-2P-1	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-2R	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS45-2P-3	68	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-3	3	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-3P	53	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-3FE	6	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-3P-1	56	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-4	1	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-4P	51	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-5	16	3.500	80	0.300	0.000	0.000	2.375	0.218	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-VALVE-MS-131-B	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-5P	66	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-6	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-6P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-7	15	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS45-VALVE-HCV-5047	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-7R	7	2.375	80	0.218	0.000	0.000	1.315	0.179	0.00	90	0.00	A-182/F316L/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS45-7P2	57	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS45-VALVE-MS-71-B	20	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

Line Name : SG53-1-CONT PEN to SGBFTK

MS47-1P-1	52	2.375	80	0.218	0.240	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-1	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-1P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-2	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

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.
MS47-VALVE-PCV-1216	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-2P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-VALVE-PCV-1216A	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-2P-1	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-2R	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS47-2P-2	68	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-3	3	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-3P	53	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-3FE	6	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-4P-1	56	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-4	16	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-4P DS	66	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-5	2	2.375	80	0.218	0.299	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-5P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-6	1	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-6P	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-VALVE-MS-131C	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-7	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-7P1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-8	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-8VP	52	2.375	80	0.218	0.236	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-9	15	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS47-9P	62	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-10	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-VALVE-HCV-5048	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-10P1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-31/TP304/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-10R	17	2.375	80	0.218	0.000	0.000	1.315	0.179	0.00	90	0.00	SA-18/F304L/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS47-10P2	67	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-31/TP316/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS47-VALVE-MS-71C	20	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

Line Name : SG54-1-CONT PEN to SGBFTK

MS48-1P-1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	63.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00783	0.00000	0.00000
MS48-1	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-1P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-2	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-1P-2	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	63.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00783	0.00000	0.00000
MS48-VALVE-PCV-1217	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-2P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-VALVE-PCV-1217A	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-2P-1	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-2R	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS48-2P-2	68	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-3	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-3P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-3FE	6	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-4P-1	56	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-4	16	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-4P	66	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-5	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-5P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-6	1	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-6P	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-VALVE-MS-131D	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-7	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-7P1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-8	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-8VP	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-9	15	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS48-9P	65	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-10	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-10P1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-VALVE-HCV-5049	22	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

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.
MS48-10R	17	2.375	80	0.218	0.000	0.000	1.315	0.179	0.00	90	0.00	SA-18/F304L/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00384	0.00000
MS48-10P2	67	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-31/TP316/	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000
MS48-VALVE-MS-71D	20	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A105//	0.00	0.00	0.00	1085	556	665	0	430.000	0.000	0.00384	0.00000	0.00000

Line Name : xES4-1-4THPT ES to FWH 24A

4EXA-15N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXA-15P	61	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXA-15	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXA-14X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXA-14P US	56	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.17556	0.00000	0.00000
4EXA-14P US1	56	20.000	10	0.250	0.386	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.17556	0.00000	0.00000
4EXA-14P DS	56	20.000	10	0.250	0.291	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.00000	0.00000	0.00000
4EXA-14	3	20.000	10	0.250	0.294	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-13	3	20.000	10	0.250	0.320	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-VALVE-4EX-1	22	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-12P	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-VALVE-4EX-2	25	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-12A	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-12	1	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-11P	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-11	1	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-10P	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-10	1	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-9P	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	135	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-9	1	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-8P	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-8	4	20.000	10	0.250	0.389	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-8A	54	20.000	10	0.250	0.316	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-7	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-7P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-6	4	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-6P DS	54	20.000	10	0.250	0.262	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-5	2	20.000	10	0.250	0.358	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-4P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-4	4	20.000	10	0.250	0.483	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-3P US	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-3	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-2P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-2	2	20.000	10	0.250	0.368	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-1-2	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-1	2	20.000	10	0.250	0.475	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXA-1N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000

Line Name : xES5-1-4THPT ES to FWH 24B

4EXB-13N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A516/60/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXB-13P	61	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXB-13	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXB-12X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXB-12P US	56	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-12P DS1	56	20.000	10	0.250	0.308	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-12P DS	56	20.000	10	0.250	0.269	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-12	3	20.000	10	0.250	0.304	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-11	3	20.000	10	0.250	0.314	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-VALVE-4EX-3	22	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-13P	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-VALVE-4EX-4	25	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-14P	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-10	2	20.000	10	0.250	0.499	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-9P US	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A335/P22/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-9P DS	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A335/P22/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000

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.
4EXB-9	2	20.000	10	0.250	0.494	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-8P	52	20.000	10	0.250	0.268	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-8	4	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-7P	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-7	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-6P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-6	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-5P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-5	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-4P US	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-4P DS	52	20.000	10	0.250	0.282	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-4	4	20.000	10	0.250	0.512	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-3P US	54	20.000	10	0.250	0.297	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-3P DS	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-3	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-2P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-2	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-1P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-1	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXB-1N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000

Line Name : xES6-1-4THPT ES to FWH 24C

4EXC-16N	31	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-16P	61	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-16	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-15X	6	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-15P US	56	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-15P DS1	56	20.000	10	0.250	0.385	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-15P DS	56	20.000	10	0.250	0.253	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-15	3	20.000	10	0.250	0.301	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-14	3	20.000	10	0.250	0.300	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-14P-1	53	20.000	10	0.250	0.272	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-VALVE-4EX-5	22	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-14P	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-VALVE-4EX-6	25	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A216/WCB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-13P DS	58	20.000	10	0.250	0.345	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-13	1	20.000	10	0.250	0.314	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-12P US	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-12P DS	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-12	2	20.000	10	0.250	0.537	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-11P	52	20.000	10	0.250	0.290	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-11	3	20.000	10	0.250	0.312	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-10P	53	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	135	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-10	1	20.000	10	0.250	0.295	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-9P	51	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-9	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-8P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-8	4	20.000	10	0.250	0.473	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-7P	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-7	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-6P	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-6	4	20.000	10	0.250	0.442	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-5P US	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-5P DS	54	20.000	10	0.250	0.496	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-5	2	20.000	10	0.250	0.343	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-4P US	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-4	4	20.000	10	0.250	0.498	0.000	0.000	0.000	1.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-3P US	54	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-3P DS	54	20.000	10	0.250	0.321	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-3	2	20.000	10	0.250	0.488	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-2P	52	20.000	10	0.250	0.270	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-2	2	20.000	10	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000

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. (Mlbm/hr)	Br.
4EXC-1P US	52	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-1P DS	52	20.000	10	0.250	0.276	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-1	2	20.000	10	0.250	0.520	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000
4EXC-1N	30	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	100	400	59	0	1172.900	0.000	0.17556	0.00000	0.00000

Line Name : xNCW_15 HDT VENT TO 25A

5EXV-13N	31	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-13P US	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-13P DS	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-13	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-12P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-11	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-3	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-3N	30	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_15 HDT VENT TO 25B

5EXV-10N	31	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-10P	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-10	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-9P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-9	1	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-8	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-2	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-2N	30	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_15 HDT VENT TO 25C

5EXV-7N	31	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-7P	61	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-7	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-6P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-6	1	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-5	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-5P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-4	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-1	2	10.750	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000
5EXV-1N	30	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	203	389	1137.900	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_151 Main Steam

MS21-1 DS	52	28.000	SPE	0.912	0.000	0.000	0.000	0.000	0.00	0	0.00	A672/B7021/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS21-1	2	28.000	SPE	0.912	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPC/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_153 Main Steam

MS23-1	2	28.000	SPE	0.912	0.000	0.000	0.000	0.000	1.20	0	0.00	A234/WPC/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS23-1 DS	52	28.000	SPE	0.912	0.000	0.000	0.000	0.000	0.00	0	0.00	A672/B7021/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_18

5EXC-1P DS	61	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-1	4	24.000	20	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-2P US	54	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-2P DS	52	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-3	17	24.000	20	0.375	0.000	0.000	14.000	0.312	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-7P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-8	12	10.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
5EXC-30	18	14.000	20	0.312	0.000	0.000	10.750	0.250	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-11P DS	62	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-11	2	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	SA-31/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-11N	30	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-2	10	24.000	20	0.375	0.000	0.000	24.000	0.375	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-2A	60	24.000	20	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-13P	52	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-14	2	14.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-15P	52	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-16	12	10.750	20	0.250	0.000	0.000	10.750	0.250	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-31	18	14.000	20	0.312	0.000	0.000	10.750	0.250	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-17	12	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-17P US	62	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-19P DS	62	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-19	2	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-19P-1	52	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-19N	30	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-21P-1 US	57	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-21P-1 DS	57	14.000	10	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-21P	52	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-24	2	14.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-25	7	14.000	20	0.312	0.000	0.000	10.750	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-25P	58	10.750	20	0.250	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-27	12	14.000	20	0.312	0.000	0.000	14.000	0.312	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-27P	62	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	0	60.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-29	2	14.000	20	0.312	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-29P DS	62	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EXC-30P	52	14.000	20	0.312	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_19 HTR DRN PMP VENT

5EX-24P DS	52	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EX-25	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EX-25P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EX-29P DS	52	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EX-30	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
5EX-30P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_200

200-6E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
200-6P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
200-13E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
200-13P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_201

201-6E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
201-6P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
201-13E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
201-13P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_202

202-6E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
202-6P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
202-13E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
202-13P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_203

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. (Mlbm/hr)	Br.
203-6E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
203-6P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
203-13E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
203-13P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_204

204-6E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
204-6P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
204-13E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
204-13P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_205

205-5R	18	8.625	40	0.322	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-5P US	68	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-13R	18	8.625	40	0.322	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-13P US	68	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-14P DS	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-15T	12	8.625	40	0.322	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-15P US	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-22R	18	8.625	40	0.322	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-22P US	68	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-22P-1	58	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-5P-1 DS	58	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-23T	12	8.625	40	0.322	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-23P US	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-23P DS	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-24T	12	8.625	40	0.322	0.000	0.000	8.625	0.322	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
205-24P US	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_206

206-6P	58	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
206-7E	2	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
206-8E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
206-8P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
206-16E	19	10.750	80	0.594	0.000	0.000	8.625	0.500	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
206-16P	69	10.750	80	0.594	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_207

207-1R	18	3.500	40	0.216	0.000	0.000	2.375	0.154	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
207-9R	18	3.500	40	0.216	0.000	0.000	2.375	0.154	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	665	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_208

208-1R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-1P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-3R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-3P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-5R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-5P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-6R	18	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
208-6P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_209

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.
209-5P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
209-5E	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
209-1E	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
209-1P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
209-3E	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
209-3P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_210

210-3P-1	58	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-3P-2	58	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-3P-3 DS	58	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-4E	2	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-4P US	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-4P DS	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-5E	2	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
210-5P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_211

211-15P DS	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
211-16E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
211-16P US	58	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_212

212-1E	4	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
212-1P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
212-2P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
212-3P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_213

213-1P	58	6.625	XXS	0.864	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
213-3R	18	8.625	XXS	0.875	0.000	0.000	6.625	0.864	0.00	0	0.00	A182/F22/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
213-3P	68	8.625	XXS	0.875	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
213-4P	58	6.625	XXS	0.864	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
213-6R	18	8.625	XXS	0.875	0.000	0.000	6.625	0.864	0.00	0	0.00	A182/F22/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
213-6P	68	8.625	XXS	0.875	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_214

214-23P US	58	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
214-12P	58	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
214-25P	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
214-26E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
214-27P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_215

21BFPT	9	38.250	SPE	0.625	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
22BFPT	9	38.250	SPE	0.625	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-1P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-7P DS	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-8E	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-8P US	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-6P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-9P DS	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-10E	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
215-10P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-14R	18	3.500	40	0.216	0.000	0.000	2.375	0.154	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-15T	12	3.500	40	0.216	0.000	0.000	2.375	0.154	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-15P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-18P DS	52	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-19E	2	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-19P	52	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-20E	2	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-20P US	52	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-1P DS	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-2E	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A105//	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
215-2P US	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_216

216-1E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-4P DS	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-5E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-5P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-6N	30	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-4E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-4P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-3P DS	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-2E	1	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-1P	62	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-1P-1	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
216-2P US	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_217

217-10P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
217-11R	18	12.750	STD	0.375	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
217-11P	57	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
217-12E	3	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
217-12P	53	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_218

218-7P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
218-8E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
218-8P	54	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
218-9R	18	12.750	STD	0.375	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_219

219-6E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-6P	54	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-7R	18	12.750	STD	0.375	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-7P US	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-7P DS	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-8E	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-8P US	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-13P	51	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-14E	3	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-14P	51	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-15N	30	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-10P DS	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-11E	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
219-11P US	52	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : xNCW_21B																								
4EXD-34	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-34P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-35	16	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-36	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_220																								
220-1P DS	65	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-2E	2	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-2P US	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-7P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-8E	4	10.750	40	0.365	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-8P	54	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-9R	18	12.750	STD	0.375	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-9P US	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-9P DS	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-10E	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-10P US	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-14E	2	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-13P DS	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
220-14P US	54	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_221																								
221-10P DS	52	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
221-11E	2	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
221-12E	4	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
221-13P US	54	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_222																								
222-1P DS	9	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-2E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-3P	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-4E	1	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-6E	4	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-6P US	54	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-7E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-9P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-10E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-10P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-10P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-11E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
222-11P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_223																								
223-9R	18	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-10P1 DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-10T	12	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-10P US	62	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-10P DS	62	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-11P1 DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-11T	12	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-11P US	62	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-13P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-14E	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-14P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
223-14P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-15E	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-15P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-15P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-16E	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-16P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-16P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-17E	2	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-17P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-17P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-18E	2	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-18P	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-19E	4	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
223-19P US	54	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_224

224-5N	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-4P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-2P US	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-7P US	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-2P DS	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-3E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-12P US	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-7P DS	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-8E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-9P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-10N	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-12P DS	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-13E	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-14P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
224-15N	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_225

225-13P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
225-14R	18	12.750	STD	0.375	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
225-15P US	68	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_226

226-6P	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-7R	18	12.750	STD	0.375	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-7P US	57	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-9E	1	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-8P DS	51	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-9N	30	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-7P DS	57	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-8E	1	12.750	STD	0.375	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
226-8P US	51	12.750	STD	0.375	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_227

227-1P	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
227-2C	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
227-3P	9	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
227-4E	16	3.500	40	0.216	0.000	0.000	2.375	0.154	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
227-5P	66	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_228

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.
228-5P US	58	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-8P	58	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-11P US	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-11P DS	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-12E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-12P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-16E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-16P1 DS	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-17E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-17P US	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-15P DS	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
228-16P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_229

229-2P DS	9	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-3E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-3P	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-4E	1	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-5E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-6E	4	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-9P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-6P US	54	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-10E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-10P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-10P DS	52	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-11E	2	2.875	80	0.276	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
229-11P US	52	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_22B

4EXD-53P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-54	1	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-54P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-57	18	6.625	40	0.280	0.000	0.000	3.500	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	56	259	0.000	0.000	0.00000	0.00000	0.00000
4EXD-57P	68	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXD-58	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_230

230-17P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
230-18P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
230-19E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
230-19P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_231

231-2P DS	52	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
231-3E	1	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
231-3P	51	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
231-4E	2	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
231-4P US	52	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_232

232-1P	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
232-2C	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
232-3R	9	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
232-4R	17	3.500	40	0.216	0.000	0.000	2.375	0.154	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
232-5P US	67	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	SA-31/TP304/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_233																								
233-7P	58	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
233-9P	58	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
233-10E	1	20.000	20	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_234																								
234-2R	7	12.750	20	0.250	0.000	0.000	8.625	0.250	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_235																								
235-1P	9	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-2E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-3P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-3P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-4E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-5P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-5P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-6E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
235-7P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_235308(GLAND STM)																								
GS1	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
GS1R	18	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_236																								
236-2P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
236-2P DS	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
236-6P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
236-8P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
236-11P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
236-11P-1 DS	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_237																								
237-2P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
237-3P DS	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
237-5P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
237-6P DS	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
237-8P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
237-12P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
237-15P US	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_238																								
238-10P US	56	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
238-35P US	56	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_239																								
239-10P US	56	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
239-35P US	56	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
239-2P	61	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
239-3E	2	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
239-4P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_23B**																							
4EXD-74	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXD-78	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXD-78P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
4EXD-78N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_240**																							
240-10P US	56	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
240-35P US	56	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_241**																							
241-7N	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-8C	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-9R	9	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-10P	9	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-11E	16	3.500	40	0.216	0.000	0.000	2.375	0.154	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-12P US	66	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	SA-31/TP304/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-1N	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-2C	9	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-3R	9	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-4P US	9	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-4P DS	9	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-5E	16	3.500	40	0.216	0.000	0.000	2.375	0.154	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
241-6P US	66	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	SA-31/TP304/	0.00	0.00	0.00	221	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_245**																							
245-3P	56	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
245-7P	56	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	SA-31/TP304/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
245-11P	56	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
245-15P	56	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1440	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_246**																							
246-1N	31	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-2P	61	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-3E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-4P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-5E	1	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-6P US	51	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-6P DS	51	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-7E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-8E	4	2.875	40	0.203	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-17P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-18E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-19P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-21P DS	9	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-22E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
246-23P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_247**																							
247-1N	31	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
247-2P US	61	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_248																								
248-12P DS	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
248-13T	14	4.500	80	0.337	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
248-14P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
248-15C	9	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
248-16P US	54	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_249																								
249-25R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-26P	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-19R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-20P	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-21P DS	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-28P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-29T	12	10.750	40	0.365	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
249-30P US	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_24B																								
3EXD-15	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-16	7	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-16P	57	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-17	18	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-18	12	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-18P US	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_250																								
250-17P	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
250-1P	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
250-18P DS	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
250-18E	2	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
250-21P US	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_251																								
251-12E	4	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
251-13P US	54	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
251-21P	58	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
251-22E	4	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
251-23P US	54	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_252																								
252-3T	15	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-4P US	65	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-9P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-9T	10	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-18P US	60	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-10P US	60	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-10T	14	3.500	40	0.216	0.000	0.000	2.375	0.218	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-11P	64	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
252-30E	5	0.840	40	0.109	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

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 : xNCW_253																								
253-1N	31	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
253-2E	4	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
253-3PUS	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
253-4P DS	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
253-5T	12	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_254																								
254-15E	4	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-16P US	54	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-3E	4	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-4P US	54	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-20P DS	54	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-21E	4	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-22P US	54	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
254-7E	0	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_255																								
255-14P	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-14E	2	1.900	80	0.200	0.000	0.000	0.000	0.000	1.50	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-15P US	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-15P DS	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-16E	2	1.900	80	0.200	0.000	0.000	0.000	0.000	1.50	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-17P US	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-20T	15	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-24P DS	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-19P DS	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-25P US	62	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
255-13P	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_256																								
256-38E	1	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
256-37P DS	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
256-39P US	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
256-28P	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
256-39P DS	51	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
256-41P US	61	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
256-40T	11	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_257																								
257-7R	18	4.500	80	0.337	0.000	0.000	2.875	0.276	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
257-8P	68	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_258																								
258-6E	2	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
258-5P US	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_259																								
259-15E	4	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
259-16P US	54	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
259-3E	4	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
259-4P US	54	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
259-9E	2	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
259-8P DS	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
259-10P US	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_25B**																							
3EXD-37	18	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-38	12	8.625	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-38P US	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-34P	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_260**																							
260-1R	18	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
260-2P US	68	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_261**																							
261-21P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	150	225	0	0	0.000	0.000	0.00000	0.00000	0.00000
261-14P	58	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	150	225	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_262**																							
262-17P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
262-18T	13	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
262-20E	4	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
262-33P US	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
262-19R	17	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_263**																							
263-21P DS	62	12.750	30	0.330	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-23P US	60	12.750	30	0.330	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-25P US	57	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-22T	10	12.750	30	0.330	0.000	0.000	12.750	0.330	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-24R	7	12.750	30	0.330	0.000	0.000	10.750	0.307	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-14P DS	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-13R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-12P US	68	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-19R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-18P	68	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-17E	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-6R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
263-5P US	68	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_264**																							
264-1P	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
264-2E	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
264-3P US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
264-9P DS	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
264-10T	10	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
264-11P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
264-14P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_265**																							

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. (Mlbm/hr)	Br.
265-9P DS	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
265-10T	10	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
265-11P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
265-14P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_266**																							
266-9P DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
266-11P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
266-14P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
266-10T	10	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
266-1P	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
266-2E	2	1.315	80	0.179	0.000	0.000	0.000	0.000	1.50	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
266-3P US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_267**																							
267-6P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-6E1	1	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-6T	12	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-29E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-30P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-31R	18	6.625	40	0.280	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-32E	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
267-33P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_268**																							
268-10P DS	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
268-16P US	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
268-12P US	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
268-11T	10	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
268-3E	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
268-2P	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
268-4P US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_269**																							
269-2P	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
269-4P US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
269-3E	2	1.315	80	0.179	0.000	0.000	0.000	0.000	1.50	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
269-10P DS	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
269-12P US	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
269-16P US	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
269-11T	10	1.315	80	0.179	0.000	0.000	1.315	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_26B**																							
3EXD-52	4	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-52P US	54	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXD-53	2	8.625	20	0.250	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-54	7	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-55	18	8.625	20	0.250	0.000	0.000	6.625	0.280	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-56	12	8.625	20	0.250	0.000	0.000	8.625	0.250	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
3EXD-56P US	62	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	31	0.00	A53/BS/	0.00	0.00	0.00	50	300	55	259	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_270**																							
270-2P	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
270-4P US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
270-3E	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
270-10P DS	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
270-12P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
270-17P US	60	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
270-11T	10	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_271**																							
271-17P DS	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-18R	7	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-19R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-20P US	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-24R	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-25P US	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-27P US	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-26T	12	10.750	40	0.365	0.000	0.000	10.750	0.365	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-26P DS	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
271-21P	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_272**																							
272-3P	63	1.900	40	0.145	0.000	0.000	0.000	0.000	0.00	0	0.00	SA-31/TP304/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_273**																							
273-9P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
273-10E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
273-1P US	54	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
273-7P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
273-8E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
273-9P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_274**																							
274-25P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
274-25N	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
274-1N	31	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
274-1C	9	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
274-1P	9	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_275**																							
275-12P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-13E	3	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-14N	30	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-10P DS	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-11E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-12P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-8P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-9E	3	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
275-10P US	53	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_276**																							
276-1N	31	1.900	40	0.145	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
276-1P	61	1.900	40	0.145	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : xNCW_277																								
277-22P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-23N	31	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-20P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-21E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-22P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-18P DS	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-19E	2	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
277-20P US	52	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_278																								
278-1N	31	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
278-1C	9	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
278-1P	9	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
278-1E	2	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
278-2P	52	1.315	40	0.133	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_279																								
279-6R	18	2.875	40	0.203	0.000	0.000	2.375	0.154	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	450	220	0	0	0.000	0.000	0.00000	0.00000	0.00000
279-6P	68	2.875	40	0.203	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	450	220	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_280																								
280-8P US	56	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	300	420	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_281																								
281-13P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
281-12E	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
281-11P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
281-4P	68	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
281-3E	4	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
281-2P US	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_282																								
282-24R	7	10.750	40	0.365	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
282-22P DS	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
282-31P	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_283																								
283-6P DS	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
283-8R	7	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
283-20R	7	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
283-21P US	57	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
283-9P US	57	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_284																								
284-7R	18	8.625	40	0.322	0.000	0.000	4.500	0.237	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	300	420	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_285																								

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. (Mlbm/hr)	Br.
285-13P DS	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
285-1B-VCD-XE	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
285-15P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_286																								
286-3P DS	51	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
286-HV21C-1E	2	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
286-5P US	52	5.563	40	0.258	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_287																								
287-17P	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
287-16E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_288																								
288-2P DS	61	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
288-5EXV-DS-MS21A	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
288-4P US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_2R16 Misc Inspections																								
EST-18	9	1.050	80	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FE-419	6	28.000	FE419	1.187	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST-49	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_2R17 Misc Inspections																								
FE-449	6	28.000	SPE	0.912	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST-18	9	1.050	80	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST-49	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
DS-MS-46A	1	10.750	30	0.307	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
SGBD-SG22T	10	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_33B																								
1A-16	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-16P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-17	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-17P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-17P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-18P-1	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-21P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-22	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-22R	7	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
1A-22P	67	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_34B																								
2A-16P	63	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-16	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-17P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-17	3	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-18P	53	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-21P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-22	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-22P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
2A-27R	7	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-27R1	18	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2A-28P	57	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_35B

3A-14P	51	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-3P1	65	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-3	3	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-3P US	53	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-4	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-4P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-5	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-5P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-5P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-6	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-6P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-8P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-9	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-9P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-12R	7	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
3A-12P-1	57	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_36B

1B-16P US	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-16P DS	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-16	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-16P1 US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-20P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-21	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-21P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-22	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-22P	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-23	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_37B

2B-13P DS	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-14	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-15P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-19P-1 DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-19	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-20P-1 US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-20P-1 DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2B-20	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000
2B-20P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	207	380	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_38B

3B-17P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-18	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-19	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-19P US	54	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-21P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	365.000	0.000	0.00000	0.00000	0.00000
3B-22	4	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	365.000	0.000	0.00000	0.00000	0.00000
3B-22P US	54	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	180	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	365.000	0.000	0.00000	0.00000	0.00000
3B-22P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	365.000	0.000	0.00000	0.00000	0.00000
3B-23	2	6.625	40	0.280	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	202	389	0	0	365.000	0.000	0.00000	0.00000	0.00000
3B-23P US	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
3B-24P	58	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-24N	30	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	202	389	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_39**																							
MS-1AN-1	31	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1A1P	52	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1A1	2	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1A2P	52	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1A2	2	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1A3P US	52	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_42**																							
MS-1B2P DS	52	2.875	80	0.276	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1B2	2	2.875	80	0.276	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-1B3P US	52	2.875	80	0.276	0.000	0.000	0.000	0.000	1.50	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_43**																							
MS-2B1N	9	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B1	1	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B2P	9	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B2	1	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B3	1	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B4	1	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B4R	7	2.875	80	0.276	0.000	0.000	2.375	0.218	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B4N	30	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_44**																							
MS-3B4P	52	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-3B4	2	2.875	80	0.276	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_45B**																							
MS-1A25R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A33	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A33P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A33P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A34	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A34P-2	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A34R-1	17	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A34R-2	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	-14	0	1198.680	0.000	0.00000	0.00000	0.00000
MS-1A34P-1	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name :	**xNCW_46B**																							
MS-2A26P	63	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A26	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A26P-1 US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A26P-1 DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A27	5	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A27P US	55	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A27P DS	55	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A28	5	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A28P	55	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A29	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A29P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000

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.
MS-2A30	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A30P US	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A30P DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A31	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A31P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A32	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A32P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A32R	7	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A33R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	-14	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A33	12	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	-14	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A33P	62	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	-14	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A34	12	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	-14	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A34P	62	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	-14	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2A34N	30	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	-14	478	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_47																								
MS-3A28R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.00000	0.00000	0.00000
MS-3A28	15	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	542	0	462.300	0.000	0.00000	0.00000	0.00000
MS-3A29	15	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	542	0	462.300	0.000	0.00000	0.00000	0.00000
MS-3A29P	62	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-3A30N	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_48A																								
MS-1B41P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.00000	0.00000	0.00000
MS-1B41R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	0	462.300	0.000	0.00000	0.00000	0.00000
MS-1B42P	52	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_49B																								
MS-2B27P	63	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2B56	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2B56P	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A106/B/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2B61	2	8.625	80	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-2B62R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
MS-2B62P	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_50B																								
MS-3B44P1	58	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-3B44R	18	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS-3B44P	58	8.625	20	0.250	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_55A																								
BD3-13P	68	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-20	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-20P	58	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-21	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_55B																								
BD3-21P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-22	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-22P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-23	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-23P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-24	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000

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.
BD3-24P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_55C

BD3-47	13	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-49P-1	65	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
BD3-50	15	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
BD3-50P US	65	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
BD3-50P-1 DS	65	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
BD3-51R	7	3.500	80	0.300	0.000	0.000	1.900	0.200	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-52	2	1.900	80	0.200	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-52P	52	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	665	499	0.000	0.000	0.00000	0.00000	0.00000
BD3-53P	58	1.900	80	0.200	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
BD3-53R	18	3.500	80	0.300	0.000	0.000	1.900	0.200	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_56_CROSSUNDER (A)

5EX-49N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49P1	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49	2	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-49P2	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-52	1	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-52P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-53	4	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-53R	18	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	2.68699	0.00000
5EX-53P	68	48.500	SPE	1.000	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50P1	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50	2	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50P2	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-62	1	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-50P3	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-51	1	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-51P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-54	12	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	5.37398	2.68699
5EX-54P	62	48.500	SPE	1.000	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37398	0.00000	0.00000
5EX-55	14	48.500	SPE	1.000	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37397	3.58265	1.79132
5EX-55P	64	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-56	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-56P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-56N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-55R	7	48.500	SPE	1.000	0.000	0.000	38.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	3.58265	0.00000
5EX-55P-1	68	38.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	0.00000	0.00000
5EX-57	14	38.000	SPE	0.500	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	1.79132	1.79132
5EX-57P1	64	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-58	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-58P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-58N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-57R	7	38.000	SPE	0.500	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	1.79132	0.00000
5EX-57P2	57	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59P1	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-59P2	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-60	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-60P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-60N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000

Line Name : xNCW_57_CROSSUNDER (B)

5EX-37N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000

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.
5EX-37P1	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37	2	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-37P2	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-40	1	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-40P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-41	2	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-41R	18	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	2.68699	0.00000
5EX-38N	31	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-38P	61	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	180	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-38	2	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61P1	52	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61	1	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-61P2	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-39	1	33.000	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-39P	51	33.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	61	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	0.00000	0.00000
5EX-42	12	48.500	SPE	1.000	0.000	0.000	33.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	2.68699	5.37397	2.68699
5EX-41P	62	48.500	SPE	1.000	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37397	0.00000	0.00000
5EX-43	14	48.500	SPE	1.000	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	5.37397	3.58265	1.79132
5EX-43P	64	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-44	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-44P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-44N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-43R	7	48.500	SPE	1.000	0.000	0.000	38.000	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	3.58265	0.00000
5EX-43P1	57	38.000	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	0.00000	0.00000
5EX-45	14	27.500	SPE	0.500	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	3.58265	1.79132	1.79132
5EX-45P	64	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-46	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-46P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-46N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-45R	7	38.000	SPE	0.500	0.000	0.000	27.500	0.500	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	1.79132	0.00000
5EX-47P2	57	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-47	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-47P1	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-47P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	71	0.00	A285/C/	0.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-48	2	27.500	SPE	0.500	0.000	0.000	0.000	0.000	1.50	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-48P	52	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000
5EX-48N	30	27.500	SPE	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A155/KC702/	18.00	0.00	0.00	221	400	211	0	1137.900	0.000	1.79132	0.00000	0.00000

Line Name : xNCW_65A

1A-VCD34	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1A-VCD1	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1A-VCD1P	53	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1A-VCD2	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1A-VCD4P	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1A-VCD15	4	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD15P	54	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD13	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_65B

1A-VCD23	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD27P DS	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD28	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD28P US	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD32P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD33	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1A-VCD33P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_66A

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.
2A-VCD35	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD1	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD1P	54	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD2	1	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD3P	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD2P	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD4	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD4P	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
2A-VCD7	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD8	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD20	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD36P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD36	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD36P-1 US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD41P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD42	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD10	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD14	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_66B

2A-VCD23	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD26P DS	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD27	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD27P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD33P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD34P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2A-VCD34	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_67A

3A-VCD30	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD1P	68	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD1	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD1P-1 US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD2	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD2P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD16	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD7	4	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD7P	54	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD9	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_67B

3A-VCD16	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD18P	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD21P	51	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD22	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD22P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3A-VCD28	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD28P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD29	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3A-VCD29P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_68A

1B-VCD33	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1B-VCD1	3	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1B-VCD1P	53	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1B-VCD2	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
1B-VCD2P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
1B-VCD3P DS	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD4	12	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD18P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD19E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD19P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD4P US	62	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_68B

1B-VCD18P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD19	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD19P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD19P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD20	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD20P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD21	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD-22P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD-23	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD-23P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
1B-VCD32	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_69A

2B-VCD38	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD1	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD1P	54	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	135	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD2	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD2P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD7P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD8	10	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD9	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD39P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A335/P22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD39	4	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD8E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WP22/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD8P	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD8P-2 US	60	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_69B

2B-VCD21P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD22	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD22P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD22P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD23	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD23P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD25P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD26	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD26P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
2B-VCD31	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_70A

3B-VCD35	18	3.500	80	0.300	0.000	0.000	2.375	0.218	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3B-VCD1P	68	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3B-VCD2	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3B-VCD2P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	542	478	1128.000	0.000	0.00000	0.00000	0.00000
3B-VCD6P1 DS	62	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD7P1	58	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD11	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
3B-VCD16P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD17E	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_70B

3B-VCD17P	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD18	2	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD18P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD19P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD20	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD20P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD26	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD28P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD29	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD29P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD29P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD30	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD-30P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD33P DS	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD34	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
3B-VCD34P US	52	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_74

BFD-46	2	18.000	80	0.938	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	0.00000	0.00000	0.00000
BFD-65A	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	0.00000	0.00000	0.00000
BFD-65Q	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	0.00000	0.00000	0.00000
BFD-65Q1	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1440	450	1127	388	0.000	0.000	0.00000	0.00000	0.00000
EXNOZ_C	12	18.000	80	0.938	0.000	0.000	6.625	0.432	0.00	90	0.00	A106/B/	18.00	0.00	0.00	1440	450	1127	388	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_79A

3EX-TELO1P	61	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO1	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO1R	18	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO2	4	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO2P	54	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO9P	61	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BS/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO9	2	3.500	40	0.216	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	16	251	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_79B

3EX-TELO-23P DS	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO-24	2	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EX-TELO-25P US	52	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	90	0.00	A53/BE/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_83

CD-85P	9	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	0.00000	6.63149
CD-86P	9	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	0.00000	6.63149
CD-87E	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	0.00000	6.63149
CD-88P US	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	460	386	0.000	0.000	6.63149	0.00000	6.63149

Line Name : xNCW_85

GCD-1P	58	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-2	12	8.625	40	0.322	0.000	0.000	0.000	0.322	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-2P US	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-2P DS	62	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000

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.
GCD-3	1	8.625	40	0.322	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-3P	52	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-4	2	8.625	40	0.322	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-4P	51	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-5	11	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-5P	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-12P	61	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-14	2	8.625	40	0.322	0.000	0.000	0.000	0.000	1.50	0	0.00	A234/WPB/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-14P	52	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-16	1	8.625	40	0.322	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-15P	52	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000
GCD-16P	51	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	665	400	-14	210	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_86

UH-3P	63	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-4	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-4P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-4P-1	58	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-5	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-5P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-6	2	2.375	40	0.154	0.000	0.000	0.000	0.000	1.50	90	0.00	A234/WPB/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000
UH-6P	52	2.375	40	0.154	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	35	260	5	226	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_86A

UH-10B	4	3.500	40	0.216	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_87

MST-10P	51	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-11	1	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-10	1	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-9P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	135	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-9	19	6.625	80	0.432	0.000	0.000	4.500	0.337	1.50	135	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-8P	69	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	135	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-8	1	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-7P US	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-7P DS	51	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-7	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-6P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-6P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-6	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-5P US	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-5P DS	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-5	2	6.625	80	0.432	0.000	0.000	0.000	0.000	1.50	180	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-4P	52	6.625	80	0.432	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-4	19	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-3P	69	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-3	2	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-2P	69	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-2	16	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-1P	69	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-1	10	8.625	80	0.500	0.000	0.000	6.625	0.432	0.00	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-1P-1 DS	52	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-1N	30	8.625	80	0.500	0.000	0.000	0.000	0.000	0.00	90	0.00	A106/B/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_88

MST-16P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000

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.
MST-16	2	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-15P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-15	2	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-14P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-14	2	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	180	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-13P	52	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-13	1	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-12P	51	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-12	1	4.500	80	0.337	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-11P	51	4.500	80	0.337	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_89

MST-39P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-39	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-38P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-38	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-37P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-37	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-36P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-36	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-31	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-28P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-28	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-27P	52	3.500	80	0.300	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000
MST-27	2	3.500	80	0.300	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP316/	0.00	0.00	0.00	1085	600	10	210	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_90

EST-1T	12	6.625	40	0.280	0.000	0.000	4.500	0.237	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST-1P-1	62	6.625	40	0.280	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	18.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_91

EST-33R	18	4.500	40	0.237	0.000	0.000	1.050	0.154	0.00	0	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-33	19	4.500	40	0.237	0.000	0.000	2.375	0.218	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-32	4	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-31P-1	54	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-31P US	54	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-31P DS	54	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-31T	11	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-31	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-30P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-30P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-30B	1	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-30AP	52	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-30A	1	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-29P	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-25	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-24P	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-24	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	90	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-23P	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-22P	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	180	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-22	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	180	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-21P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-21P DS	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-21	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	180	0.00	A-403/WP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-20P US	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	90	0.00	A-312/TP304/	0.00	0.00	0.00	450	450	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-15	2	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	180	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-14P	52	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	0	0.00	A-312/TP304/	0.00	0.00	0.00	50	300	10	210	0.000	0.000	0.00000	0.00000	0.00000
EST-14	1	4.500	40	0.237	0.000	0.000	0.000	0.000	1.50	0	0.00	A-403/WP304/	0.00	0.00	0.00	50	300	0	0	0.000	0.000	0.00000	0.00000	0.00000

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. (Mlbm/hr)	Br.
Line Name : xNCW_9321-F-2027 Aux Steam																								
CONDR24-US Pipe	52	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BS/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
CONDR24-Elbow	2	4.500	40	0.237	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_9321-F-2586 Aux Steam																								
AS-DS-PCV-1250	18	4.500	40	0.237	0.000	0.000	3.500	0.216	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
AS-DS Valve UH-64	58	8.625	40	0.322	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
AS-US PCV-1251	7	8.625	40	0.322	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	35	260	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_Extraction Steam Traps																								
EST2-Pipe 2 DS	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Elbow 1	2	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Pipe 1	9	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Pipe 2 US	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Tee 1	12	1.050	40	0.113	0.000	0.000	1.050	0.113	0.00	0	0.00	A105//	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Pipe 3	60	0.840	40	0.109	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Pipe 4	62	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Pipe 5	62	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Elbow2	2	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST2-Pipe 6	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	450	450	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Pipe 1	9	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Elbow 1	2	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Pipe 2 US	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Pipe 2 DS	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Tee 1	12	1.050	40	0.113	0.000	0.000	1.050	0.113	0.00	0	0.00	A105//	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Pipe 3	62	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Pipe 4	62	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Elbow 2	2	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST4-Pipe 5	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Pipe 1	9	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Elbow 1	2	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Pipe 2 US	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Pipe 2 DS	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Tee 1	12	1.050	40	0.113	0.000	0.000	1.050	0.113	0.00	0	0.00	A105//	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Pipe 3	62	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Pipe 4	62	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Elbow 2	2	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
EST5-Pipe 5	52	1.050	40	0.113	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	100	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_FEEDWATER HEATER SHELLS																								
FWH-22C	9	54.750	FWH22	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	32	206	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-23B-1	9	53.875	FWH23	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	32	206	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-23B-2	9	53.875	FWH23	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-23C 1N	9	53.875	FWH23	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	32	206	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-23C 2N	9	53.875	FWH23	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	32	206	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-24A	9	51.875	FWH24	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	100	325	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-24B	9	51.875	FWH24	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	100	325	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-24C	9	51.875	FWH24	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/C/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-25A	9	54.125	FWH25	0.563	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-25B	9	54.125	FWH25	0.563	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-25C	9	54.125	FWH25	0.563	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-26A	9	62.000	FWH26	1.000	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-26B DR N2	9	8.625	160	0.906	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-26B DR MICRO	9	62.000	FWH26	1.000	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-26B DR N1	9	8.625	160	0.906	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
FWH-26B DR	9	62.000	FWH26	1.000	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-26B EX	9	62.000	FWH26	1.000	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
FWH-26C	9	62.000	FWH26	1.000	0.000	0.000	0.000	0.000	0.00	0	0.00	A516/70/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_FWH 21&22 Nozzles

LPFW21A-1N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-2N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-3N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-4N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-5N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-6N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21A-7N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-1N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-2N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-3N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-4N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-5N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-6N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21B-7N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-1N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-2N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-3N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-4N	30	26.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-5N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-6N	31	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW21C-7N	31	12.750	20	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-1N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-2N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22A-3N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-1N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-2N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22B-3N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-1N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-2N	30	22.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
LPFW22C-3N	30	14.000	40	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_Main Steam Traps

MST24-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Elbow 2	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Pipe 3 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Pipe 3 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST24-Pipe 4	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
DS Valve MS-100-2	58	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Elbow 2	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Pipe 3 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Pipe 3 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST27-Pipe 4	52	0.840	80	0.147	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
MST43-Elbow 2	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Pipe 3 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Pipe 3 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST43-Pipe 4	52	0.840	80	0.147	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Elbow 2	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Pipe 3 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Pipe 3 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST44-Pipe 4	52	0.840	80	0.147	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 1 US	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 1 DS	9	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Elbow 1	2	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 2 US	52	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 2 DS	52	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Elbow 2	2	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 3 US	52	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 3 DS	52	1.660	80	0.191	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Tee 1	12	1.660	80	0.191	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST45-Pipe 4	52	0.840	80	0.147	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Elbow 2	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Pipe 3 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Pipe 3 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST46-Pipe 4	52	0.840	80	0.147	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Pipe 3	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST50-Pipe 4	52	0.840	80	0.147	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Pipe 1	9	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Elbow 1	2	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Pipe 2 US	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Pipe 2 DS	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Tee 1	12	1.315	80	0.179	0.000	0.000	1.315	0.179	0.00	0	0.00	A105//	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Pipe 3	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
MST51-Pipe 4	52	1.315	80	0.179	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000

Line Name : xNCW_MICRO GRIDS

MS23-1 DS	52	28.000	SPE	0.912	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXC-12R MICRO	9	24.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO1	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO2	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO3	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO4	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO5	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3EXA-13R MICRO6	9	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
8-6EX-20A MICRO1	58	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
7-5EX-4 MICRO1	9	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
7-5EX-15 MICRO1	2	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
7-5EX-15 MICRO2	2	28.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000

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.
1-3EXA-11R MICRO A	67	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11R MICRO B	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11R MICRO C	67	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11R MICRO D	67	28.000	SPE	0.313	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11RP MICRO1	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11RP MICRO2	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11RP MICRO3	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11RP MICRO4	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11RP MICRO5	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
1-3EXA-11RP MICRO6	67	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
8-6EX-20A (100% SCAN)	58	18.000	30	0.438	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3-3EXC-3P MICRO1	9	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
3-3EXC-3P MICRO2	9	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
6-4EXC-15 MICRO1	3	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
6-4EXC-15 MICRO2	3	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
6-4EXC-15 MICRO3	3	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
4-EXB-14P M1	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
4-EXB-14P M2	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
4-EXB-14P M9	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
4-EXB-9P MA	58	20.000	10	0.250	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
MS21-1 DS	52	28.000	SPE	0.912	0.000	0.000	0.000	0.000	0.00	0	0.00	//	0.00	0.00	0.00	0	0	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_MOPS DRAIN_A																								
MPSD2	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD8	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD9	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD10	12	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD11	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD12	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_MOPS DRAIN_B																								
MPSD1	18	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD3	68	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD4	58	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD5	12	10.750	40	0.365	0.000	0.000	6.625	0.280	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD6	62	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
MPSD7	52	10.750	40	0.365	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	250	400	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_P&ID_227780																								
COMP1	62	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
COMP2	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
COMP3	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
COMP4	2	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
COMP5	52	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
COMP7	58	2.375	80	0.218	0.000	0.000	0.000	0.000	0.00	0	0.00	A106/B/	0.00	0.00	0.00	1085	600	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_P&ID_9321-F-2120																								
DS of Valve AF138	18	2.875	40	0.203	0.000	0.000	2.375	0.154	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	450	220	0	0	0.000	0.000	0.00000	0.00000	0.00000
Line Name : xNCW_P&ID_9321-F-2729																								
SGBTV-2E	3	18.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A234/WPB/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	0.00000	0.00000
SGBTV-2E US Pipe	53	18.000	STD	0.375	0.000	0.000	0.000	0.000	0.00	0	0.00	A53/BE/	0.00	0.00	0.00	100	350	0	0	0.000	0.000	0.00000	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 NORTHEAST
Plant : INDIAN POINT
Unit : 2
DB Name: IPEC2(v3)

Report Date : 25-Feb-2010
Report Time : 15:56:50
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 :	CD83-2-HDR to BFP21	**Sorted :**	**No**	
CD-65N	CD-65N	REFUEL 15	11/06/2002	A234/WPB/
Line Name :	ES?-1-2NDPT ES TO FWH 22A	**Sorted :**	**No**	
LPFW22A-1P1	LPFW22A-1P1	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-1P2	LPFW22A-1P2	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-1N	LPFW22A-1N	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-1P5	LPFW22A-1P5	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-1P4	LPFW22A-1P4	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-1P3	LPFW22A-1P3	REFUEL 18	03/25/2008	A53/B/S
Line Name :	ES?-1-2NDPT ES TO FWH 22B	**Sorted :**	**No**	
LPFW22B-1P1	LPFW22B-1P1	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-1N	LPFW22B-1N	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-1P5	LPFW22B-1P5	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-1P4	LPFW22B-1P4	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-1P3	LPFW22B-1P3	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-1P2	LPFW22B-1P2	REFUEL 18	03/25/2008	A53/B/S
Line Name :	ES?-1-2NDPT ES TO FWH 22C	**Sorted :**	**No**	
LPFW22C-1P3	LPFW22C-1P3	REFUEL 17	04/20/2006	A691/2.25Cr/22
LPFW22C-1P2	LPFW22C-1P2	REFUEL 17	04/20/2006	A691/2.25Cr/22
LPFW22C-1E	LPFW22C-1E	REFUEL 17	04/20/2006	A234/WP22/
LPFW22C-1P4	LPFW22C-1P4	REFUEL 17	04/20/2006	A691/2.25Cr/22
LPFW22C-1P1	LPFW22C-1P1	REFUEL 17	04/20/2006	A691/2.25Cr/22
LPFW22C-1N	LPFW22C-1N	REFUEL 17	04/20/2006	A53/B/S
Line Name :	ES?-2-2NDPT ES TO FWH 22A	**Sorted :**	**No**	
LPFW22A-2P1	LPFW22A-2P1	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-2P2	LPFW22A-2P2	REFUEL 18	03/25/2008	A53/B/S
LPFW22A-2N	LPFW22A-2N	REFUEL 18	03/25/2008	A53/B/S
Line Name :	ES?-2-2NDPT ES TO FWH 22B	**Sorted :**	**No**	
LPFW22B-2N	LPFW22B-2N	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-2P3	LPFW22B-2P3	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-2P1	LPFW22B-2P1	REFUEL 18	03/25/2008	A53/B/S
LPFW22B-2P2	LPFW22B-2P2	REFUEL 18	03/25/2008	A53/B/S

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
Line Name :	ES?-2-2NDPT ES TO FWH 22C	**Sorted :**	**No**	
LPFW22C-2N	LPFW22C-2N	REFUEL 17	04/20/2006	A53/B/S
LPFW22C-2P2	LPFW22C-2P2	REFUEL 17	04/20/2006	A691/2.25Cr/22
LPFW22C-2P1	LPFW22C-2P1	REFUEL 17	04/20/2006	A691/2.25Cr/22
Line Name :	ES1-3-3RDPT ES to FWH 23A	**Sorted :**	**No**	
3EXA-4	3EXA-4	REFUEL 15	11/14/2002	A234/WPB/
3EXA-4P US	3EXA-4P US	REFUEL 15	11/14/2002	A672/A55/11
3EXA-5	3EXA-5	REFUEL 15	11/14/2002	A234/WPB/
3EXA-5P	3EXA-5P	REFUEL 15	11/14/2002	A672/A55/11
3EXA-6	3EXA-6	REFUEL 15	11/14/2002	A234/WPB/
3EXA-6P DS	3EXA-6P DS	REFUEL 15	11/14/2002	A672/A55/11
3EXA-7	3EXA-7	REFUEL 15	11/14/2002	A234/WPB/
Line Name :	ES1-4-3RDPT ES to FWH 23A	**Sorted :**	**No**	
3EXA-1	3EXA-1 A234/WPB/	REFUEL 15	11/14/2002	
3EXA-1A	3EXA-1A A53/B/E	REFUEL 15	11/14/2002	
3EXA-1P	3EXA-1P A53/B/E	REFUEL 15	11/14/2002	
Line Name :	ES1-5-3RDPT ES to FWH 23A	**Sorted :**	**No**	
3EXA-2P	3EXA-2P	REFUEL 10	02/03/1991	A53/B/E
3EXA-3	3EXA-3	REFUEL 10	02/03/1991	A234/WPB/
3EXA-11RP	3EXA-11RP	REFUEL 13	06/30/1997	A53/B/E
3EXA-11R	3EXA-11R	REFUEL 15	11/14/2002	A234/WPB/
Line Name :	ES2-5-3RDPT ES to FWH 23B	**Sorted :**	**No**	
3EXB-3	3EXB-3	REFUEL 10	02/03/1991	A234/WPB/
3EXB-2P	3EXB-2P US	REFUEL 10	02/03/1991	A53/B/E
3EXB-2P DS	3EXB-2P DS	REFUEL 10	02/03/1991	A53/B/E
3EXB-3P	3EXB-3P US	REFUEL 13	06/30/1997	A53/B/E
3EXB-3P DS	3EXB-3P DS	REFUEL 13	06/30/1997	A53/B/E
3EXB-10R	3EXB-10R	REFUEL 18	03/24/2008	A234/WPB/
Line Name :	ES3-3-3RDPT ES to FWH 23C	**Sorted :**	**No**	
3EXC-12P	3EXC-12P	REFUEL 14	05/25/2000	A672/A55/11
3EXC-12R	3EXC-12R	REFUEL 14	05/25/2000	A234/WPB/
3EXC-13R	3EXC-13R	REFUEL 14	05/25/2000	A234/WPB/
Line Name :	ES3-5-3RDPT ES to FWH 23C	**Sorted :**	**No**	
3EXC-3	3EXC-3	REFUEL 10	02/03/1991	A234/WPB/
3EXC-2P	3EXC-2P	REFUEL 10	02/03/1991	A53/B/E
3EXC-3P	3EXC-3P	REFUEL 13	06/30/1997	A53/B/E
Line Name :	ES7-1-5THPT ES to FWH 25ABC	**Sorted :**	**No**	
5EX-15P	5EX-15P DS	REFUEL 8	01/01/1988	A672/A55/11
5EX-15	5EX-15	REFUEL 8	01/01/1988	A234/WPB/
5EX-14P	5EX-14P	REFUEL 8	01/01/1988	A672/A55/11
5EX-11	5EX-11	REFUEL 8	01/01/1988	A234/WPB/
5EX-14	5EX-14	REFUEL 8	01/01/1988	A234/WPB/
5EX-16P US	5EX-16P US	REFUEL 8	01/01/1988	A672/A55/11
5EX-17	5EX-17	REFUEL 8	01/01/1988	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
5EX-16	5EX-16	REFUEL 8	01/01/1988	A234/WPB/
5EX-13	5EX-13	REFUEL 8	01/01/1988	A234/WPB/
5EX-12	5EX-12	REFUEL 8	01/01/1988	A234/WPB/
5EX-16P DS	5EX-16P DS	REFUEL 8	01/01/1988	A672/A55/11
5EX-8P	5EX-8P DS	REFUEL 8	01/01/1988	A672/A55/11
5EX-8	5EX-8	REFUEL 8	01/01/1988	A234/WPB/
5EX-11P	5EX-11P	REFUEL 8	01/01/1988	A672/A55/11
5EX-18	5EX-18	REFUEL 13	06/30/1997	A234/WPB/
5EX-18C	5EX-18C	REFUEL 13	06/30/1997	A234/WPB/
5EX-17P-1	5EX-17P-1	REFUEL 14	05/25/2000	A672/A55/11
5EX-16P DS	5EX-16P DS	REFUEL 14	05/25/2000	A672/A55/11
5EX-16P US	5EX-16P US	REFUEL 14	05/25/2000	A672/A55/11
5EX-11P	5EX-11P	REFUEL 14	05/25/2000	A672/A55/11
5EX-15P DS	5EX-15P DS	REFUEL 14	05/25/2000	A672/A55/11
5EX-15P US	5EX-15P US	REFUEL 14	05/25/2000	A672/A55/11
5EX-12	5EX-12	REFUEL 14	05/25/2000	A234/WPB/
5EX-8	5EX-8	REFUEL 14	05/25/2000	A234/WPB/
5EX-8P DS	5EX-8P DS	REFUEL 14	05/25/2000	A672/A55/11
5EX-8P US	5EX-8P US	REFUEL 14	05/25/2000	A672/A55/11
5EX-11	5EX-11	REFUEL 14	05/25/2000	A234/WPB/
5EX-13	5EX-13	REFUEL 14	05/25/2000	A234/WPB/
5EX-13P DS	5EX-13P DS	REFUEL 14	05/25/2000	A672/A55/11
5EX-16	5EX-16	REFUEL 14	05/25/2000	A234/WPB/
5EX-17P	5EX-17P	REFUEL 14	05/25/2000	A672/A55/11
5EX-13P	5EX-13P	REFUEL 14	05/25/2000	A672/A55/11
5EX-13P US	5EX-13P US	REFUEL 14	05/25/2000	A672/A55/11
5EX-14	5EX-14	REFUEL 14	05/25/2000	A234/WPB/
5EX-14P	5EX-14P	REFUEL 14	05/25/2000	A672/A55/11
5EX-15	5EX-15	REFUEL 14	05/25/2000	A234/WPB/
5EX-17	5EX-17	REFUEL 14	05/25/2000	A234/WPB/

Line Name : ES7-2-5THPT ESHDR to FWH 25C **Sorted : No**

5EX-9-10	5EX-9-10	REFUEL 8	01/01/1988	A53/B/E
5EX-9	5EX-9	REFUEL 8	01/01/1988	A234/WPB/
5EX-10	5EX-10	REFUEL 8	01/01/1988	A234/WPB/
5EX-9-10	5EX-9-10	REFUEL 13	06/30/1997	A53/B/E
5EX-9	5EX-9	REFUEL 13	06/30/1997	A234/WPB/
5EX-10	5EX-10	REFUEL 13	06/30/1997	A234/WPB/

Line Name : ES7-3-5THPT ESHDR 25CT to BT **Sorted : No**

5EX-5	5EX-5	REFUEL 8	01/01/1988	A234/WPB/
5EX-5P	5EX-5P DS	REFUEL 8	01/01/1988	A672/A55/11
5EX-5P DS	5EX-5P DS	REFUEL 14	05/25/2000	A672/A55/11
5EX-5P US	5EX-5P US	REFUEL 14	05/25/2000	A672/A55/11
5EX-5	5EX-5	REFUEL 14	05/25/2000	A234/WPB/

Line Name : ES7-4-5THPT ESHDR to FWH 25B **Sorted : No**

5EX-6-7	5EX-6-7	REFUEL 8	01/01/1988	A53/B/E
5EX-6	5EX-6	REFUEL 8	01/01/1988	A234/WPB/
5EX-7	5EX-7	REFUEL 8	01/01/1988	A234/WPB/
5EX-6-7	5EX-6-7	REFUEL 13	06/30/1997	A53/B/E
5EX-6	5EX-6	REFUEL 13	06/30/1997	A234/WPB/
5EX-7	5EX-7	REFUEL 13	06/30/1997	A234/WPB/
5EX-6P1	5EX-6P1	REFUEL 14	05/25/2000	A-312/TP304H/

Line Name : ES7-5-5THPT ESHDR to FWH 25A **Sorted : No**

5EX-4	5EX-4	REFUEL 8	01/01/1988	A234/WPB/
5EX-3P	5EX-3P US	REFUEL 8	01/01/1988	A53/B/E
5EX-3	5EX-3	REFUEL 8	01/01/1988	A234/WPB/
5EX-2P	5EX-2P	REFUEL 8	01/01/1988	A53/B/E
5EX-1	5EX-1	REFUEL 8	01/01/1988	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
5EX-2	5EX-2	REFUEL 8	01/01/1988	A234/WPB/
5EX-1-2	5EX-1-2	REFUEL 8	01/01/1988	A53/B/E
5EX-1	5EX-1	REFUEL 13	06/30/1997	A234/WPB/
5EX-2	5EX-2	REFUEL 13	06/30/1997	A234/WPB/
5EX-1-2	5EX-1-2	REFUEL 13	06/30/1997	A53/B/E
5EX-4	5EX-4	REFUEL 14	05/25/2000	A234/WPB/
5EX-3P US	5EX-3P US	REFUEL 14	05/25/2000	A53/B/E
5EX-3	5EX-3	REFUEL 14	05/25/2000	A234/WPB/
5EX-2P	5EX-2P	REFUEL 14	05/25/2000	A53/B/E

Line Name : ES7A-1-SEP TKA VNT to FWH25 **Sorted : No**

MOPS5	MOPS5	REFUEL 13	06/30/1997	A234/WPB/
MOPS8	MOPS8	REFUEL 13	06/30/1997	A106/B/
MOPS6	MOPS6	REFUEL 13	06/30/1997	A234/WPB/
MOPS2	MOPS2	REFUEL 13	06/30/1997	A234/WPB/
MOPS3	MOPS3	REFUEL 13	06/30/1997	A234/WPB/
MOPS7	MOPS7	REFUEL 13	06/30/1997	A234/WPB/
MOPS4	MOPS4	REFUEL 13	06/30/1997	A106/B/

Line Name : ES7A-2-SEP TKB VNT to FWH25 **Sorted : No**

MOPS10	MOPS10	REFUEL 13	06/30/1997	A106/B/
MOPS14	MOPS14	REFUEL 13	06/30/1997	A106/B/
MOPS15	MOPS15	REFUEL 13	06/30/1997	A234/WPB/
MOPS16	MOPS16	REFUEL 13	06/30/1997	A106/B/
MOPS11	MOPS11	REFUEL 13	06/30/1997	A234/WPB/
MOPS17	MOPS17	REFUEL 13	06/30/1997	A234/WPB/
MOPS18	MOPS18	REFUEL 13	06/30/1997	A106/B/
MOPS13	MOPS13	REFUEL 13	06/30/1997	A234/WPB/
MOPS12	MOPS12	REFUEL 13	06/30/1997	A106/B/

Line Name : ES8-1-6THPT ES to HDR **Sorted : No**

6EX-27	6EX-27	REFUEL 10	02/03/1991	A234/WPB/
6EX-27P	6EX-27P	REFUEL 10	02/03/1991	A106/B/
6EX-22A	6EX-22A	REFUEL 10	02/03/1991	A106/B/
6EX-28	6EX-28	REFUEL 10	02/03/1991	A234/WPB/
6EX-22P	6EX-22P	REFUEL 10	02/03/1991	A106/B/
6EX-23P	6EX-23P	REFUEL 10	02/03/1991	A106/B/
6EX-22R	6EX-22R	REFUEL 11	04/01/1993	A234/WPB/
6EX-23	6EX-23	REFUEL 11	04/01/1993	A234/WPB/

Line Name : ES8-2-6THPT ES to HDR **Sorted : No**

6EX-26-1	6EX-26-1	REFUEL 10	02/03/1991	A234/WPB/
6EX-24	6EX-24	REFUEL 10	02/03/1991	A234/WPB/
6EX-24P	6EX-24P	REFUEL 10	02/03/1991	A106/B/
6EX-25	6EX-25	REFUEL 10	02/03/1991	A234/WPB/
6EX-25P	6EX-25P	REFUEL 10	02/03/1991	A106/B/
6EX-26-2	6EX-26-2	REFUEL 10	02/03/1991	A234/WPB/
6EX-26P	6EX-26P	REFUEL 10	02/03/1991	A106/B/

Line Name : ES8-3-6THPT ESHDR to FWH 26 **Sorted : No**

6EX-21C	6EX-21C	REFUEL 11	04/01/1993	A106/B/
6EX-21	6EX-21	REFUEL 11	04/01/1993	A234/WPB/
6EX-19	6EX-19	REFUEL 11	04/01/1993	A234/WPB/
6EX-22	6EX-22	REFUEL 11	04/01/1993	A234/WPB/
6EX-21P	6EX-21P	REFUEL 11	04/01/1993	A106/B/
6EX-18P	6EX-18P	REFUEL 11	04/01/1993	A106/B/
6EX-18	6EX-18	REFUEL 11	04/01/1993	A234/WPB/
6EX-17P	6EX-17P	REFUEL 11	04/01/1993	A106/B/
6EX-17	6EX-17	REFUEL 11	04/01/1993	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
6EX-16P	6EX-16P	REFUEL 11	04/01/1993	A106/B/
6EX-16	6EX-16	REFUEL 11	04/01/1993	A234/WPB/
6EX-46P	6EX-46P	REFUEL 11	04/01/1993	A106/B/
6EX-14	6EX-14	REFUEL 11	04/01/1993	A234/WPB/
6EX-20	6EX-20	REFUEL 11	04/01/1993	A234/WPB/
6EX-19P	6EX-19P	REFUEL 11	04/01/1993	A106/B/
6EX-20B	6EX-20B	REFUEL 13	06/30/1997	A106/B/
6EX-20A	6EX-20A	REFUEL 13	06/30/1997	A106/B/

Line Name : ES8-4-6THPT ESHDR to FWH 26C **Sorted : No**

6EX-14R	6EX-14R	REFUEL 11	04/01/1993	A234/WPB/
6EX-11	6EX-11	REFUEL 11	04/01/1993	A234/WPB/
6EX-12	6EX-12	REFUEL 11	04/01/1993	A234/WPB/
6EX-12P	6EX-12P	REFUEL 11	04/01/1993	A106/B/
6EX-14P	6EX-14P	REFUEL 11	04/01/1993	A106/B/
6EX-13	6EX-13	REFUEL 11	04/01/1993	A234/WPB/
6EX-13C	6EX-13C	REFUEL 11	04/01/1993	A234/WPB/
6EX-13P	6EX-13P	REFUEL 11	04/01/1993	A106/B/
6EX-15	6EX-15	REFUEL 11	04/01/1993	A234/WPB/
6EX-15P	6EX-15P	REFUEL 11	04/01/1993	A106/B/

Line Name : ES8-5-6THPT ESHDR 26CT to BT **Sorted : No**

6EX-10P	6EX-10P	REFUEL 11	04/01/1993	A106/B/
6EX-10	6EX-10	REFUEL 11	04/01/1993	A234/WPB/

Line Name : ES8-6-6THPT ESHDR to FWH 26B **Sorted : No**

6EX-8B	6EX-8B	REFUEL 11	04/01/1993	A234/WPB/
6EX-8	6EX-8	REFUEL 11	04/01/1993	A234/WPB/
6EX-6P	6EX-6P	REFUEL 11	04/01/1993	A106/B/
6EX-7P	6EX-7P	REFUEL 11	04/01/1993	A106/B/
6EX-7	6EX-7	REFUEL 11	04/01/1993	A234/WPB/
6EX-6	6EX-6	REFUEL 11	04/01/1993	A234/WPB/
6EX-10R	6EX-10R	REFUEL 11	04/01/1993	A234/WPB/
6EX-9P	6EX-9P	REFUEL 11	04/01/1993	A106/B/
6EX-9	6EX-9	REFUEL 11	04/01/1993	A234/WPB/
6EX-8BP	6EX-8BP	REFUEL 11	04/01/1993	A106/B/
6EX-6N	6EX-6N	INTERIM 13	02/10/1996	A234/WPB/

Line Name : ES8-7-6THPT ESHDR to FWH 26A **Sorted : No**

6EX-5	6EX-5	REFUEL 11	04/01/1993	A234/WPB/
6EX-4P	6EX-4P	REFUEL 11	04/01/1993	A106/B/
6EX-4	6EX-4	REFUEL 11	04/01/1993	A234/WPB/
6EX-3P	6EX-3P	REFUEL 11	04/01/1993	A106/B/
6EX-5A	6EX-5A	REFUEL 11	04/01/1993	A234/WPB/
6EX-51	6EX-51	REFUEL 11	04/01/1993	A106/B/
6EX-3	6EX-3	REFUEL 11	04/01/1993	A234/WPB/
6EX-1P	6EX-1P	REFUEL 11	04/01/1993	A106/B/
6EX-2P	6EX-2P	REFUEL 11	04/01/1993	A106/B/
6EX-2	6EX-2	REFUEL 11	04/01/1993	A234/WPB/
6EX-1	6EX-1	REFUEL 11	04/01/1993	A234/WPB/
6EX-5P	6EX-5P	REFUEL 11	04/01/1993	A106/B/
6EX-1N	6EX-1N	INTERIM 13	02/10/1996	A234/WPB/

Line Name : FW71-1-BFP21 DISCH to HDR **Sorted : No**

BFD-14P	BFD-14P	REFUEL 15	11/06/2002	A106/B/
BFD-14N	BFD-14N	REFUEL 15	11/06/2002	A234/WPB/

Line Name : HD21A-2-FWH24A CV to FWH23A **Sorted : No**

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
4EXD-5	4EXD-5	REFUEL 13	06/30/1997	A234/WPB/

Line Name : HD22A-2-FWH24B CV to FWH23B **Sorted : No**

4EXD-38	4EXD-38	REFUEL 14	04/01/2000	A234/WPB/

Line Name : MSD33A-1-MSDT 21A to HDT **Sorted : No**

1A-8P	1A-8P	REFUEL 12	05/01/1995	A53/B/E
1A-2P	1A-2P	REFUEL 12	05/01/1995	A53/B/E
1A-8	1A-8	REFUEL 12	05/01/1995	A234/WPB/
1A-15	1A-15	REFUEL 12	05/01/1995	A234/WPB/
1A-13P	1A-13P	REFUEL 12	05/01/1995	A53/B/E
1A-13	1A-13	REFUEL 12	05/01/1995	A234/WPB/
1A-9P	1A-9P	REFUEL 12	05/01/1995	A53/B/E
1A-9	1A-9	REFUEL 12	05/01/1995	A234/WPB/
1A-7	1A-7	REFUEL 12	05/01/1995	A234/WPB/
1A-6	1A-6	REFUEL 12	05/01/1995	A234/WPB/
1A-5P	1A-5P	REFUEL 12	05/01/1995	A53/B/E
1A-5	1A-5	REFUEL 12	05/01/1995	A234/WPB/
1A-4P	1A-4P	REFUEL 12	05/01/1995	A53/B/E
1A-6P	1A-6P	REFUEL 12	05/01/1995	A53/B/E
1A-3	1A-3	REFUEL 12	05/01/1995	A234/WPB/
1A-12P	1A-12P	REFUEL 12	05/01/1995	A53/B/E
1A-3P	1A-3P	REFUEL 12	05/01/1995	A53/B/E
1A-12P-1	1A-12P-1	REFUEL 12	05/01/1995	A53/B/E
1A-11	1A-11	REFUEL 12	05/01/1995	A234/WPB/
1A-11P	1A-11P	REFUEL 12	05/01/1995	A53/B/E
1A-12	1A-12	REFUEL 12	05/01/1995	A234/WPB/
1A-10P	1A-10P	REFUEL 12	05/01/1995	A53/B/E
1A-1	1A-1	REFUEL 12	05/01/1995	A234/WPB/
1A-2	1A-2	REFUEL 12	05/01/1995	A234/WPB/
1A-4	1A-4	REFUEL 12	05/01/1995	A234/WPB/
1A-10	1A-10	REFUEL 12	05/01/1995	A234/WPB/
1A-7P	1A-7P	REFUEL 12	05/01/1995	A53/B/E

Line Name : MSD34A-1-MSDT 22A to HDT **Sorted : No**

2A-2P	2A-2P	REFUEL 12	05/01/1995	A53/B/E
2A-3P-1	2A-3P-1	REFUEL 12	05/01/1995	A53/B/E
2A-3	2A-3	REFUEL 12	05/01/1995	A234/WPB/
2A-3P	2A-3P	REFUEL 12	05/01/1995	A53/B/E
2A-4	2A-4	REFUEL 12	05/01/1995	A234/WPB/
2A-4P	2A-4P	REFUEL 12	05/01/1995	A53/B/E
2A-5	2A-5	REFUEL 12	05/01/1995	A234/WPB/
2A-5P	2A-5P	REFUEL 12	05/01/1995	A53/B/E
2A-1	2A-1	REFUEL 12	05/01/1995	A234/WPB/
2A-10	2A-10	REFUEL 12	05/01/1995	A234/WPB/
2A-6	2A-6	REFUEL 12	05/01/1995	A234/WPB/
2A-6P	2A-6P	REFUEL 12	05/01/1995	A53/B/E
2A-7	2A-7	REFUEL 12	05/01/1995	A234/WPB/
2A-7P	2A-7P	REFUEL 12	05/01/1995	A53/B/E
2A-8	2A-8	REFUEL 12	05/01/1995	A234/WPB/
2A-8P	2A-8P	REFUEL 12	05/01/1995	A53/B/E
2A-9	2A-9	REFUEL 12	05/01/1995	A234/WPB/
2A-9P	2A-9P	REFUEL 12	05/01/1995	A53/B/E
2A-10P	2A-10P	REFUEL 12	05/01/1995	A53/B/E
2A-12	2A-12	REFUEL 12	05/01/1995	A234/WPB/
2A-12P	2A-12P	REFUEL 12	05/01/1995	A53/B/E
2A-13	2A-13	REFUEL 12	05/01/1995	A234/WPB/
2A-13P	2A-13P	REFUEL 12	05/01/1995	A53/B/E
2A-15	2A-15	REFUEL 12	05/01/1995	A234/WPB/
2A-2	2A-2	REFUEL 12	05/01/1995	A234/WPB/
2A-2P-1	2A-2P-1	REFUEL 12	05/01/1995	A53/B/E

Line Name : MSD35A-1-MSDT 23A to HDT **Sorted : No**

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
3A-16	3A-16	REFUEL 12	05/01/1995	A234/WPB/
3A-13P	3A-13P	REFUEL 12	05/01/1995	A53/B/E
3A-2	3A-2	REFUEL 12	05/01/1995	A234/WPB/
3A-3	3A-3	REFUEL 12	05/01/1995	A234/WPB/
3A-2P	3A-2P	REFUEL 12	05/01/1995	A53/B/E
3A-3P	3A-3P	REFUEL 12	05/01/1995	A53/B/E
3A-17	3A-17	REFUEL 12	05/01/1995	A234/WPB/
3A-17P	3A-17P	REFUEL 12	05/01/1995	A53/B/E
3A-18	3A-18	REFUEL 12	05/01/1995	A234/WPB/
3A-18P	3A-18P	REFUEL 12	05/01/1995	A53/B/E
3A-19	3A-19	REFUEL 12	05/01/1995	A234/WPB/
3A-19P	3A-19P	REFUEL 12	05/01/1995	A53/B/E
3A-20	3A-20	REFUEL 12	05/01/1995	A234/WPB/
3A-20P	3A-20P	REFUEL 12	05/01/1995	A53/B/E
3A-21	3A-21	REFUEL 12	05/01/1995	A234/WPB/
3A-21P	3A-21P	REFUEL 12	05/01/1995	A53/B/E
3A-13	3A-13	REFUEL 12	05/01/1995	A234/WPB/
3A-15	3A-15	REFUEL 12	05/01/1995	A234/WPB/
3A-16P	3A-16P US	REFUEL 12	05/01/1995	A53/B/E
3A-1P	3A-1P	REFUEL 12	05/01/1995	A53/B/E
3A-1	3A-1	REFUEL 12	05/01/1995	A234/WPB/

Line Name : MSD36A-1-MSDT 21B to HDT **Sorted : No**

1B-2	1B-2	REFUEL 9	03/20/1989	A234/WPB/
1B-4	1B-4	REFUEL 10	02/03/1991	A234/WPB/
1B-15P	1B-15P	REFUEL 13	06/30/1997	A53/B/E
1B-15	1B-15	REFUEL 13	06/30/1997	A234/WPB/
1B-13P	1B-13P	REFUEL 13	06/30/1997	A53/B/E
1B-13	1B-13	REFUEL 13	06/30/1997	A234/WPB/
1B-14P	1B-14P	REFUEL 13	06/30/1997	A53/B/E
1B-14	1B-14	REFUEL 13	06/30/1997	A234/WPB/
1B-12P DS	1B-12P DS	REFUEL 13	06/30/1997	A53/B/E
1B-12P US	1B-12P US	REFUEL 13	06/30/1997	A53/B/E
1B-12	1B-12	REFUEL 13	06/30/1997	A234/WPB/
1B-11P DS	1B-11P DS	REFUEL 13	06/30/1997	A53/B/E
1B-11P US	1B-11P US	REFUEL 13	06/30/1997	A53/B/E
1B-11	1B-11	REFUEL 13	06/30/1997	A234/WPB/
1B-10P DS	1B-10P DS	REFUEL 13	06/30/1997	A53/B/E
1B-10P US	1B-10P US	REFUEL 13	06/30/1997	A53/B/E
1B-10	1B-10	REFUEL 13	06/30/1997	A234/WPB/
1B-9P	1B-9P	REFUEL 13	06/30/1997	A53/B/E
1B-4P	1B-4P	REFUEL 13	06/30/1997	A53/B/E
1B-3P	1B-3P	REFUEL 13	06/30/1997	A53/B/E
1B-3	1B-3	REFUEL 13	06/30/1997	A234/WPB/
1B-1	1B-1	REFUEL 13	06/30/1997	A234/WPB/
1B-4	1B-4	REFUEL 13	06/30/1997	A234/WPB/
1B-5	1B-5	REFUEL 13	06/30/1997	A234/WPB/
1B-5R	1B-5R	REFUEL 13	06/30/1997	A234/WPB/
1B-5P	1B-5P	REFUEL 13	06/30/1997	A53/B/E
1B-2P	1B-2P	REFUEL 13	06/30/1997	A53/B/E
1B-9	1B-9	REFUEL 13	06/30/1997	A234/WPB/
1B-2	1B-2	REFUEL 13	06/30/1997	A234/WPB/
1B-6P	1B-6P	REFUEL 13	06/30/1997	A53/B/E
1B-6	1B-6	REFUEL 13	06/30/1997	A234/WPB/
1B-7P	1B-7P	REFUEL 13	06/30/1997	A53/B/E
1B-7	1B-7	REFUEL 13	06/30/1997	A234/WPB/
1B-7P-1	1B-7P-1	REFUEL 13	06/30/1997	A53/B/E
1B-8P	1B-8P	REFUEL 13	06/30/1997	A53/B/E
1B-8	1B-8	REFUEL 13	06/30/1997	A234/WPB/

Line Name : MSD37A-1-MSDT 22B to HDT **Sorted : No**

2B-4	2B-4	REFUEL 9	03/20/1989	A234/WPB/
2B-5	2B-5	REFUEL 9	03/20/1989	A234/WPB/
2B-7	2B-7	REFUEL 9	04/01/1989	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
2B-1	2B-1	REFUEL 12	04/01/1995	A234/WPB/
2B-10	2B-10	REFUEL 12	05/01/1995	A234/WPB/
2B-11	2B-11	REFUEL 12	05/01/1995	A234/WPB/
2B-9	2B-9	REFUEL 12	05/01/1995	A234/WPB/
2B-10P DS	2B-10P DS	REFUEL 13	06/30/1997	A53/B/E
2B-8P US	2B-8P US	REFUEL 13	06/30/1997	A53/B/E
2B-3	2B-3	REFUEL 13	06/30/1997	A234/WPB/
2B-8	2B-8	REFUEL 13	06/30/1997	A234/WPB/
2B-7P DS	2B-7P DS	REFUEL 13	06/30/1997	A53/B/E
2B-9	2B-9	REFUEL 13	06/30/1997	A234/WPB/
2B-9P US	2B-9P US	REFUEL 13	06/30/1997	A53/B/E
2B-9P DS	2B-9P DS	REFUEL 13	06/30/1997	A53/B/E
2B-7P US	2B-7P US	REFUEL 13	06/30/1997	A53/B/E
2B-10	2B-10	REFUEL 13	06/30/1997	A234/WPB/
2B-1	2B-1	REFUEL 13	06/30/1997	A234/WPB/
2B-12	2B-12	REFUEL 13	06/30/1997	A234/WPB/
2B-10P US	2B-10P US	REFUEL 13	06/30/1997	A53/B/E
2B-11P	2B-11P	REFUEL 13	06/30/1997	A53/B/E
2B-11	2B-11	REFUEL 13	06/30/1997	A234/WPB/
2B-2	2B-2	REFUEL 13	06/30/1997	A234/WPB/
2B-7	2B-7	REFUEL 13	06/30/1997	A234/WPB/
2B-12P DS	2B-12P DS	REFUEL 13	06/30/1997	A53/B/E
2B-13	2B-13	REFUEL 13	06/30/1997	A234/WPB/
2B-13P	2B-13P	REFUEL 13	06/30/1997	A53/B/E
2B-15	2B-15	REFUEL 13	06/30/1997	A234/WPB/
2B-15P	2B-15P	REFUEL 13	06/30/1997	A53/B/E
2B-2P	2B-2P	REFUEL 13	06/30/1997	A53/B/E
2B-6P	2B-6P	REFUEL 13	06/30/1997	A53/B/E
2B-6	2B-6	REFUEL 13	06/30/1997	A234/WPB/
2B-5P	2B-5P	REFUEL 13	06/30/1997	A53/B/E
2B-1P	2B-1P	REFUEL 13	06/30/1997	A53/B/E
2B-5	2B-5	REFUEL 13	06/30/1997	A234/WPB/
2B-8P DS	2B-8P DS	REFUEL 13	06/30/1997	A53/B/E
2B-4P	2B-4P	REFUEL 13	06/30/1997	A53/B/E
2B-4	2B-4	REFUEL 13	06/30/1997	A234/WPB/
2B-3P	2B-3P	REFUEL 13	06/30/1997	A53/B/E
2B-12P US	2B-12P US	REFUEL 13	06/30/1997	A53/B/E

Line Name : MSD38A-1-MSDT 23B to HDT **Sorted : No**

3B-6	3B-6	REFUEL 12	02/05/1995	A234/WPB/
3B-7	3B-7	REFUEL 12	02/05/1995	A234/WPB/
3B-6P	3B-6P	REFUEL 12	02/05/1995	A53/B/E
3B-2P-1	3B-2P-1	REFUEL 12	02/05/1995	A53/B/E
3B-14	3B-14	REFUEL 12	02/05/1995	A234/WPB/
3B-2P	3B-2P	REFUEL 12	02/05/1995	A53/B/E
3B-3P	3B-3P	REFUEL 12	02/05/1995	A53/B/E
3B-7P	3B-7P	REFUEL 12	02/05/1995	A53/B/E
3B-12	3B-12	REFUEL 12	02/05/1995	A234/WPB/
3B-10P DS	3B-10P DS	REFUEL 12	02/05/1995	A53/B/E
3B-2	3B-2	REFUEL 12	02/05/1995	A234/WPB/
3B-8P	3B-8P	REFUEL 12	02/05/1995	A53/B/E
3B-11	3B-11	REFUEL 12	02/05/1995	A234/WPB/
3B-15	3B-15	REFUEL 12	02/05/1995	A234/WPB/
3B-9P	3B-9P DS	REFUEL 12	02/05/1995	A53/B/E
3B-10P US	3B-10P US	REFUEL 12	02/05/1995	A53/B/E
3B-10	3B-10	REFUEL 12	02/05/1995	A234/WPB/
3B-11P US	3B-11P US	REFUEL 12	02/05/1995	A53/B/E
3B-11P DS	3B-11P DS	REFUEL 12	02/05/1995	A53/B/E
3B-3	3B-3	REFUEL 12	02/05/1995	A234/WPB/
3B-14P	3B-14P	REFUEL 12	02/05/1995	A53/B/E
3B-4	3B-4	REFUEL 12	02/05/1995	A234/WPB/
3B-4P	3B-4P	REFUEL 12	02/05/1995	A53/B/E
3B-15P	3B-15P	REFUEL 12	02/05/1995	A53/B/E
3B-13	3B-13	REFUEL 12	02/05/1995	A234/WPB/
3B-12P US	3B-12P US	REFUEL 12	02/05/1995	A53/B/E
3B-13P	3B-13P	REFUEL 12	02/05/1995	A53/B/E
3B-9	3B-9	REFUEL 12	02/05/1995	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
3B-8	3B-8	CYCLE 13B	02/05/1997	A234/WPB/
3B-5P	3B-5P	CYCLE 13B	02/05/1997	A53/B/E
3B-1	3B-1	CYCLE 13B	02/05/1997	A234/WPB/
3B-5	3B-5	CYCLE 13B	02/05/1997	A234/WPB/

Line Name : MSD45B-1-RHDT21A CV to FWH26 **Sorted : No**

MS-1A30R2	MS-1A30R2	REFUEL 13	06/30/1997	A234/WPB/
MS-1A30P2	MS-1A30P2	REFUEL 13	06/30/1997	A106/B/
MS-1A31	MS-1A31	REFUEL 13	06/30/1997	A234/WPB/
MS-1A31P	MS-1A31P	REFUEL 13	06/30/1997	A106/B/
MS-1A32	MS-1A32	REFUEL 13	06/30/1997	A234/WPB/
MS-1A32P	MS-1A32P	REFUEL 13	06/30/1997	A106/B/

Line Name : MSD45C-3-RHDT A HDR to FWH26 **Sorted : No**

MS-1A41	MS-1A41	REFUEL 13	06/13/1997	A234/WPB/

Line Name : MSD45C-4-RHDT A HDR to FWH26C **Sorted : No**

MS-1A63	MS-1A63	REFUEL 12	04/16/1995	A234/WPB/
MS-1A67	MS-1A67	INTERIM 13	02/15/1996	A234/WPB/
MS-1A63P US	MS-1A63P US	REFUEL 13	06/13/1997	A106/B/
MS-1A63P DS	MS-1A63P DS	REFUEL 13	06/13/1997	A106/B/
MS-1A63	MS-1A63	REFUEL 13	06/30/1997	A234/WPB/
MS-1A65	MS-1A65	REFUEL 13	06/30/1997	A234/WPB/
MS-1A64	MS-1A64	REFUEL 13	06/30/1997	A234/WPB/
MS-1A64P US	MS-1A64P US	REFUEL 13	06/30/1997	A106/B/
MS-1A64P DS	MS-1A64P DS	REFUEL 13	06/30/1997	A106/B/
MS-1A65P US	MS-1A65P US	REFUEL 13	06/30/1997	A106/B/
MS-1A65P DS	MS-1A65P DS	REFUEL 13	06/30/1997	A106/B/

Line Name : MSD46A-2-RHDT22A CV to FWH26 **Sorted : No**

MS-2A24R	MS-2A24R	REFUEL 13	06/30/1997	A234/WPB/
MS-2A23P	MS-2A23P	REFUEL 13	06/30/1997	A106/B/
MS-2A24	MS-2A24	REFUEL 13	06/30/1997	A234/WPB/
MS-2A24P	MS-2A24P	REFUEL 13	06/30/1997	A106/B/
MS-2A25	MS-2A25	REFUEL 13	06/30/1997	A234/WPB/
MS-2A25P	MS-2A25P	REFUEL 13	06/30/1997	A106/B/

Line Name : MSD47-2-RHDT23A CV to FWH26 **Sorted : No**

MS-3A24	MS-3A24	REFUEL 13	06/30/1997	A234/WPB/
MS-3A23P	MS-3A23P	REFUEL 13	06/30/1997	A106/B/
MS-3A24R	MS-3A24R	REFUEL 13	06/30/1997	A234/WPB/
MS-3A24P	MS-3A24P	REFUEL 13	06/30/1997	A106/B/
MS-3A25	MS-3A25	REFUEL 13	06/30/1997	A234/WPB/
MS-3A25P	MS-3A25P	REFUEL 13	06/30/1997	A106/B/

Line Name : MSD48B-1-RHDT21B CV to FWH26 **Sorted : No**

MS-1B34	MS-1B34	REFUEL 13	06/30/1997	A234/WPB/
MS-1B33P-1	MS-1B33P-1	REFUEL 13	06/30/1997	A106/B/
MS-1B34R	MS-1B34R	REFUEL 13	06/30/1997	A234/WPB/

Line Name : MSD49B-1-RHDT22B CV to FWH26 **Sorted : No**

MS-2B30R2	MS-2B30R2	REFUEL 13	06/30/1997	A234/WPB/
MS-2B31P	MS-2B31P	REFUEL 13	06/30/1997	A106/B/
MS-2B31	MS-2B31	REFUEL 13	06/30/1997	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
Line Name :	MSD49C-1-RHDT B HDR to FWH26	**Sorted :**	**No**	
MS-2B36	MS-2B36	INTERIM 13	02/12/1996	A234/WPB/
MS-2B63	MS-2B63	REFUEL 13	06/30/1997	A106/B/
MS-2B36	MS-2B36	REFUEL 16	10/23/2004	A234/WPB/
MS-2B33P	MS-2B33P	REFUEL 16	10/23/2004	A106/B/
MS-2B35	MS-2B35	REFUEL 16	10/23/2004	A234/WPB/
MS-2B35P	MS-2B35P	REFUEL 16	10/23/2004	A106/B/
Line Name :	MSD49C-2-RHDT B HDR to FWH26C	**Sorted :**	**No**	
MS-2B53	MS-2B53	REFUEL 13	06/30/1997	A234/WPB/
MS-2B50	MS-2B50	REFUEL 13	06/30/1997	A234/WPB/
MS-2B63P	MS-2B63P	REFUEL 13	06/30/1997	A106/B/
Line Name :	MSD49C-5-RHDT B HDR to FWH26A	**Sorted :**	**No**	
MS-2B43R	MS-2B43R	REFUEL 13	06/30/1997	A234/WPB/
Line Name :	MSD50A-1-RHDT23B to CV	**Sorted :**	**No**	
MS-3B26	MS-3B26	REFUEL 11	04/01/1993	A234/WPB/
MS-3B30	MS-3B30	REFUEL 13	06/30/1997	A234/WPB/
MS-3B30P	MS-3B30P	REFUEL 13	06/30/1997	A106/B/
MS-3B28	MS-3B28	REFUEL 13	06/30/1997	A234/WPB/
MS-3B27P	MS-3B27P	REFUEL 13	06/30/1997	A106/B/
MS-3B25	MS-3B25	REFUEL 13	06/30/1997	A234/WPB/
MS-3B26P US	MS-3B26P US	REFUEL 13	06/30/1997	A106/B/
MS-3B29	MS-3B29	REFUEL 13	06/30/1997	A234/WPB/
MS-3B26	MS-3B26	REFUEL 13	06/30/1997	A234/WPB/
MS-3B29P	MS-3B29P	REFUEL 13	06/30/1997	A106/B/
MS-3B27	MS-3B27	REFUEL 13	06/30/1997	A234/WPB/
MS-3B28P	MS-3B28P	REFUEL 13	06/30/1997	A106/B/
MS-3B25P	MS-3B25P	REFUEL 13	06/30/1997	A106/B/
Line Name :	MSD50C-1-RHDT23B CV to FWH26	**Sorted :**	**No**	
MS-3B43	MS-3B43	REFUEL 13	06/30/1997	A234/WPB/
MS-3B43R	MS-3B43R	REFUEL 13	06/30/1997	A234/WPB/
Line Name :	xES4-1-4THPT ES to FWH 24A	**Sorted :**	**No**	
4EXA-12P	4EXA-12P	REFUEL 15	11/14/2002	A53/B/E
4EXA-14	4EXA-14	REFUEL 15	11/14/2002	A234/WPB/
Line Name :	xES5-1-4THPT ES to FWH 24B	**Sorted :**	**No**	
4EXB-14P	4EXB-14P	REFUEL 15	10/26/2002	A53/B/E
4EXB-13P	4EXB-13P	REFUEL 15	11/14/2002	A53/B/E
4EXB-9P DS	4EXB-9P DS	REFUEL 15	11/14/2002	A53/B/E
4EXB-9P US	4EXB-9P US	REFUEL 15	11/14/2002	A53/B/E
Line Name :	xNCW_18	**Sorted :**	**No**	
5EXC-25P	5EXC-25P	REFUEL 13	06/30/1997	A53/B/E
5EXC-30	5EXC-30	REFUEL 14	05/25/2000	A234/WPB/
5EXC-16	5EXC-16	REFUEL 14	05/25/2000	A234/WPB/
5EXC-15P	5EXC-15P	REFUEL 14	05/25/2000	A53/B/E
5EXC-8	5EXC-8	REFUEL 14	05/25/2000	A234/WPB/
5EXC-7P	5EXC-7P	REFUEL 14	05/25/2000	A53/B/E
5EXC-31	5EXC-31	REFUEL 14	05/25/2000	A234/WPB/
5EXC-27P	5EXC-27P	REFUEL 14	05/25/2000	A53/B/E

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
5EXC-25P	5EXC-25P	REFUEL 15	11/14/2002	A53/B/E

Line Name : xNCW_210 **Sorted : No**

210-5P	210-5P	REFUEL 15	11/14/2002	A106/B/
210-4P US	210-4P US	REFUEL 15	11/14/2002	A106/B/
210-4P DS	210-4P DS	REFUEL 15	11/14/2002	A106/B/
210-5E	210-5E	REFUEL 15	11/14/2002	A234/WPB/
210-4E	210-4E	REFUEL 15	11/14/2002	A234/WPB/
210-3P-3 DS	210-3P-3 DS	REFUEL 15	11/14/2002	A106/B/

Line Name : xNCW_216 **Sorted : No**

216-4P DS	216-4P DS	REFUEL 13	06/30/1997	A106/B/
216-5P	216-5P	REFUEL 13	06/30/1997	A106/B/
216-5E	216-5E	REFUEL 13	06/30/1997	A105//
216-6N	216-6N	REFUEL 13	06/30/1997	A105//
216-3P DS	216-3P DS	REFUEL 13	06/30/1997	A106/B/
216-4E	216-4E	REFUEL 13	06/30/1997	A105//
216-4P DS	216-4P DS	REFUEL 14	05/25/2000	A-312/TP316H/
216-2P US	216-2P US	REFUEL 14	05/25/2000	A106/B/
216-2E	216-2E	REFUEL 14	05/25/2000	A105//
216-5P	216-5P	REFUEL 14	05/25/2000	A-312/TP316H/
216-3P DS	216-3P DS	REFUEL 14	05/25/2000	A-312/TP316H/
216-4E	216-4E	REFUEL 14	05/25/2000	A-182/F304H/
216-6N	216-6N	REFUEL 14	05/25/2000	A-182/F304H/
216-5E	216-5E	REFUEL 14	05/25/2000	A-182/F304H/
216-4P US	216-4P US	REFUEL 14	05/25/2000	A106/B/
216-1E	216-1E	REFUEL 14	05/25/2000	A105//
216-1P-1	216-1P-1	REFUEL 14	05/25/2000	A106/B/
216-1P	216-1P	REFUEL 14	05/25/2000	A106/B/

Line Name : xNCW_222 **Sorted : No**

222-10P DS	222-10P DS	REFUEL 14	05/25/2000	A106/B/
222-11P US	222-11P US	REFUEL 14	05/25/2000	A106/B/
222-10P US	222-10P US	REFUEL 14	05/25/2000	A106/B/
222-10E	222-10E	REFUEL 14	05/25/2000	A234/WPB/
222-9P DS	222-9P DS	REFUEL 14	05/25/2000	A106/B/
222-7E	222-7E	REFUEL 14	05/25/2000	A234/WPB/
222-6P US	222-6P US	REFUEL 14	05/25/2000	A106/B/
222-6E	222-6E	REFUEL 14	05/25/2000	A234/WPB/
222-11E	222-11E	REFUEL 14	05/25/2000	A234/WPB/
222-4E	222-4E	REFUEL 14	05/25/2000	A234/WPB/
222-2E	222-2E	REFUEL 14	05/25/2000	A234/WPB/
222-1P DS	222-1P DS	REFUEL 14	05/25/2000	A106/B/
222-3P	222-3P	REFUEL 14	05/25/2000	A106/B/

Line Name : xNCW_223 **Sorted : No**

223-17E	223-17E	REFUEL 15	11/14/2002	A234/WPB/
223-16P DS	223-16P DS	REFUEL 15	11/14/2002	A53/B/E
223-17P US	223-17P US	REFUEL 15	11/14/2002	A53/B/E
223-17P DS	223-17P DS	REFUEL 15	11/14/2002	A53/B/E
223-16P US	223-16P US	REFUEL 15	11/14/2002	A53/B/E
223-18E	223-18E	REFUEL 15	11/14/2002	A234/WPB/
223-18P	223-18P	REFUEL 15	11/14/2002	A53/B/E
223-19E	223-19E	REFUEL 15	11/14/2002	A234/WPB/
223-19P US	223-19P US	REFUEL 15	11/14/2002	A53/B/E
223-16E	223-16E	REFUEL 15	11/14/2002	A234/WPB/
223-11T	223-11T	REFUEL 15	11/14/2002	A234/WPB/
223-11P US	223-11P US	REFUEL 15	11/14/2002	A53/B/E
223-10P DS	223-10P DS	REFUEL 15	11/14/2002	A53/B/E
223-10P US	223-10P US	REFUEL 15	11/14/2002	A53/B/E
223-10T	223-10T	REFUEL 15	11/14/2002	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
223-9R	223-9R	REFUEL 15	11/14/2002	A234/WPB/
223-14E	223-14E	REFUEL 15	11/14/2002	A234/WPB/
223-14P US	223-14P US	REFUEL 15	11/14/2002	A53/B/E
223-14P DS	223-14P DS	REFUEL 15	11/14/2002	A53/B/E
223-15E	223-15E	REFUEL 15	11/14/2002	A234/WPB/
223-15P US	223-15P US	REFUEL 15	11/14/2002	A53/B/E
223-15P DS	223-15P DS	REFUEL 15	11/14/2002	A53/B/E
223-13P DS	223-13P DS	REFUEL 15	11/14/2002	A53/B/E

Line Name : xNCW_229 **Sorted : No**

229-11P US	229-11P US	REFUEL 14	05/25/2000	A106/B/
229-10P US	229-10P US	REFUEL 14	05/25/2000	A106/B/
229-10E	229-10E	REFUEL 14	05/25/2000	A234/WPB/
229-6P US	229-6P US	REFUEL 14	05/25/2000	A106/B/
229-9P DS	229-9P DS	REFUEL 14	05/25/2000	A106/B/
229-6E	229-6E	REFUEL 14	05/25/2000	A234/WPB/
229-4E	229-4E	REFUEL 14	05/25/2000	A234/WPB/
229-3P	229-3P	REFUEL 14	05/25/2000	A106/B/
229-3E	229-3E	REFUEL 14	05/25/2000	A234/WPB/
229-2P DS	229-2P DS	REFUEL 14	05/25/2000	A106/B/
229-10P DS	229-10P DS	REFUEL 14	05/25/2000	A106/B/
229-11E	229-11E	REFUEL 14	05/25/2000	A234/WPB/
229-5E	229-5E	REFUEL 14	05/25/2000	A234/WPB/

Line Name : xNCW_241 **Sorted : No**

241-11E	241-11E	REFUEL 13	06/30/1997	A234/WPB/
241-10P	241-10P	REFUEL 13	06/30/1997	A53/B/E

Line Name : xNCW_245 **Sorted : No**

245-7P	245-7P	REFUEL 12	02/24/1995	A106/B/

Line Name : xNCW_246 **Sorted : No**

246-3E	246-3E	REFUEL 14	05/25/2000	A234/WPB/
246-6P US	246-6P US	REFUEL 14	05/25/2000	A106/B/
246-2P	246-2P	REFUEL 14	05/25/2000	A106/B/
246-6P DS	246-6P DS	REFUEL 14	05/25/2000	A106/B/
246-7E	246-7E	REFUEL 14	05/25/2000	A234/WPB/
246-8E	246-8E	REFUEL 14	05/25/2000	A234/WPB/
246-17P DS	246-17P DS	REFUEL 14	05/25/2000	A106/B/
246-18E	246-18E	REFUEL 14	05/25/2000	A234/WPB/
246-4P DS	246-4P DS	REFUEL 14	05/25/2000	A106/B/
246-19P US	246-19P US	REFUEL 14	05/25/2000	A106/B/
246-21P DS	246-21P DS	REFUEL 14	05/25/2000	A106/B/
246-22E	246-22E	REFUEL 14	05/25/2000	A234/WPB/
246-23P US	246-23P US	REFUEL 14	05/25/2000	A106/B/
246-5E	246-5E	REFUEL 14	05/25/2000	A234/WPB/

Line Name : xNCW_250 **Sorted : No**

250-17P	250-17P	REFUEL 13	06/30/1997	A106/B/

Line Name : xNCW_273 **Sorted : No**

273-9P DS	273-9P DS	REFUEL 16	10/23/2004	A106/B/
273-10E	273-10E	REFUEL 16	10/23/2004	A234/WPB/
273-1P US	273-1P US	REFUEL 16	10/23/2004	A106/B/
273-7P DS	273-7P DS	REFUEL 16	10/23/2004	A106/B/
273-8E	273-8E	REFUEL 16	10/23/2004	A234/WPB/
273-9P US	273-9P US	REFUEL 16	10/23/2004	A106/B/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
Line Name :	xNCW_285	**Sorted :**	**No**	
285-15P US	285-15P US	REFUEL 16	10/23/2004	A106/B/
285-1B-VCD-XE	285-1B-VCD-XE	REFUEL 16	10/23/2004	A234/WPB/
285-13P DS	285-13P DS	REFUEL 16	10/23/2004	A106/B/
Line Name :	xNCW_65A	**Sorted :**	**No**	
1A-VCD34	1A-VCD34	REFUEL 14	05/25/2000	A234/WPB/
1A-VCD1	1A-VCD1	REFUEL 14	05/25/2000	A234/WPB/
1A-VCD1P	1A-VCD1P	REFUEL 14	05/25/2000	A106/B/
1A-VCD2	1A-VCD2	REFUEL 14	05/25/2000	A234/WPB/
1A-VCD4P	1A-VCD4P	REFUEL 14	05/25/2000	A106/B/
1A-VCD13	1A-VCD13	REFUEL 14	05/25/2000	A234/WPB/
1A-VCD15	1A-VCD15	REFUEL 16	10/23/2004	A234/WPB/
1A-VCD15P	1A-VCD15P	REFUEL 16	10/23/2004	A106/B/
Line Name :	xNCW_65B	**Sorted :**	**No**	
1A-VCD33	1A-VCD33	REFUEL 13	05/23/1997	A234/WPB/
1A-VCD23	1A-VCD23	REFUEL 14	05/25/2000	A234/WPB/
1A-VCD33P US	1A-VCD33P US	REFUEL 14	05/25/2000	A106/B/
1A-VCD33	1A-VCD33	REFUEL 14	05/25/2000	A234/WP11/
1A-VCD32P DS	1A-VCD32P DS	REFUEL 14	05/25/2000	A106/B/
1A-VCD27P DS	1A-VCD27P DS	REFUEL 14	05/25/2000	A106/B/
1A-VCD28	1A-VCD28	REFUEL 14	05/25/2000	A234/WPB/
1A-VCD28P US	1A-VCD28P US	REFUEL 14	05/25/2000	A106/B/
Line Name :	xNCW_66A	**Sorted :**	**No**	
2A-VCD35	2A-VCD35	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD1	2A-VCD1	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD1P	2A-VCD1P	REFUEL 14	05/25/2000	A106/B/
2A-VCD2	2A-VCD2	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD3P	2A-VCD3P	REFUEL 14	05/25/2000	A106/B/
2A-VCD2P	2A-VCD2P	REFUEL 14	05/25/2000	A106/B/
2A-VCD4	2A-VCD4	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD8	2A-VCD8	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD10	2A-VCD10	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD14	2A-VCD14	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD7	2A-VCD7	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD4P	2A-VCD4P	REFUEL 14	05/25/2000	A106/B/
2A-VCD41P DS	2A-VCD41P DS	REFUEL 16	10/23/2004	A106/B/
2A-VCD36P-1 US	2A-VCD36P-1 US	REFUEL 16	10/23/2004	A106/B/
2A-VCD20	2A-VCD20	REFUEL 16	10/23/2004	A234/WPB/
2A-VCD42	2A-VCD42	REFUEL 16	10/23/2004	A234/WPB/
2A-VCD36	2A-VCD36	CYCLE 17	10/23/2005	A234/WPB/
2A-VCD36P	2A-VCD36P	CYCLE 17	10/23/2005	A106/B/
Line Name :	xNCW_66B	**Sorted :**	**No**	
2A-VCD33P DS	2A-VCD33P DS	REFUEL 14	05/25/2000	A106/B/
2A-VCD34	2A-VCD34	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD27P US	2A-VCD27P US	REFUEL 14	05/25/2000	A106/B/
2A-VCD23	2A-VCD23	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD26P DS	2A-VCD26P DS	REFUEL 14	05/25/2000	A106/B/
2A-VCD27	2A-VCD27	REFUEL 14	05/25/2000	A234/WPB/
2A-VCD34P US	2A-VCD34P US	REFUEL 14	05/25/2000	A106/B/
Line Name :	xNCW_67A	**Sorted :**	**No**	
3A-VCD2P	3A-VCD2P	REFUEL 14	05/25/2000	A106/B/
3A-VCD2	3A-VCD2	REFUEL 14	05/25/2000	A234/WPB/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
3A-VCD7P	3A-VCD7P	REFUEL 14	05/25/2000	A106/B/
3A-VCD9	3A-VCD9	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD1P-1 US	3A-VCD1P-1 US	REFUEL 14	05/25/2000	A106/B/
3A-VCD1	3A-VCD1	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD1P	3A-VCD1P	REFUEL 14	05/25/2000	A106/B/
3A-VCD7	3A-VCD7	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD30	3A-VCD30	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD16	3A-VCD16	REFUEL 16	10/23/2004	A234/WPB/

Line Name : xNCW_67B **Sorted : No**

3A-VCD21P	3A-VCD21P	REFUEL 14	05/25/2000	A106/B/
3A-VCD29	3A-VCD29	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD28P DS	3A-VCD28P DS	REFUEL 14	05/25/2000	A106/B/
3A-VCD28	3A-VCD28	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD22P	3A-VCD22P	REFUEL 14	05/25/2000	A106/B/
3A-VCD22	3A-VCD22	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD18P	3A-VCD18P	REFUEL 14	05/25/2000	A106/B/
3A-VCD16	3A-VCD16	REFUEL 14	05/25/2000	A234/WPB/
3A-VCD29P US	3A-VCD29P US	REFUEL 14	05/25/2000	A106/B/

Line Name : xNCW_68A **Sorted : No**

1B-VCD1	1B-VCD1	REFUEL 12	04/16/1995	A234/WPB/
1B-VCD1P	1B-VCD1P	REFUEL 12	04/16/1995	A106/B/
1B-VCD1	1B-VCD1	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD33	1B-VCD33	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD1P	1B-VCD1P	REFUEL 14	05/25/2000	A106/B/
1B-VCD2	1B-VCD2	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD2P	1B-VCD2P	REFUEL 14	05/25/2000	A106/B/
1B-VCD5	1B-VCD5	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD11	1B-VCD11	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD4	1B-VCD4	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD4P US	1B-VCD4P US	REFUEL 14	05/25/2000	A106/B/
1B-VCD3P DS	1B-VCD3P DS	REFUEL 14	05/25/2000	A106/B/
1B-VCD17	1B-VCD17	REFUEL 16	10/23/2004	A234/WPB/
1B-VCD16P	1B-VCD16P	REFUEL 16	10/23/2004	A106/B/
1B-VCD19E	1B-VCD19E	REFUEL 16	10/23/2004	A234/WPB/
1B-VCD19P US	1B-VCD19P US	REFUEL 16	10/23/2004	A106/B/
1B-VCD18P	1B-VCD18P	REFUEL 16	10/23/2004	A106/B/
1B-VCD17P	1B-VCD17P	REFUEL 16	10/23/2004	A106/B/

Line Name : xNCW_68B **Sorted : No**

1B-VCD-23	1B-VCD-23	REFUEL 13	06/30/1997	A234/WPB/
1B-VCD20	1B-VCD20	REFUEL 13	06/30/1997	A234/WPB/
1B-VCD20P US	1B-VCD20P US	REFUEL 14	05/25/2000	A106/B/
1B-VCD-23	1B-VCD-23	REFUEL 14	05/25/2000	A234/WP11/
1B-VCD-22P DS	1B-VCD-22P DS	REFUEL 14	05/25/2000	A106/B/
1B-VCD18P DS	1B-VCD18P DS	REFUEL 14	05/25/2000	A106/B/
1B-VCD19P US	1B-VCD19P US	REFUEL 14	05/25/2000	A106/B/
1B-VCD21	1B-VCD21	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD19P DS	1B-VCD19P DS	REFUEL 14	05/25/2000	A106/B/
1B-VCD32	1B-VCD32	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD19	1B-VCD19	REFUEL 14	05/25/2000	A234/WPB/
1B-VCD-23P US	1B-VCD-23P US	REFUEL 14	05/25/2000	A106/B/
1B-VCD20	1B-VCD20	REFUEL 14	05/25/2000	A234/WP11/

Line Name : xNCW_69A **Sorted : No**

2B-VCD38	2B-VCD38	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD1	2B-VCD1	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD1P	2B-VCD1P	REFUEL 14	05/25/2000	A106/B/
2B-VCD2	2B-VCD2	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD2P	2B-VCD2P	REFUEL 14	05/25/2000	A106/B/

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
2B-VCD8P	2B-VCD8P	REFUEL 14	05/25/2000	A106/B/
2B-VCD7P DS	2B-VCD7P DS	REFUEL 14	05/25/2000	A106/B/
2B-VCD8P-2 US	2B-VCD8P-2 US	REFUEL 14	05/25/2000	A106/B/
2B-VCD8	2B-VCD8	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD9	2B-VCD9	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD39P	2B-VCD39P	REFUEL 16	10/23/2004	A106/B/
2B-VCD39	2B-VCD39	REFUEL 16	10/23/2004	A234/WPB/
2B-VCD8E	2B-VCD8E	REFUEL 16	10/23/2004	A234/WPB/

Line Name : xNCW_69B **Sorted : No**

2B-VCD23	2B-VCD23	REFUEL 13	06/30/1997	A234/WPB/
2B-VCD22P DS	2B-VCD22P DS	REFUEL 14	05/25/2000	A106/B/
2B-VCD23	2B-VCD23	REFUEL 14	05/25/2000	A234/WP11/
2B-VCD31	2B-VCD31	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD22P US	2B-VCD22P US	REFUEL 14	05/25/2000	A106/B/
2B-VCD22	2B-VCD22	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD23P US	2B-VCD23P US	REFUEL 14	05/25/2000	A106/B/
2B-VCD25P DS	2B-VCD25P DS	REFUEL 14	05/25/2000	A106/B/
2B-VCD26	2B-VCD26	REFUEL 14	05/25/2000	A234/WPB/
2B-VCD26P US	2B-VCD26P US	REFUEL 14	05/25/2000	A106/B/
2B-VCD21P DS	2B-VCD21P DS	REFUEL 14	05/25/2000	A106/B/

Line Name : xNCW_70A **Sorted : No**

3B-VCD2	3B-VCD2	REFUEL 12	04/20/1995	A234/WPB/
3B-VCD6P1 DS	3B-VCD6P1 DS	REFUEL 14	05/25/2000	A106/B/
3B-VCD35	3B-VCD35	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD1P	3B-VCD1P	REFUEL 14	05/25/2000	A106/B/
3B-VCD2	3B-VCD2	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD2P	3B-VCD2P	REFUEL 14	05/25/2000	A106/B/
3B-VCD7P2	3B-VCD7P2	REFUEL 14	05/25/2000	A106/B/
3B-VCD7	3B-VCD7	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD7P1	3B-VCD7P1	REFUEL 14	05/25/2000	A106/B/
3B-VCD11	3B-VCD11	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD16P DS	3B-VCD16P DS	REFUEL 14	05/25/2000	A106/B/
3B-VCD17E	3B-VCD17E	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD7P	3B-VCD7P	REFUEL 16	10/23/2004	A106/B/

Line Name : xNCW_70B **Sorted : No**

3B-VCD20	3B-VCD20	REFUEL 13	06/30/1997	A234/WPB/
3B-VCD34	3B-VCD34	REFUEL 13	06/30/1997	A234/WPB/
3B-VCD28P DS	3B-VCD28P DS	REFUEL 14	05/25/2000	A106/B/
3B-VCD18P US	3B-VCD18P US	REFUEL 14	05/25/2000	A106/B/
3B-VCD18	3B-VCD18	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD30	3B-VCD30	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD17P	3B-VCD17P	REFUEL 14	05/25/2000	A106/B/
3B-VCD-30P US	3B-VCD-30P US	REFUEL 14	05/25/2000	A106/B/
3B-VCD29P DS	3B-VCD29P DS	REFUEL 14	05/25/2000	A106/B/
3B-VCD26	3B-VCD26	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD29	3B-VCD29	REFUEL 14	05/25/2000	A234/WPB/
3B-VCD20	3B-VCD20	REFUEL 14	05/25/2000	A234/WP11/
3B-VCD19P DS	3B-VCD19P DS	REFUEL 14	05/25/2000	A106/B/
3B-VCD34P US	3B-VCD34P US	REFUEL 14	05/25/2000	A106/B/
3B-VCD34	3B-VCD34	REFUEL 14	05/25/2000	A234/WP11/
3B-VCD33P DS	3B-VCD33P DS	REFUEL 14	05/25/2000	A106/B/
3B-VCD20P US	3B-VCD20P US	REFUEL 14	05/25/2000	A106/B/
3B-VCD29P US	3B-VCD29P US	REFUEL 14	05/25/2000	A106/B/

Line Name : xNCW_74 **Sorted : No**

BFD-65A	BFD-65A	REFUEL 10	02/03/1991	A234/WPB/

Line Name : xNCW_87 **Sorted : No**

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
MST-9	MST-9	REFUEL 10	02/03/1991	A234/WPB/
MST-9P	MST-9P	REFUEL 13	06/30/1997	A106/B/
MST-9	MST-9	REFUEL 13	06/30/1997	A234/WPB/
MST-8P	MST-8P	REFUEL 13	06/30/1997	A106/B/
MST-4	MST-4	REFUEL 13	06/30/1997	A234/WPB/
MST-7P US	MST-7P US	REFUEL 13	06/30/1997	A106/B/
MST-7P DS	MST-7P DS	REFUEL 13	06/30/1997	A106/B/
MST-7	MST-7	REFUEL 13	06/30/1997	A234/WPB/
MST-6P US	MST-6P US	REFUEL 13	06/30/1997	A106/B/
MST-6P DS	MST-6P DS	REFUEL 13	06/30/1997	A106/B/
MST-6	MST-6	REFUEL 13	06/30/1997	A234/WPB/
MST-5P US	MST-5P US	REFUEL 13	06/30/1997	A106/B/
MST-5P DS	MST-5P DS	REFUEL 13	06/30/1997	A106/B/
MST-5	MST-5	REFUEL 13	06/30/1997	A234/WPB/
MST-4P	MST-4P	REFUEL 13	06/30/1997	A106/B/
MST-8	MST-8	REFUEL 13	06/30/1997	A234/WPB/
MST-3	MST-3	REFUEL 13	06/30/1997	A234/WPB/
MST-2P	MST-2P	REFUEL 13	06/30/1997	A106/B/
MST-10	MST-10	REFUEL 13	06/30/1997	A234/WPB/
MST-11	MST-11	REFUEL 13	06/30/1997	A234/WPB/
MST-10P	MST-10P	REFUEL 13	06/30/1997	A106/B/
MST-3P	MST-3P	REFUEL 13	06/30/1997	A106/B/
MST-1	MST-1	REFUEL 13	06/30/1997	A234/WPB/
MST-1P	MST-1P	REFUEL 13	06/30/1997	A106/B/
MST-2	MST-2	REFUEL 13	06/30/1997	A234/WPB/

Line Name : xNCW_88 **Sorted : No**

MST-14	MST-14	REFUEL 10	02/03/1991	A234/WPB/
MST-12P	MST-12P	REFUEL 10	02/03/1991	A106/B/
MST-12	MST-12	REFUEL 10	02/03/1991	A234/WPB/
MST-13	MST-13	REFUEL 10	02/03/1991	A234/WPB/
MST-16	MST-16	REFUEL 13	06/30/1997	A234/WPB/
MST-15P	MST-15P	REFUEL 13	06/30/1997	A106/B/
MST-15	MST-15	REFUEL 13	06/30/1997	A234/WPB/
MST-14P	MST-14P	REFUEL 13	06/30/1997	A106/B/
MST-14	MST-14	REFUEL 13	06/30/1997	A234/WPB/
MST-13P	MST-13P	REFUEL 13	06/30/1997	A106/B/
MST-13	MST-13	REFUEL 13	06/30/1997	A234/WPB/
MST-16P	MST-16P	REFUEL 13	06/30/1997	A106/B/

Line Name : xNCW_89 **Sorted : No**

MST-37P	MST-37P	REFUEL 9	03/20/1989	A106/B/
MST-39	MST-39	REFUEL 9	03/20/1989	A234/WPB/
MST-38P	MST-38P	REFUEL 9	03/20/1989	A106/B/
MST-36	MST-36	REFUEL 9	03/20/1989	A234/WPB/
MST-38	MST-38	REFUEL 9	03/20/1989	A234/WPB/
MST-28P	MST-28P	REFUEL 13	06/30/1997	A106/B/
MST-39P	MST-39P	REFUEL 13	06/30/1997	A106/B/
MST-39	MST-39	REFUEL 13	06/30/1997	A234/WPB/
MST-38P	MST-38P	REFUEL 13	06/30/1997	A106/B/
MST-28	MST-28	REFUEL 13	06/30/1997	A234/WPB/
MST-38	MST-38	REFUEL 13	06/30/1997	A234/WPB/
MST-37P	MST-37P	REFUEL 13	06/30/1997	A106/B/
MST-37	MST-37	REFUEL 13	06/30/1997	A234/WPB/
MST-27P	MST-27P	REFUEL 13	06/30/1997	A106/B/
MST-36P	MST-36P	REFUEL 13	06/30/1997	A106/B/
MST-36	MST-36	REFUEL 13	06/30/1997	A234/WPB/
MST-27	MST-27	REFUEL 13	06/30/1997	A234/WPB/
MST-31	MST-31	REFUEL 13	06/30/1997	A234/WPB/
MST-36P	MST-36P	CYCLE 14	12/31/1999	A106/B/
MST-37	MST-37	CYCLE 14	12/31/1999	A234/WPB/

Line Name : xNCW_90 **Sorted : No**

Component Name	Current Component Name	Period Replaced	Replacement Date	Replacement (old) Material
EST-1T	EST-1T	REFUEL 13	06/30/1997	A53/B/E

Line Name : xNCW_91 **Sorted : No**

EST-20P US	EST-20P US	REFUEL 13	06/30/1997	A106/B/
EST-14	EST-14	REFUEL 13	06/30/1997	A234/WPB/
EST-33R	EST-33R	REFUEL 13	06/30/1997	A234/WPB/
EST-33	EST-33	REFUEL 13	06/30/1997	A234/WPB/
EST-32	EST-32	REFUEL 13	06/30/1997	A234/WPB/
EST-31P-1	EST-31P-1	REFUEL 13	06/30/1997	A106/B/
EST-31P US	EST-31P US	REFUEL 13	06/30/1997	A106/B/
EST-31P DS	EST-31P DS	REFUEL 13	06/30/1997	A106/B/
EST-31T	EST-31T	REFUEL 13	06/30/1997	A234/WPB/
EST-31	EST-31	REFUEL 13	06/30/1997	A234/WPB/
EST-30P US	EST-30P US	REFUEL 13	06/30/1997	A106/B/
EST-15	EST-15	REFUEL 13	06/30/1997	A234/WPB/
EST-30P DS	EST-30P DS	REFUEL 13	06/30/1997	A106/B/
EST-30AP	EST-30AP	REFUEL 13	06/30/1997	A106/B/
EST-30A	EST-30A	REFUEL 13	06/30/1997	A234/WPB/
EST-29P	EST-29P	REFUEL 13	06/30/1997	A106/B/
EST-25	EST-25	REFUEL 13	06/30/1997	A234/WPB/
EST-24P	EST-24P	REFUEL 13	06/30/1997	A106/B/
EST-14P	EST-14P	REFUEL 13	06/30/1997	A53/B/E
EST-23P	EST-23P	REFUEL 13	06/30/1997	A106/B/
EST-22P	EST-22P	REFUEL 13	06/30/1997	A106/B/
EST-22	EST-22	REFUEL 13	06/30/1997	A234/WPB/
EST-21P US	EST-21P US	REFUEL 13	06/30/1997	A106/B/
EST-21P DS	EST-21P DS	REFUEL 13	06/30/1997	A106/B/
EST-21	EST-21	REFUEL 13	06/30/1997	A234/WPB/
EST-30B	EST-30B	REFUEL 13	06/30/1997	A234/WPB/
EST-24	EST-24	REFUEL 13	06/30/1997	A234/WPB/

Line Name : xNCW_Extraction Steam Traps **Sorted : No**

EST4-Pipe 1	EST4-Pipe 1	REFUEL 15	11/14/2002	A106/B/

Line Name : xNCW_Main Steam Traps **Sorted : No**

MST24-Pipe 3 DS	MST24-Pipe 3 DS	REFUEL 15	11/14/2002	A106/B/
MST24-Pipe 3 US	MST24-Pipe 3 US	REFUEL 15	11/14/2002	A106/B/

Appendix F

UT Inspection Data

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
CD80-2-FWH 23B to FWH 24B	CD-19	Refuel 16	04UT156	MAIN	Blanket	0.438	0.066	Y
CD80-2-FWH 23B to FWH 24B	CD-19P	Refuel 17	06UT065	MAIN	Band	0.438	0.039	Y
CD80-2-FWH 23B to FWH 24B	CD-19P	Refuel 16	04UT090	Entered as U/S EXT of CD-42	Band	0.438	0.044	N(1)
CD80-2-FWH 23B to FWH 24B	CD-19P	Refuel 16	04UT156	Entered as D/S EXT of CD-19	Band	0.438	0.068	Y
CD80-2-FWH 23B to FWH 24B	CD-42	Refuel 16	04UT090	MAIN	Blanket	0.438	0.128	Y
CD80-2-FWH 23B to FWH 24B	CD-42N	Refuel 16	04UT088	MAIN	Band	0.438	0.073	N(10)
CD80-2-FWH 23B to FWH 24B	CD-4P	Refuel 16	04UT156	Entered as U/S EXT of CD-19	Band	0.438	0.028	N(1)
CD80-3-FWH 23C to FWH 24C	CD-22	Refuel 16	04UT152	MAIN	Blanket	0.438	0.124	Y
CD80-3-FWH 23C to FWH 24C	CD-39	Cycle 17	06UT036	U/S EXT	Band	0.438	0.043	N(1)
CD80-3-FWH 23C to FWH 24C	CD-39	Cycle 17	06UT036	MAIN	Blanket	0.438	0.104	Y
CD80-3-FWH 23C to FWH 24C	CD-40	Cycle 17	06UT035	MAIN	Blanket	0.438	0.112	Y
CD80-3-FWH 23C to FWH 24C	CD-40P	Refuel 16	04UT152	Entered as U/S EXT of CD-22	Band	0.438	0.143	N(1)
CD80-3-FWH 23C to FWH 24C	CD-40P	Cycle 17	06UT035	MAIN	Band	0.438	0.062	Y
CD80A-1-FWH 22A to HEADER	CD-101N	Cycle 17	06UT026	MAIN	Band	0.438	0.043	N(10)
CD80A-1-FWH 22A to HEADER	CD-101P	Cycle 17	06UT026	MAIN	Band	0.438	0.075	Y
CD80A-1-FWH 22A to HEADER	CD-103	Cycle 17	06UT033	MAIN	Blanket	0.438	0.108	Y
CD80A-1-FWH 22A to HEADER	CD-104	Cycle 17	06UT034	MAIN	Blanket	0.438	0.114	Y
CD80A-1-FWH 22A to HEADER	CD-104P	Cycle 17	06UT034	MAIN	Band	0.438	0.107	Y
CD80A-3-FWH 22C TO HEADER	CD-115	Refuel 18	FAC-08-051	MAIN	Blanket	0.438	0.125	Y
CD80A-3-FWH 22C TO HEADER	CD-115 USX	Refuel 18	FAC-08-051	Imported as U/S EXT of CD-115	Band	0.438	0.053	N(1)
CD80A-3-FWH 22C TO HEADER	CD-116	Refuel 18	FAC-08-051	MAIN	Blanket	0.438	0.125	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
CD80A-3-FWH 22C TO HEADER	CD-116 DSX	Refuel 18	FAC-08-051	Imported as D/S EXT of CD-115	Band	0.438	0.031	Y
CD80A-4-FWH 22 OUTLET HEADER	CD-118T	Refuel 17	06UT131	MAIN	Band	0.594	0.074	Y
CD80A-4-FWH 22 OUTLET HEADER	CD-118T	Refuel 17	06UT131	D/S MAIN	Band	0.594	0.068	Y
CD80A-4-FWH 22 OUTLET HEADER	CD-118T	Refuel 17	06UT131	BRANCH	Band	0.438	0.039	Y
CD80A-9-HEADER to FWH 23C	CD-146	Cycle 17	06UT040	MAIN	Blanket	0.438	0.093	Y
CD80A-9-HEADER to FWH 23C	CD-146P	Cycle 17	06UT040	MAIN	Band	0.438	0.078	Y
CD80A-9-HEADER to FWH 23C	CD-147	Cycle 17	06UT040	MAIN	Blanket	0.438	0.066	Y
CD80A-9-HEADER to FWH 23C	CD-147N	Cycle 17	06UT040	MAIN	Band	0.438	0.067	Y
CD81-2-FWH 24B to FWH 25B	CD-20	Refuel 16	04UT143	MAIN	Blanket	0.438	0.067	Y
CD81-3-FWH 24C TO 25C	CD-30	Refuel 18	FAC-08-088	MAIN	Blanket	0.438	0.047	Y
CD81-3-FWH 24C TO 25C	CD-30P	Refuel 18	FAC-08-088	Imported as D/S EXT of CD-30	Band	0.438	0.019	N(2)
CD81-3-FWH 24C TO 25C	CD-55P	Refuel 18	FAC-08-088	Imported as U/S EXT of CD-30	Band	0.438	0.027	N(1)
CD81-3-FWH 24C to FWH 25C	CD-23	Refuel 16	04UT107	MAIN	Blanket	0.438	0.054	Y
CD81-3-FWH 24C to FWH 25C	CD-23P	Refuel 16	04UT109	MAIN	Band	0.438	0.037	Y
CD81-3-FWH 24C to FWH 25C	CD-23P	Refuel 16	04UT153	Entered as U/S EXT of CD-53	Band	0.438	0.092	N(1)
CD81-3-FWH 24C to FWH 25C	CD-23P	Refuel 16	04UT109	D/S EXT	Band	0.438	0.043	N(4)
CD81-3-FWH 24C to FWH 25C	CD-24	Refuel 16	04UT106	MAIN	Blanket	0.438	0.141	Y
CD81-3-FWH 24C to FWH 25C	CD-53	Refuel 16	04UT153	MAIN	Blanket	0.438	0.112	Y
CD82-1-FWH 25A TO HDR	CD-61P	Refuel 18	FAC-08-082	Imported as U/S EXT of CD-61R	Band	0.438	0.051	N(1)
CD82-1-FWH 25A TO HDR	CD-61R	Refuel 18	FAC-08-082	MAIN DS	Band	0.688	0.045	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
CD82-1-FWH 25A TO HDR	CD-61R	Refuel 18	FAC-08-082	MAIN	Band	0.438	0.075	Y
CD82-2-FWH 25B TO HDR	CD-33	Refuel 18	FAC-08-071	MAIN	Blanket	0.438	0.092	Y
CD82-2-FWH 25B TO HDR	CD-33P	Refuel 18	FAC-08-071	Imported as D/S EXT of CD-33	Band	0.438	0.040	Y
CD82-2-FWH 25B TO HDR	CD-34	Refuel 18	FAC-08-072	MAIN	Blanket	0.438	0.101	Y
CD82-4-HDR 25BT TO 25CT	CD-62T	Refuel 18	FAC-08-080	MAIN DS	Band	0.688	0.026	N(2)
CD82-4-HDR 25BT TO 25CT	CD-62T	Refuel 18	FAC-08-080	MAIN	Band	0.688	0.018	N(2)
CD82-4-HDR 25BT TO 25CT	CD-62T	Refuel 18	FAC-08-080	BRANCH	Band	0.438	0.030	Y
CD82-5-HDR 25CT TO HDP OUT	CD-59P	Refuel 18	FAC-08-112	MAIN	Band	0.668	0.077	Y
CD82-5-HDR 25CT to HDP OUT	CD-59T	Refuel 17	06UT108	MAIN	Band	0.688	0.046	Y
CD82-5-HDR 25CT to HDP OUT	CD-59T	Refuel 17	06UT108	D/S MAIN	Band	0.688	0.035	Y
CD82-5-HDR 25CT to HDP OUT	CD-59T	Refuel 17	06UT108	BRANCH	Band	0.438	0.053	Y
CD82-5-HDR 25CT to HDP OUT	CD-80T	Refuel 16	04UT093	MAIN	Band	0.626	0.012	N(2)
CD82-5-HDR 25CT to HDP OUT	CD-80T	Refuel 16	04UT093	D/S MAIN	Band	0.626	0.033	Y
CD82-5-HDR 25CT to HDP OUT	CD-80T	Refuel 16	04UT093	BRANCH	Band	0.688	0.078	Y
CD83-1-HDR HDP to BFP21T	CD-81T	Refuel 17	06UT064	MAIN	Band	0.626	0.011	N(2)
CD83-1-HDR HDP to BFP21T	CD-81T	Refuel 17	06UT064	D/S MAIN	Band	0.626	0.013	N(2)
CD83-1-HDR HDP to BFP21T	CD-81T	Refuel 17	06UT064	BRANCH	Band	0.656	0.038	Y
CD83-1-HDR HDP to BFP21T	CD-82T	Refuel 16	04UT094	MAIN	Band	0.626	0.023	N(2)
CD83-1-HDR HDP to BFP21T	CD-82T	Refuel 16	04UT094	D/S MAIN	Band	0.626	0.030	N(7)
CD83-1-HDR HDP to BFP21T	CD-82T	Refuel 16	04UT094	BRANCH	Band	0.688	0.070	N(7)
CD83-2-HDR to BFP21	CD-69P	Refuel 16	04UT148	MAIN	Band	0.688	0.095	Y
CD83-2-HDR to BFP21	CD-72P DS	Refuel 16	04UT136	Entered as U/S EXT of CD-72FE	Band	0.688	0.055	Y
CD83-2-HDR to BFP21	CD-72P-1 US	Refuel 16	04UT136	Entered as D/S EXT of CD-72FE	Band	0.688	0.088	Y
CD83-3-HDR TO BFP22	CD-75	Refuel 18	FAC-08-095	MAIN	Blanket	0.688	0.071	Y
CD83-3-HDR TO BFP22	CD-75P US	Refuel 18	FAC-08-095	Imported as U/S EXT of CD-75	Band	0.688	0.074	N(1)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
CD83-3-HDR to BFP22	CD-76P DS	Refuel 16	04UT154	Entered as D/S EXT of CD-76FE	Band	0.688	0.112	Y
CD83-3-HDR to BFP22	CD-76P US	Refuel 16	04UT154	Entered as U/S EXT of CD-76FE	Band	0.688	0.103	Y
CD83-3-HDR to BFP22	CD-82R	Refuel 17	06UT076	MAIN	Max Ptp + Past	0.626	0.041	Y
CD83-3-HDR to BFP22	CD-82R	Refuel 17	06UT076	D/S MAIN	Max Ptp + Past	0.688	0.050	Y
ES 2-3-3RDPT ES TO FWH 23B	3EXB-6	Refuel 18	FAC-08-053	MAIN	Blanket	0.313	0.252	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-14	Refuel 18	FAC-08-109	MAIN DS	Band	0.313	0.064	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-14	Refuel 18	FAC-08-109	MAIN	Band	0.313	0.077	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-14	Refuel 18	FAC-08-109	BRANCH	Band	0.250	0.114	N(10)
ES 3-3-3RDPT ES TO FWH 23C	3EXC-19	Refuel 18	FAC-08-110	MAIN	Blanket	0.250	0.148	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-20P	Refuel 18	FAC-08-110	Imported as U/S EXT of 3EXC-19	Band	0.250	0.079	N(1)
ES 3-3-3RDPT ES TO FWH 23C	3EXC-22N	Refuel 18	FAC-08-119	MAIN	Band	0.250	0.174	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-4P	Refuel 18	FAC-08-071	Imported as D/S EXT of 3EXC-5	Band	0.313	0.016	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-5	Refuel 18	FAC-08-071	MAIN	Blanket	0.313	0.121	Y
ES 3-3-3RDPT ES TO FWH 23C	3EXC-5P	Refuel 18	FAC-08-071	Imported as U/S EXT of 3EXC-5	Band	0.313	0.030	N(1)
ES 3-3-3RDPT ES TO FWH 23C	3EXC-7P	Refuel 18	FAC-08-076	MAIN	Ptop	0.313	0.022	Y
ES 3-5-3RDPT ES TO FWH 23C	3EXC-2P	Refuel 18	FAC-08-061	MAIN	Band	0.375	0.057	Y
ES 4-1-4-THPT ES TO FWH 24A	4EXA-3P US	Refuel 18	FAC-08-107	MAIN	Ptop	0.250	0.031	Y
ES 5-1-4-THPT ES TO FWH 24B	4EXB-12	Refuel 18	FAC-08-114	MAIN	Ptop	0.250	0.096	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
ES?-1-1STPT ES TO FWH 21A	LPFW21A-1N	Refuel 17	06UT119	MAIN	Band	0.375	0.159	Y
ES?-1-1STPT ES TO FWH 21A	LPFW21A-1P1	Refuel 17	06UT119	MAIN	Band	0.375	0.077	N(4)
ES?-1-1STPT ES TO FWH 21A	LPFW21A-1P2	Refuel 17	06UT119	MAIN	Band	0.375	0.047	Y
ES?-1-1STPT ES TO FWH 21A	LPFW21A-1P3	Refuel 17	06UT119	MAIN	Band	0.375	0.119	Y
ES?-1-1STPT ES TO FWH 21A	LPFW21A-1P4	Refuel 17	06UT119	MAIN	Band	0.375	0.112	Y
ES?-1-2NDPT ES TO FWH 22A	LPFW22A-1N	Refuel 17	06UT121	MAIN	Band	0.375	0.239	Y
ES?-1-2NDPT ES TO FWH 22A	LPFW22A-1P1	Refuel 17	06UT121	MAIN	Band	0.375	0.161	Y
ES?-1-2NDPT ES TO FWH 22A	LPFW22A-1P2	Refuel 17	06UT121	MAIN	Band	0.375	0.263	Y
ES?-1-2NDPT ES TO FWH 22A	LPFW22A-1P3	Refuel 17	06UT121	MAIN	Band	0.375	0.271	Y
ES?-1-2NDPT ES TO FWH 22A	LPFW22A-1P4	Refuel 17	06UT121	MAIN	Band	0.375	0.283	Y
ES?-1-2NDPT ES TO FWH 22A	LPFW22A-1P5	Refuel 17	06UT121	MAIN	Band	0.375	0.223	Y
ES?-1-2NDPT ES TO FWH 22B	LPFW22B-1N	Refuel 17	06UT104	MAIN	Band	0.375	0.176	Y
ES?-1-2NDPT ES TO FWH 22B	LPFW22B-1P1	Refuel 17	06UT104	MAIN	Band	0.375	0.177	Y
ES?-1-2NDPT ES TO FWH 22B	LPFW22B-1P2	Refuel 17	06UT104	MAIN	Band	0.375	0.211	Y
ES?-1-2NDPT ES TO FWH 22B	LPFW22B-1P3	Refuel 17	06UT104	MAIN	Band	0.375	0.166	Y
ES?-1-2NDPT ES TO FWH 22B	LPFW22B-1P4	Refuel 17	06UT104	MAIN	Band	0.375	0.266	Y
ES?-1-2NDPT ES TO FWH 22B	LPFW22B-1P5	Refuel 17	06UT104	MAIN	Band	0.375	0.221	Y
ES?-1-2NDPT ES TO FWH 22C	LPFW22C-1N	Refuel 17	06UT095	MAIN	Band	0.375	0.201	Y
ES?-2-1STPT ES TO FWH 21A	LPFW21A-2N	Refuel 17	06UT117	MAIN	Band	0.375	0.135	Y
ES?-2-1STPT ES TO FWH 21A	LPFW21A-2P1	Refuel 17	06UT117	MAIN	Band	0.375	0.060	Y
ES?-2-1STPT ES TO FWH 21A	LPFW21A-2P2	Refuel 17	06UT117	MAIN	Band	0.375	0.036	Y
ES?-2-1STPT ES TO FWH 21A	LPFW21A-2P3	Refuel 17	06UT117	MAIN	Band	0.375	0.031	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
ES?-2-1STPT ES TO FWH 21A	LPFW21A-2P4	Refuel 17	06UT117	MAIN	Band	0.375	0.127	Y
ES?-2-1STPT ES TO FWH 21A	LPFW21A-2P5	Refuel 17	06UT117	MAIN	Band	0.375	0.121	Y
ES?-2-2NDPT ES TO FWH 22A	LPFW22A-2N	Refuel 17	06UT113	MAIN	Band	0.375	0.185	Y
ES?-2-2NDPT ES TO FWH 22A	LPFW22A-2P1	Refuel 17	06UT113	MAIN	Band	0.375	0.217	Y
ES?-2-2NDPT ES TO FWH 22A	LPFW22A-2P2	Refuel 17	06UT113	MAIN	Band	0.375	0.248	Y
ES?-2-2NDPT ES TO FWH 22B	LPFW22B-2N	Refuel 17	06UT103	MAIN	Band	0.375	0.185	Y
ES?-2-2NDPT ES TO FWH 22B	LPFW22B-2P1	Refuel 17	06UT103	MAIN	Band	0.375	0.102	Y
ES?-2-2NDPT ES TO FWH 22B	LPFW22B-2P2	Refuel 17	06UT103	MAIN	Band	0.375	0.214	Y
ES?-2-2NDPT ES TO FWH 22B	LPFW22B-2P3	Refuel 17	06UT103	MAIN	Band	0.375	0.093	Y
ES?-2-2NDPT ES TO FWH 22C	LPFW22C-2N	Refuel 17	06UT101	MAIN	Band	0.375	0.125	Y
ES?-3-1STPT ES TO FWH 21A	LPFW21A-3N	Refuel 17	06UT118	MAIN	Band	0.375	0.175	Y
ES?-3-1STPT ES TO FWH 21A	LPFW21A-3P1	Refuel 17	06UT118	MAIN	Band	0.375	0.101	N(4)
ES?-3-1STPT ES TO FWH 21A	LPFW21A-3P2	Refuel 17	06UT118	MAIN	Band	0.375	0.040	Y
ES?-3-1STPT ES TO FWH 21A	LPFW21A-3P3	Refuel 17	06UT118	MAIN	Band	0.375	0.140	Y
ES?-3-1STPT ES TO FWH 21A	LPFW21A-3P4	Refuel 17	06UT118	MAIN	Band	0.375	0.140	Y
ES?-3-1STPT ES TO FWH 21A	LPFW21A-3P5	Refuel 17	06UT118	MAIN	Band	0.375	0.168	Y
ES?-4-1STPT ES TO FWH 21A	LPFW21A-4N	Refuel 17	06UT120	MAIN	Band	0.375	0.205	Y
ES?-4-1STPT ES TO FWH 21A	LPFW21A-4P1	Refuel 17	06UT120	MAIN	Band	0.375	0.106	N(4)
ES?-4-1STPT ES TO FWH 21A	LPFW21A-4P2	Refuel 17	06UT120	MAIN	Band	0.375	0.072	Y
ES?-4-1STPT ES TO FWH 21A	LPFW21A-4P3	Refuel 17	06UT120	MAIN	Band	0.375	0.163	Y
ES?-4-1STPT ES TO FWH 21A	LPFW21A-4P4	Refuel 17	06UT120	MAIN	Band	0.375	0.071	Y
ES?-4-1STPT ES TO FWH 21A	LPFW21A-4P5	Refuel 17	06UT120	MAIN	Band	0.375	0.155	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
ES1-1-3RDPT ES to FWH 23A	3EXA-10	Cycle 16B	04UT060	MAIN	Blanket	0.413	0.142	Y
ES1-1-3RDPT ES to FWH 23A	3EXA-12P	Cycle 16B	04UT060	Entered as U/S EXT of 3EXA-10	Band	0.312	0.063	N(1)
ES1-1-3RDPT ES to FWH 23A	3EXA-8P	Cycle 16B	04UT067	Entered as D/S EXT of 3EXA-9	Band	0.417	0.047	N(6)
ES1-1-3RDPT ES to FWH 23A	3EXA-9	Cycle 16B	04UT067	MAIN	Blanket	0.417	0.097	Y
ES1-1-3RDPT ES to FWH 23A	3EXA-9P	Cycle 16B	04UT060	Entered as D/S EXT of 3EXA-10	Band	0.312	0.037	Y
ES1-3-3RDPT ES to FWH 23A	3EXA-14P DS	Refuel 17	06UT058	MAIN	Band	0.313	0.028	N(2)
ES1-3-3RDPT ES to FWH 23A	3EXA-7P	Refuel 17	06UT098	MAIN	Band	0.313	0.025	Y
ES2-1-3RDPT ES to FWH 23B	3EXB-4	Cycle 16B	04UT059	MAIN	Band	0.313	0.043	N(7)
ES2-1-3RDPT ES to FWH 23B	3EXB-4	Cycle 16B	04UT059	D/S MAIN	Band	0.313	0.056	N(7)
ES2-1-3RDPT ES to FWH 23B	3EXB-4	Cycle 16B	04UT059	BRANCH	Band	0.250	0.093	N(7)
ES2-3-3RDPT ES to FWH 23B	3EXB-10P DS	Cycle 17	06UT037	MAIN	Band	0.313	0.059	Y
ES2-3-3RDPT ES to FWH 23B	3EXB-10P DS1	Cycle 17	06UT037	MAIN	Band	0.313	0.074	Y
ES2-3-3RDPT ES to FWH 23B	3EXB-10R	Cycle 16B	04UT058	MAIN	Blanket	0.327	0.118	Y
ES2-3-3RDPT ES to FWH 23B	3EXB-10R	Cycle 16B	04UT058	D/S MAIN	Blanket	0.250	0.254	Y
ES2-3-3RDPT ES to FWH 23B	3EXB-2	Cycle 16B	04UT057	MAIN	Blanket	0.477	0.173	Y
ES3-2-3RDPT ES TO FWH 23C	3EXC-21	Refuel 18	FAC-08-118	Imported as D/S EXT of 3EXC-22	Band	0.250	0.135	Y
ES3-2-3RDPT ES TO FWH 23C	3EXC-22	Refuel 18	FAC-08-118	MAIN	Band	0.250	0.125	N(3)
ES3-2-3RDPT ES TO FWH 23C	3EXC-22X	Refuel 18	FAC-08-118	Imported as U/S EXT of 3EXC-22	Band	0.250	0.113	N(1)
ES3-3-3RDPT ES to FWH 23C	3EXC-2	Refuel 16	04UT089	MAIN	Blanket	0.250	0.172	Y
ES3-3-3RDPT ES to FWH 23C	3EXC-2N	Refuel 16	04UT089	MAIN	Max Ptp + Past	0.250	0.061	N(7)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
ES3-4-3RDPT ES to FWH 23C	3EXC-1	Cycle 17	06UT021	MAIN	Blanket	0.250	0.072	Y
ES3-4-3RDPT ES to FWH 23C	3EXC-1N	Cycle 17	06UT021	MAIN	Band	0.250	0.027	N(2)
ES3-5-3RDPT ES to FWH 23C	3EXC-11R	Cycle 17	06UT010	MAIN	Max Ptp + Past	0.312	0.126	Y
ES3-5-3RDPT ES to FWH 23C	3EXC-11R	Cycle 17	06UT010	D/S MAIN	Max Ptp + Past	0.250	0.137	Y
ES3-5-3RDPT ES to FWH 23C	3EXC-3P	Cycle 17	06UT018	MAIN	Band	0.250	0.048	Y
ES4-1-4THPT ES to FWH 24A	4EXA-11P	Cycle 16B	04UT025	Entered as D/S EXT of 4EXA-12	Band	0.250	0.078	Y
ES4-1-4THPT ES to FWH 24A	4EXA-12	Cycle 16B	04UT025	MAIN	Blanket	0.250	0.087	Y
ES4-1-4THPT ES to FWH 24A	4EXA-12A	Cycle 16B	04UT025	Entered as U/S EXT of 4EXA-12	Band	0.250	0.043	N(1)
ES5-1-4THPT ES to FWH 24B	4EXB-14P	Cycle 16B	04UT030	MAIN	Area	0.250	0.011	N(6)
ES5-1-4THPT ES to FWH 24B	4EXB-3P US	Cycle 16B	04UT034	MAIN	Band	0.297	0.099	Y
ES5-1-4THPT ES to FWH 24B	4EXB-6	Refuel 17	06UT139	U/S EXT	Band	0.250	0.041	N(1)
ES5-1-4THPT ES to FWH 24B	4EXB-6	Refuel 17	06UT139	MAIN	Blanket	0.250	0.112	Y
ES5-1-4THPT ES to FWH 24B	4EXB-6	Refuel 17	06UT139	D/S EXT	Band	0.250	0.044	Y
ES5-1-4THPT ES to FWH 24B	4EXB-7	Refuel 17	06UT140	U/S EXT	Band	0.250	0.042	N(1)
ES5-1-4THPT ES to FWH 24B	4EXB-7	Refuel 17	06UT140	MAIN	Blanket	0.250	0.080	Y
ES5-1-4THPT ES to FWH 24B	4EXB-7	Refuel 17	06UT140	D/S EXT	Band	0.250	0.043	Y
ES5-1-4THPT ES TO FWH 24B	4EXB-8P	Refuel 18	FAC-08-050	MAIN	Ptop	0.250	0.045	Y
ES6-1-4THPT ES to FWH 24C	4EXC-13P DS	Cycle 16B	04UT033	MAIN	Band	0.345	0.106	Y
ES6-1-4THPT ES TO FWH 24C	4EXC-14P	Refuel 18	FAC-08-139	MAIN	Ptop	0.250	0.041	Y
ES6-1-4THPT ES to FWH 24C	4EXC-4P US	Refuel 16	04UT079	Entered as D/S EXT of 4EXC-5	Band	0.250	0.035	Y
ES6-1-4THPT ES to FWH 24C	4EXC-5	Refuel 16	04UT079	MAIN	Blanket	0.343	0.111	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
ES6-1-4THPT ES to FWH 24C	4EXC-5P DS	Refuel 16	04UT079	Entered as U/S EXT of 4EXC-5	Band	0.250	0.055	N(1)
ES7A-1-SEP TKA VNT to FWH25	MOPS1	Refuel 17	06UT069	MAIN	Band	0.375	0.020	N(2)
FW71-1-BFP21 DISCH to HDR	BFD-14R	Cycle 17	06UT096	U/S EXT	Band	1.031	0.315	N(1)
FW71-1-BFP21 DISCH to HDR	BFD-14R	Cycle 17	06UT096	MAIN	Band	1.031	0.282	N(5)
FW71-1-BFP21 DISCH to HDR	BFD-14R	Cycle 17	06UT096	D/S MAIN	Band	1.031	0.135	Y
FW71-1-BFP21 DISCH to HDR	BFD-8P	Refuel 16	04UT137	Entered as U/S EXT of BFD-9	Band	1.031	0.072	N(1)
FW71-1-BFP21 DISCH to HDR	BFD-9	Refuel 16	04UT137	MAIN	Blanket	1.031	0.120	Y
FW71-1-BFP21 DISCH to HDR	BFD-9P US	Refuel 16	04UT138	MAIN	Band	1.031	0.060	Y
FW71-7-DISHDR TO SG24	BFD-79	Refuel 18	FAC-08-054	MAIN	Ptop	0.750	0.025	Y
FW71-7-DISHDR TO SG24	BFD-80	Refuel 18	FAC-08-045	MAIN	Blanket	0.938	0.082	Y
FW71-7-DISHDR TO SG24	BFD-80P	Refuel 18	FAC-08-045	Imported as D/S EXT of BFD-80	Band	0.938	0.059	Y
FW71-7-DISHDR TO SG24	BFD-81	Refuel 18	FAC-08-046	MAIN	Blanket	0.938	0.105	Y
FW71-7-DISHDR TO SG24	BFD-81P	Refuel 18	FAC-08-046	Imported as U/S EXT of BFD-81	Band	0.938	0.057	N(1)
FW72-1-BFP22 DISCH to HDR	BFD-13	Refuel 17	06UT109	U/S EXT	Band	1.031	0.062	N(1)
FW72-1-BFP22 DISCH to HDR	BFD-13	Refuel 17	06UT109	MAIN	Blanket	1.031	0.113	Y
FW72-1-BFP22 DISCH to HDR	BFD-13	Refuel 17	06UT109	D/S EXT	Band	1.031	0.072	Y
FW72-1-BFP22 DISCH to HDR	BFD-16	Refuel 17	06UT062	MAIN	Blanket	1.031	0.163	Y
FW72-1-BFP22 DISCH to HDR	BFD-16	Refuel 17	06UT062	D/S EXT	Band	1.031	0.078	Y
FW72-1-BFP22 DISCH to HDR	BFD-23R	Refuel 16	04UT092	MAIN	Band	1.031	0.068	Y
FW72-1-BFP22 DISCH to HDR	BFD-23R	Refuel 16	04UT092	D/S MAIN	Band	1.260	0.134	Y
FW73-1-BFPHDR TO FHW26ABC	BFD-28P	Refuel 18	FAC-08-036	Imported as U/S EXT of BFD-29	Band	1.260	0.054	N(1)
FW73-1-BFPHDR TO FHW26ABC	BFD-29	Refuel 18	FAC-08-036	MAIN	Blanket	1.260	0.124	Y
FW73-1-BFPHDR to FWH26ABC	BFD-11	Refuel 16	04UT091	MAIN	Band	1.260	0.055	N(7)
FW73-1-BFPHDR to FWH26ABC	BFD-11	Refuel 16	04UT091	D/S MAIN	Band	1.260	0.043	N(7)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
FW73-1-BFPHDR to FWH26ABC	BFD-11	Refuel 16	04UT091	BRANCH	Band	1.031	0.045	N(7)
FW73-1-BFPHDR to FWH26ABC	BFD-11	Refuel 16	04UT091	BR EXT	Band	1.031	0.062	N(1)
FW73-1-BFPHDR to FWH26ABC	BFD-23	Refuel 16	04UT097	MAIN	Blanket	1.260	0.156	Y
FW73-1-BFPHDR to FWH26ABC	BFD-32	Refuel 17	06UT074	MAIN	Blanket	1.260	0.132	Y
FW73-3-BFPHDR TO FHW26C	BFD-42	Refuel 18	FAC-08-048	MAIN	Blanket	0.938	0.115	Y
FW73-3-BFPHDR TO FHW26C	BFD-42N	Refuel 18	FAC-08-049	MAIN	Band	0.938	0.045	
FW73-3-BFPHDR TO FHW26C	BFD-42P	Refuel 18	FAC-08-048	Imported as U/S EXT of BFD-42	Band	0.938	0.043	N(1)
FW73-3-BFPHDR to FWH26C	BFD-40	Refuel 17	06UT070	U/S EXT	Band	0.938	0.029	N(1)
FW73-3-BFPHDR to FWH26C	BFD-40	Refuel 17	06UT070	MAIN	Blanket	0.938	0.140	Y
FW73-3-BFPHDR to FWH26C	BFD-40	Refuel 17	06UT071	D/S EXT	Band	0.938	0.055	Y
FW73-4-BFPHDR to FWH26ABC	BFD-32T-B	Refuel 17	06UT060	MAIN	Band	1.260	0.080	Y
FW73-4-BFPHDR to FWH26ABC	BFD-32T-B	Refuel 17	06UT060	D/S MAIN	Band	1.260	0.076	Y
FW73-4-BFPHDR to FWH26ABC	BFD-32T-B	Refuel 17	06UT060	BRANCH	Band	0.937	0.068	Y
FW73-4-BFPHDR to FWH26ABC	BFD-32T-B	Refuel 17	06UT060	BR EXT	Band	0.937	0.087	Y
FW73-5-BFPHDR to FWH26B	BFD-39N	Refuel 16	04UT075	MAIN	Band	0.938	0.050	Y
FW74-1-FWH26A to DISHDR	BFD-55P	Refuel 16	04UT119	MAIN	Band	0.938	0.051	Y
FW74-1-FWH26A to DISHDR	BFD-56	Refuel 16	04UT120	MAIN	Blanket	0.938	0.284	N(5)
FW74-1-FWH26A to DISHDR	BFD-56P-1	Refuel 16	04UT146	MAIN	Band	0.938	0.061	Y
FW74-1-FWH26A to DISHDR	BFD-57	Refuel 16	04UT147	MAIN	Blanket	0.938	0.175	Y
FW74-1-FWH26A to DISHDR	BFD-57P	Refuel 16	04UT147	Entered as D/S EXT of BFD-57	Band	0.938	0.074	Y
FW74-2-FWH26B to DISHDR	BFD-51	Refuel 17	06UT086	MAIN	Blanket	0.938	0.462	N(5)
FW74-2-FWH26B to DISHDR	BFD-52	Refuel 17	06UT087	U/S EXT	Band	0.938	0.058	N(1)
FW74-2-FWH26B to DISHDR	BFD-52	Refuel 17	06UT087	MAIN	Blanket	0.938	0.262	Y
FW74-3-FWH26 to DISHDR	BFD-54T	Refuel 17	06UT077	MAIN	Band	1.260	0.086	Y
FW74-3-FWH26 to DISHDR	BFD-54T	Refuel 17	06UT077	D/S MAIN	Band	1.260	0.086	Y
FW74-3-FWH26 to DISHDR	BFD-54T	Refuel 17	06UT077	BRANCH	Band	0.937	0.142	Y
FW74-4-FHW26C TO DISHDR	BFD-47	Refuel 18	FAC-08-031	MAIN	Ptop	0.938	0.320	N(7)
FW74-4-FHW26C TO DISHDR	BFD-47P	Refuel 18	FAC-08-030	MAIN	Band	0.938	0.051	Y
FW74-4-FHW26C TO DISHDR	BFD-48	Refuel 18	FAC-08-039	MAIN	Blanket	0.938	0.277	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
FW74-5-FHW26 TO DISHDR	BFD-31P US	Refuel 18	FAC-08-037	Imported as U/S EXT of BFD-61	Band	1.260	0.039	N(1)
FW74-5-FHW26 TO DISHDR	BFD-61	Refuel 18	FAC-08-037	MAIN	Blanket	1.260	0.115	Y
FW74-5-FHW26 TO DISHDR	BFD-61P	Refuel 18	FAC-08-037	Imported as D/S EXT of BFD-61	Band	1.260	0.059	Y
FW74-5-FHW26 TO DISHDR	BFD-72T	Refuel 18	FAC-08-073	MAIN DS	Band	1.315	0.029	Y
FW74-5-FHW26 TO DISHDR	BFD-72T	Refuel 18	FAC-08-073	MAIN BR	Band	0.938	0.074	Y
FW74-5-FHW26 TO DISHDR	BFD-72T	Refuel 18	FAC-08-073	MAIN	Band	1.315	0.033	Y
FW74-5-FWH26 to DISHDR	BFD-64	Refuel 17	06UT089	U/S EXT	Band	1.260	0.041	N(1)
FW74-5-FWH26 to DISHDR	BFD-64	Refuel 17	06UT089	MAIN	Blanket	1.260	0.110	Y
FW74-5-FWH26 to DISHDR	BFD-64	Refuel 17	06UT089	D/S EXT	Band	1.260	0.033	N(1)
FW75-1-DISHDR to SG21	BFD-69	Refuel 17	06UT122	MAIN	Band	0.938	0.054	Y
FW75-1-DISHDR TO SG21	BFD-69P DS	Refuel 18	FAC-08-068	MAIN	Band	0.938	0.033	Y
FW75-1-DISHDR to SG21	BFD-70P US	Refuel 16	04UT078	Entered as D/S EXT of BFD-71	Band	0.938	0.087	Y
FW75-1-DISHDR to SG21	BFD-71	Refuel 16	04UT078	MAIN	Blanket	0.938	0.144	Y
FW75-1-DISHDR to SG21	BFD-71R	Refuel 16	04UT076	MAIN	Band	0.844	0.109	Y
FW75-1-DISHDR to SG21	BFD-71R	Refuel 16	04UT076	D/S MAIN	Band	0.938	0.085	Y
FW75-1-DISHDR TO SG21	BFD-98P-1	Refuel 18	FAC-08-102	Imported as U/S EXT of BFD-99	Band	0.750	0.076	N(1)
FW75-1-DISHDR TO SG21	BFD-99	Refuel 18	FAC-08-102	MAIN	Blanket	0.750	0.139	Y
FW75-1-DISHDR TO SG21	BFD-99N	Refuel 18	FAC-08-102	Imported as D/S EXT of BFD-99	Band	0.750	0.070	Y
FW76-1-DISHDR to SG22	BFD-76	Refuel 17	06UT071	U/S EXT	Band	0.938	0.040	N(1)
FW76-1-DISHDR to SG22	BFD-76	Refuel 17	06UT071	MAIN	Blanket	0.938	0.055	Y
FW76-1-DISHDR to SG22	BFD-76	Refuel 17	06UT071	D/S EXT	Band	0.938	0.057	Y
FW76-1-DISHDR TO SG22	BFD-77P	Refuel 18	FAC-08-086	Imported as D/S EXT of BFD-77R	Band	0.844	0.058	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
FW76-1-DISHDR TO SG22	BFD-77R	Refuel 18	FAC-08-086	MAIN DS	Band	0.844	0.072	Y
FW76-1-DISHDR TO SG22	BFD-77R	Refuel 18	FAC-08-086	MAIN	Band	0.938	0.133	Y
FW76-2-DISHDR TO SG22	BFD-78T	Refuel 18	FAC-08-042	MAIN USX	Band	1.135	0.063	N(1)
FW76-2-DISHDR TO SG22	BFD-78T	Refuel 18	FAC-08-042	MAIN DS	Band	1.135	0.203	Y
FW76-2-DISHDR TO SG22	BFD-78T	Refuel 18	FAC-08-069	MAIN BRX	Band	0.938	0.061	N(1)
FW76-2-DISHDR TO SG22	BFD-78T	Refuel 18	FAC-08-069	MAIN BR	Band	0.938	0.061	Y
FW76-2-DISHDR TO SG22	BFD-78T	Refuel 18	FAC-08-042	MAIN	Band	1.135	0.186	Y
FW77-1-DISHDR TO SG24	BFD-105P-2	Refuel 18	FAC-08-121	Imported as U/S EXT of BFD-106	Band	0.750	0.107	N(1)
FW77-1-DISHDR TO SG24	BFD-106	Refuel 18	FAC-08-121	MAIN	Blanket	0.750	0.170	Y
FW77-1-DISHDR TO SG24	BFD-106P	Refuel 18	FAC-08-121	Imported as D/S EXT of BFD-106	Band	0.750	0.070	Y
FW77-2-DISHDR TO SG24	BFD-84T	Refuel 18	FAC-08-067	MAIN DS	Band	1.315	0.098	Y
FW77-2-DISHDR TO SG24	BFD-84T	Refuel 18	FAC-08-067	MAIN BRX	Band	0.938	0.075	N(1)
FW77-2-DISHDR TO SG24	BFD-84T	Refuel 18	FAC-08-067	MAIN BR	Band	0.938	0.076	Y
FW77-2-DISHDR TO SG24	BFD-84T	Refuel 18	FAC-08-067	MAIN	Band	1.315	0.132	Y
FW78-1-DISHDR TO SG23	BFD-101	Refuel 18	FAC-08-117	MAIN	Blanket	0.750	0.068	Y
FW78-1-DISHDR TO SG23	BFD-3P	Refuel 18	FAC-08-057	Imported as D/S EXT of BFD-3R	Band	0.938	0.064	Y
FW78-1-DISHDR TO SG23	BFD-3R	Refuel 18	FAC-08-057	MAIN DS	Band	0.938	0.064	Y
FW78-1-DISHDR TO SG23	BFD-3R	Refuel 18	FAC-08-057	MAIN	Ptop	0.843	0.107	Y
FW78-1-DISHDR to SG23	BFD-89	Refuel 16	04UT111	MAIN	Blanket	0.938	0.085	Y
FW78-1-DISHDR to SG23	BFD-89P	Refuel 16	04UT112	MAIN	Band	0.938	0.047	Y
FW78-1-DISHDR to SG23	BFD-89P-1	Refuel 16	04UT113	MAIN	Band	0.938	0.094	Y
HD12-1-FWH26A to CV	6EXD-1	Refuel 17	06UT088	MAIN	Max Ptp + Past	0.307	0.138	Y
HD12-1-FWH26A to CV	6EXD-6	Refuel 16	04UT117	MAIN	Blanket	0.307	0.063	Y
HD12-1-FWH26A to CV	6EXD-6P	Refuel 16	04UT118	MAIN	Band	0.307	0.057	Y
HD12-1-FWH26A to CV	6EXD-7P	Refuel 16	04UT117	Entered as U/S EXT of 6EXD-6	Band	0.307	0.048	N(1)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
HD20-2-HDP22 to BFP SUCTION	HD-9	Refuel 16	04UT077	MAIN	Band	0.322	0.113	Y
HD20-2-HDP22 to BFP SUCTION	HD-9	Refuel 16	04UT077	D/S MAIN	Band	0.500	0.121	Y
HD21A-1-FWH24A CV TO FWH23A	4EXD-1P	Refuel 18	FAC-08-035	MAIN	Band	0.280	0.060	Y
HD21A-1-FWH24A TO CV	4EXD-6	Refuel 18	FAC-08-023	MAIN DS	Band	0.216	0.026	N(2)
HD21A-1-FWH24A TO CV	4EXD-6	Refuel 18	FAC-08-023	MAIN	Band	0.237	0.029	N(2)
HD22-1-FWH24B TO CV	4EXD-40	Refuel 18	FAC-08-106	MAIN DS	Blanket	0.237	0.118	Y
HD22-1-FWH24B TO CV	4EXD-40	Refuel 18	FAC-08-106	MAIN	Blanket	0.280	0.108	Y
HD22-1-FWH24B TO CV	4EXD-40P DS	Refuel 18	FAC-08-106	Imported as U/S EXT of 4EXD-40	Band	0.280	0.030	N(1)
HD22A-1-FWH24B to CV	4EXD-39P	Cycle 16B	04UT027	MAIN	Band	0.216	0.038	N(8)
HD22A-2-FWH24B CV to FWH23B	4EXD-38	Cycle 16B	04UT026	MAIN	Band	0.216	0.050	Y
HD22A-2-FWH24B CV to FWH23B	4EXD-38	Cycle 16B	04UT026	D/S MAIN	Band	0.280	0.062	Y
HD23A-1-FWH24C TO CV	4EXD-60	Refuel 18	FAC-08-062	MAIN DS	Band	0.216	0.026	N(2)
HD23A-1-FWH24C TO CV	4EXD-60	Refuel 18	FAC-08-062	MAIN	Band	0.237	0.029	N(2)
HD23A-1-FWH24C TO CV	4EXD-61	Refuel 18	FAC-08-064	MAIN USX	Band	0.280	0.033	N(1)
HD23A-1-FWH24C TO CV	4EXD-61	Refuel 18	FAC-08-064	MAIN DS	Blanket	0.237	0.109	Y
HD23A-1-FWH24C TO CV	4EXD-61	Refuel 18	FAC-08-064	MAIN	Blanket	0.280	0.100	Y
HD23A-1-FWH24C TO CV	4EXD-70P	Refuel 18	FAC-08-138	MAIN	Ptop	0.280	0.084	Y
HD244A-1-FWH23C CV to FWH22C	244-11T	Refuel 17	06UT061	MAIN	Band	0.250	0.105	Y
HD244A-1-FWH23C CV to FWH22C	244-11T	Refuel 17	06UT061	D/S MAIN	Band	0.250	0.081	Y
HD244A-1-FWH23C CV to FWH22C	244-11T	Refuel 17	06UT061	BRANCH	Band	0.250	0.117	Y
HD24A-1-FWH23A to CV	3EXD-5P	Cycle 16B	04UT041	Entered as U/S EXT of 3EXD-6	Band	0.250	0.032	N(1)
HD24A-1-FWH23A to CV	3EXD-6	Cycle 16B	04UT041	MAIN	Blanket	0.250	0.068	Y
HD24A-1-FWH23A to CV	3EXD-6P DS	Cycle 16B	04UT039	MAIN	Band	0.250	0.030	Y
HD24A-1-FWH23A to CV	3EXD-7	Cycle 16B	04UT039	MAIN	Blanket	0.250	0.066	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
HD24A-1-FWH23A to CV	3EXD-7P	Cycle 16B	04UT039	MAIN	Band	0.250	0.038	Y
HD24A-1-FWH23A to CV	3EXD-8	Cycle 16B	04UT040	MAIN	Blanket	0.250	0.045	Y
HD24A-1-FWH23A to CV	3EXD-8P	Cycle 16B	04UT040	Entered as D/S EXT of 3EXD-8	Band	0.250	0.025	N(2)
HD25A-1-FWH23B TO CV	3EXD-33P DS	Refuel 18	FAC-08-089	Imported as U/S EXT of 3EXD-34	Band	0.250	0.025	N(1)
HD25A-1-FWH23B TO CV	3EXD-34	Refuel 18	FAC-08-089	MAIN DS	Blanket	0.250	0.097	Y
HD25A-1-FWH23B TO CV	3EXD-34	Refuel 18	FAC-08-089	MAIN BRX	Band	0.250	0.025	N(1)
HD25A-1-FWH23B TO CV	3EXD-34	Refuel 18	FAC-08-089	MAIN BR	Ptop	0.250	0.115	Y
HD25A-1-FWH23B TO CV	3EXD-34	Refuel 18	FAC-08-089	MAIN	Blanket	0.250	0.114	Y
HD25A-1-FWH23B TO CV	3EXD-40P	Refuel 18	FAC-08-089	Imported as D/S EXT of 3EXD-34	Band	0.250	0.022	Y
HD9-2-FWH25B to HTR DRN TK	5EXD-14P	Refuel 17	06UT057	MAIN	Max Ptp + Past	0.250	0.138	Y
HD9-3-FWH25C to HTR DRN TK	5EXD-3P US	Refuel 16	04UT074	MAIN	Band	0.250	0.041	Y
MSD27-5-MS21A TO MSDT 21A	1A-18P DS	Refuel 18	FAC-08-022	Imported as U/S EXT of 1A-20	Band	0.280	0.040	N(1)
MSD27-5-MS21A TO MSDT 21A	1A-20	Refuel 18	FAC-08-022	MAIN	Blanket	0.280	0.041	Y
MSD27-5-MS21A TO MSDT 21A	1A-VALVE-5EX-19L	Refuel 18	FAC-08-022	Imported as D/S EXT of 1A-20	Band	0.280	0.035	Y
MSD32-5-MS23B to MSDT 23B	3B-20	Refuel 17	06UT093	U/S EXT	Band	0.250	0.056	N(1)
MSD32-5-MS23B to MSDT 23B	3B-20	Refuel 17	06UT093	MAIN	Blanket	0.250	0.097	Y
MSD40-1-RHTR 22A to RHDT 22A	MS-2A0P	Refuel 17	06UT102	MAIN	Band	0.432	0.059	Y
MSD40-1-RHTR 22A to RHDT 22A	MS-2AN	Refuel 17	06UT102	MAIN	Band	0.432	0.102	Y
MSD40-1-RHTR 22A to RHDT 22A	MS-2AN-1	Refuel 17	06UT102	MAIN	Band	0.432	0.125	Y
MSD45A-1-RHDT21A TO CV	MS-1A25	Refuel 18	FAC-08-012	MAIN DS	Ptop	0.432	0.092	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
MSD45A-1-RHDT21A TO CV	MS-1A25	Refuel 18	FAC-08-012	MAIN BR	Band	0.432	0.180	N(1)
MSD45A-1-RHDT21A TO CV	MS-1A25	Refuel 18	FAC-08-012	MAIN	Ptop	0.432	0.100	Y
MSD45A-1-RHDT21A TO CV	MS-1A25P	Refuel 18	FAC-08-012	Imported as D/S EXT of MS-1A25	Band	0.432	0.056	Y
MSD45A-1-RHDT21A TO CV	MS-1A25P-1	Refuel 18	FAC-08-012	Imported as U/S EXT of MS-1A25	Band	0.432	0.033	N(1)
MSD45C-2-RHDT A HDR to FWH26	MS-1A34T2	Refuel 17	06UT054	MAIN	Band	0.594	0.092	Y
MSD45C-2-RHDT A HDR to FWH26	MS-1A34T2	Refuel 17	06UT054	D/S MAIN	Band	0.594	0.072	Y
MSD45C-2-RHDT A HDR to FWH26	MS-1A34T2	Refuel 17	06UT054	BRANCH	Band	0.432	0.024	N(2)
MSD45C-3-RHDT A HDR TO FWH26	MS-1A37P DS	Refuel 18	FAC-08-007	Imported as U/S EXT of MS-1A38	Band	0.594	0.075	N(1)
MSD45C-3-RHDT AHDR TO FWH26	MS-1A38	Refuel 18	FAC-08-007	MAIN	Blanket	0.594	0.126	Y
MSD45C-4-RHDT A HDR TO FWH26C	MS-1A67P US	Refuel 18	FAC-08-025	MAIN	Ptop	0.432	0.200	Y
MSD45C-5-RHDT A HDR to FWH26	MS-1A68	Refuel 17	06UT092	MAIN	Band	0.500	0.085	Y
MSD45C-5-RHDT A HDR to FWH26	MS-1A68	Refuel 17	06UT092	D/S MAIN	Band	0.500	0.051	Y
MSD45C-5-RHDT A HDR to FWH26	MS-1A68	Refuel 17	06UT092	BRANCH	Band	0.432	0.054	Y
MSD45D-1-RHDT A HDR TO FWH26B	MS-1A58P	Refuel 18	FAC-08-007	Imported as U/S EXT of MS-1A59	Band	0.432	0.040	N(1)
MSD45D-1-RHDT A HDR TO FWH26B	MS-1A59	Refuel 18	FAC-08-007	MAIN	Blanket	0.432	0.102	
MSD45D-1-RHDT A HDR TO FWH26B	MS-1A59P US	Refuel 18	FAC-08-005	MAIN	Band	0.432	0.053	Y
MSD46A-1-RHDT22A to CV	MS-2A11N	Refuel 17	06UT130	MAIN	Band	0.432	0.063	N(10)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
MSD46A-1-RHDT22A to CV	MS-2A11N	Refuel 17	06UT130	D/S EXT	Band	0.432	0.057	Y
MSD47-1-RHDT23A to CV	MS-3A17P-1	Refuel 17	06UT068	MAIN	Band	0.432	0.072	Y
MSD48A-1-RHDT21B TO CV	MS-1B25P	Refuel 18	FAC-08-021	Imported as U/S EXT of MS-1B26	Band	0.432	0.042	N(1)
MSD48A-1-RHDT21B to CV	MS-1B25P	Refuel 16	04UT083	MAIN	Band	0.432	0.062	Y
MSD48A-1-RHDT21B to CV	MS-1B25P	Refuel 16	04UT080	Entered as U/S EXT of MS-1B26	Band	0.432	0.046	N(1)
MSD48A-1-RHDT21B TO CV	MS-1B26	Refuel 18	FAC-08-021	MAIN	Blanket	0.432	0.063	Y
MSD48A-1-RHDT21B to CV	MS-1B26	Refuel 16	04UT080	MAIN	Blanket	0.432	0.159	Y
MSD48A-1-RHDT21B TO CV	MS-1B27P-1	Refuel 18	FAC-08-021	Imported as D/S EXT of MS-1B26	Band	0.432	0.051	N(15)
MSD48A-1-RHDT21B to CV	MS-1B27P-1	Refuel 16	04UT080	Entered as D/S EXT of MS-1B26	Band	0.432	0.061	Y
MSD48B-2-RHDT B HDR to FWH26	MS-1B39	Refuel 16	04UT087	MAIN	Blanket	0.500	0.121	Y
MSD48B-2-RHDT B HDR to FWH26	MS-1B39P	Refuel 16	04UT084	MAIN	Band	0.500	0.050	Y
MSD49A-1-RHDT 22B TO CV	MS-2B11	Refuel 18	FAC-08-010	MAIN	Blanket	0.432	0.085	Y
MSD49A-1-RHDT 22B TO CV	MS-2B11N	Refuel 18	FAC-08-010	MAIN	Band	0.432	0.060	Y
MSD49A-1-RHDT 22B TO CV	MS-2B11P	Refuel 18	FAC-08-014	Imported as U/S EXT of MS-2B12	Band	0.432	0.039	N(1)
MSD49A-1-RHDT 22B TO CV	MS-2B11P-1	Refuel 18	FAC-08-011	MAIN	Band	0.432	0.050	Y
MSD49A-1-RHDT 22B TO CV	MS-2B11P-1	Refuel 18	FAC-08-010	Imported as U/S EXT of MS-2B11	Band	0.432	0.048	N(1)
MSD49A-1-RHDT 22B TO CV	MS-2B11P-1	Refuel 18	FAC-08-010	Imported as D/S EXT of MS-2B11N	Band	0.432	0.022	Y
MSD49A-1-RHDT 22B TO CV	MS-2B12	Refuel 18	FAC-08-014	MAIN	Blanket	0.432	0.055	Y
MSD49A-1-RHDT 22B TO CV	MS-2B12P	Refuel 18	FAC-08-015	MAIN	Band	0.432	0.102	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
MSD49A-1-RHDT 22B TO CV	MS-2B15P	Refuel 18	FAC-08-013	Imported as U/S EXT of MS-2B16	Band	0.432	0.092	N(1)
MSD49A-1-RHDT 22B TO CV	MS-2B16	Refuel 18	FAC-08-013	MAIN	Blanket	0.432	0.086	Y
MSD49A-1-RHDT 22B TO CV	MS-2B16P	Refuel 18	FAC-08-008	Imported as U/S EXT of MS-2B17	Band	0.432	0.022	N(1)
MSD49A-1-RHDT 22B TO CV	MS-2B16P	Refuel 18	FAC-08-013	Imported as D/S EXT of MS-2B16	Band	0.432	0.059	Y
MSD49A-1-RHDT 22B TO CV	MS-2B17	Refuel 18	FAC-08-008	MAIN	Blanket	0.432	0.099	Y
MSD49A-1-RHDT 22B TO CV	MS-2B17P-3	Refuel 18	FAC-08-008	Imported as D/S EXT of MS-2B17	Band	0.432	0.043	Y
MSD49A-1-RHDT 22B TO CV	MS-2B21P DS	Refuel 18	FAC-08-028	Imported as U/S EXT of MS-2B22	Band	0.594	0.029	N(1)
MSD49A-1-RHDT 22B TO CV	MS-2B22	Refuel 18	FAC-08-028	MAIN	Ptop	0.594	0.165	Y
MSD49A-1-RHDT22B to CV	MS-2B11P	Refuel 16	04UT135	MAIN	Band	0.432	0.045	Y
MSD49A-1-RHDT22B to CV	MS-2B11P	Refuel 16	04UT135	D/S pipe portion entered as D/S EXT of MS-2B11P	Band	0.432	0.068	N(4)
MSD49A-1-RHDT22B to CV	MS-2B13	Refuel 17	06UT143	U/S EXT	Band	0.432	0.119	N(1)
MSD49A-1-RHDT22B to CV	MS-2B13	Refuel 17	06UT143	MAIN	Blanket	0.432	0.068	Y
MSD49A-1-RHDT22B to CV	MS-2B13	Refuel 17	06UT143	D/S EXT	Band	0.432	0.100	Y
MSD49A-1-RHDT22B to CV	MS-2B14P	Refuel 16	04UT098	MAIN	Band	0.432	0.092	Y
MSD49A-1-RHDT22B to CV	MS-2B15	Refuel 16	04UT099	MAIN	Blanket	0.432	0.104	Y
MSD49A-1-RHDT22B to CV	MS-2B15P	Refuel 16	04UT100	MAIN	Band	0.432	0.119	Y
MSD49A-1-RHDT22B to CV	MS-2B18	Refuel 17	06UT056	MAIN	Blanket	0.594	0.108	Y
MSD49A-1-RHDT22B to CV	MS-2B18R	Refuel 17	06UT056	U/S EXT	Band	0.432	0.047	N(1)
MSD49A-1-RHDT22B to CV	MS-2B18R	Refuel 17	06UT056	MAIN	Band	0.432	0.186	N(5)
MSD49A-1-RHDT22B to CV	MS-2B18R	Refuel 17	06UT056	D/S MAIN	Band	0.594	0.225	N(5)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
MSD49A-1-RHDT22B to CV	MS-2B18R	Refuel 17	06UT056	D/S EXT	Band	0.594	0.090	Y
MSD49C-1-RHDT B HDR TO FWH 26A	MS-2B41P	Refuel 18	FAC-08-027	Imported as U/S EXT of MS-2B42	Band	0.432	0.034	N(1)
MSD49C-1-RHDT B HDR TO FWH 26A	MS-2B42	Refuel 18	FAC-08-027	MAIN DS	Band	0.432	0.124	Y
MSD49C-1-RHDT B HDR TO FWH 26A	MS-2B42	Refuel 18	FAC-08-027	MAIN BRX	Band	0.432	0.031	Y
MSD49C-1-RHDT B HDR TO FWH 26A	MS-2B42	Refuel 18	FAC-08-027	MAIN BR	Band	0.432	0.108	N(1)
MSD49C-1-RHDT B HDR TO FWH 26A	MS-2B42	Refuel 18	FAC-08-027	MAIN	Band	0.432	0.122	Y
MSD49C-2-RHDT B HDR TO FWH 26C	MS-2B50	Refuel 18	FAC-08-019	MAIN	Ptop	0.432	0.110	Y
MSD49C-2-RHDT B HDR TO FWH 26C	MS-2B50P US	Refuel 18	FAC-08-019	Imported as D/S EXT of MS-2B50	Band	0.432	0.040	Y
MSD49C-2-RHDT B HDR TO FWH 26C	MS-2B52	Refuel 18	FAC-08-034	MAIN	Ptop	0.432	0.043	Y
MSD49C-2-RHDT B HDR TO FWH 26C	MS-2B52P US	Refuel 18	FAC-08-034	Imported as D/S EXT of MS-2B52	Band	0.432	0.101	Y
MSD49C-2-RHDT B HDR TO FWH 26C	MS-2B63P	Refuel 18	FAC-08-019	Imported as U/S EXT of MS-2B50	Band	0.432	0.068	N(1)
MSD49C-2-RHDT B HDR to FWH26C	MS-2B55	Refuel 16	04UT103	MAIN	Band	0.432	0.081	Y
MSD49C-2-RHDT B HDR to FWH26C	MS-2B55	Refuel 16	04UT103	D/S MAIN	Band	0.432	0.079	Y
MSD49C-2-RHDT B HDR to FWH26C	MS-2B55	Refuel 16	04UT103	BRANCH	Band	0.432	0.228	N(5)
MSD49C-2-RHDT B HDR to FWH26C	MS-2B55P	Refuel 16	04UT105	MAIN	Band	0.432	0.100	Y
MSD49C-2-RHDT B HDR to FWH26C	MS-2B55R	Refuel 16	04UT104	MAIN	Band	0.432	0.163	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
MSD49C-2-RHDT B HDR to FWH26C	MS-2B55R	Refuel 16	04UT104	D/S MAIN	Band	0.500	0.082	Y
MSD49C-3-RHDT B HDR	MS-2B64	Refuel 17	06UT100	MAIN	Band	0.594	0.039	Y
MSD49C-3-RHDT B HDR	MS-2B64	Refuel 17	06UT100	D/S MAIN	Band	0.594	0.056	Y
MSD49C-3-RHDT B HDR	MS-2B64	Refuel 17	06UT100	BRANCH	Band	0.432	0.064	Y
MSD50A-1-RHDT23B TO CV	MS-3B13P	Refuel 18	FAC-08-020	Imported as U/S EXT of MS-3B14	Band	0.432	0.083	N(1)
MSD50A-1-RHDT23B TO CV	MS-3B14	Refuel 18	FAC-08-020	MAIN	Ptop	0.432	0.066	Y
MSD50A-1-RHDT23B TO CV	MS-3B14P	Refuel 18	FAC-08-020	Imported as D/S Ext of MS-3B14	Band	0.432	0.041	Y
MSD50A-1-RHDT23B TO CV	MS-3B22P US	Refuel 18	FAC-08-016	MAIN	Band	0.432	0.029	N(2)
MSD50A-1-RHDT23B TO CV	MS-3B24P DS	Refuel 18	FAC-08-029	Imported as U/S EXT of MS-3B25	Band	0.432	0.053	N(1)
MSD50A-1-RHDT23B to CV	MS-3B24P DS	Refuel 16	04UT126	Entered as U/S EXT of MS-3B25	Band	0.432	0.105	N(1)
MSD50A-1-RHDT23B TO CV	MS-3B25	Refuel 18	FAC-08-029	MAIN	Blanket	0.432	0.118	Y
MSD50A-1-RHDT23B to CV	MS-3B25	Refuel 16	04UT126	MAIN	Blanket	0.441	0.118	Y
MSD50A-1-RHDT23B TO CV	MS-3B25P	Refuel 18	FAC-08-029	Imported as D/S EXT of MS-3B25	Band	0.432	0.042	Y
MSD50A-1-RHDT23B to CV	MS-3B25P	Refuel 16	04UT125	MAIN	Band	0.437	0.038	Y
MSD50A-1-RHDT23B to CV	MS-3B26	Refuel 16	04UT127	MAIN	Blanket	0.432	0.101	Y
MSD50A-1-RHDT23B to CV	MS-3B26P US	Refuel 16	04UT127	Entered as D/S EXT of MS-3B26	Band	0.432	0.113	Y
MSD50C-1-RHDT 23B CV to FWH26	MS-3B43P US	Refuel 16	04UT144	MAIN	Band	0.500	0.128	Y
SG51-1-CONT PEN to SGBFTK	MS46-4P-1 US	Refuel 17	06UT137	MAIN	Band	0.300	0.026	N(2)
SG51-1-CONT PEN to SGBFTK	MS46-5	Refuel 16	04UT124	MAIN	Area	0.218	0.114	Y
SG51-1-CONT PEN to SGBFTK	MS46-5P	Refuel 16	04UT121	MAIN	Band	0.218	0.016	N(2)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
SG51-1-CONT PEN to SGBFTK	MS46-6	Refuel 16	04UT123	MAIN	Area	0.218	0.017	N(2)
SG51-1-CONT PEN to SGBFTK	MS46-6P US	Refuel 16	04UT122	MAIN	Band	0.218	0.023	N(2)
SG52-1-CONT PEN to SGBFTK	MS45-2R	Refuel 17	06UT138	U/S EXT	Band	0.218	0.032	N(1)
SG52-1-CONT PEN to SGBFTK	MS45-2R	Refuel 17	06UT138	MAIN	Band	0.218	0.020	N(2)
SG52-1-CONT PEN to SGBFTK	MS45-2R	Refuel 17	06UT138	D/S MAIN	Band	0.300	0.053	Y
SG52-1-CONT PEN to SGBFTK	MS45-2R	Refuel 17	06UT138	D/S EXT	Band	0.300	0.050	Y
SG52-1-CONT PEN to SGBFTK	MS45-3	Refuel 17	06UT124	U/S EXT	Band	0.300	0.036	N(1)
SG52-1-CONT PEN to SGBFTK	MS45-3	Refuel 17	06UT124	MAIN	Blanket	0.300	0.042	Y
SG52-1-CONT PEN to SGBFTK	MS45-3	Refuel 17	06UT124	D/S EXT	Band	0.300	0.035	Y
SG53-1-CONT PEN to SGBFTK	MS47-4P-1	Refuel 17	06UT135	MAIN	Band	0.300	0.032	Y
SG54-1-CONT PEN to SGBFTK	MS48-4P-1	Refuel 17	06UT136	MAIN	Band	0.300	0.053	Y
xNCW_151 Main Steam	MS21-1 DS	Refuel 17	06UT099	MAIN	Band	0.912	0.077	Y
XNCW_18	5EXC-14	Refuel 18	FAC-08-138	MAIN	Ptop	0.312	0.038	N(15)
XNCW_18	5EXC-21	Refuel 18	FAC-08-059	MAIN	Blanket	0.312	0.105	N(15)
XNCW_18	5EXC-21P-1 US	Refuel 18	FAC-08-060	MAIN	Band	0.312	0.089	N(15)
xNCW_18	5EXC-24	Cycle 17	06UT007	MAIN	Blanket	0.312	0.096	Y
xNCW_203	203-6E	Refuel 17	06UT094	MAIN	Max Ptp + Past	0.500	0.187	Y
xNCW_203	203-6E	Refuel 17	06UT094	D/S MAIN	Max Ptp + Past	0.594	0.141	Y
xNCW_203	203-6E	Refuel 17	06UT094	D/S EXT	Band	0.594	0.097	Y
XNCW_205	205-24P US	Refuel 18	FAC-08-105	MAIN	Ptop	0.322	0.175	N(15)
XNCW_206	206-16E	Refuel 18	FAC-08-101	MAIN DS	Ptop	0.594	0.140	N(15)
XNCW_206	206-16E	Refuel 18	FAC-08-101	MAIN	Ptop	0.500	0.148	N(15)
XNCW_206	206-16P	Refuel 18	FAC-08-100	MAIN	Ptop	0.594	0.175	N(15)
xNCW_206	206-6P	Refuel 16	04UT114	MAIN	Band	0.500	0.040	N(3)
xNCW_206	206-7E	Refuel 16	04UT116	MAIN	Blanket	0.500	0.079	N(3)
xNCW_206	206-7E	Refuel 16	04UT116	D/S EXT	Band	0.500	0.054	N(3)
XNCW_210	210-3P-2	Refuel 18	FAC-08-047	MAIN	Ptop	0.352	0.145	N(15)
xNCW_213	213-4P	Cycle 16B	04UT036	MAIN	Band	0.864	0.136	N(3)
xNCW_214	214-25P	Cycle 16B	04UT029	MAIN	Band	0.218	0.086	N(3)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
XNCW_214	214-26E	Refuel 18	FAC-08-078	MAIN	Ptop	0.216	0.108	N(15)
xNCW_215	21BFPT	Refuel 17	06UT075	MAIN	Band	0.625	0.078	Y
xNCW_215	22BFPT	Refuel 16	04UT140	MAIN	Area	0.625	0.373	N(3)
xNCW_219	219-11P US	Cycle 16B	04UT045	MAIN	Band	0.375	0.112	N(3)
XNCW_220	220-7P	Refuel 18	FAC-08-113	MAIN	Band	0.365	0.119	N(15)
xNCW_227	227-2C	Refuel 16	04UT130	MAIN	Band	0.365	0.243	N(3)
xNCW_228	228-17E	Cycle 16B	04UT047	MAIN	Blanket	0.218	0.070	N(3)
xNCW_235	235-2E	Refuel 17	06UT079	U/S EXT	Band	0.216	0.027	N(1)
xNCW_235	235-2E	Refuel 17	06UT079	MAIN	Blanket	0.216	0.036	Y
xNCW_235	235-2E	Refuel 17	06UT079	D/S EXT	Band	0.216	0.017	N(2)
xNCW_23B	4EXD-74	Cycle 16B	04UT048	MAIN	Blanket	0.280	0.056	N(3)
xNCW_248	248-13T	Refuel 16	04UT139	U/S EXT	Band	0.337	0.041	N(3)
xNCW_248	248-13T	Refuel 16	04UT139	MAIN	Band	0.337	0.172	N(3)
xNCW_248	248-13T	Refuel 16	04UT139	D/S MAIN	Band	0.337	0.142	N(3)
xNCW_248	248-13T	Refuel 16	04UT139	BRANCH	Band	0.216	0.201	N(3)
xNCW_248	248-13T	Refuel 16	04UT139	BR EXT	Band	0.216	0.060	N(3)
XNCW_249	249-19R	Refuel 18	FAC-08-108	MAIN DS	Band	0.365	0.167	N(15)
XNCW_249	249-19R	Refuel 18	FAC-08-108	MAIN	Band	0.280	0.386	N(15)
XNCW_249	249-20P	Refuel 18	FAC-08-108	Imported as D/S EXT of 249-19R	Band	0.365	0.031	N(15)
XNCW_254	254-3E	Refuel 18	FAC-08-070	MAIN	Blanket	0.337	0.076	N(15)
XNCW_254	254-4P US	Refuel 18	FAC-08-070	Imported as D/S EXT of 254-3E	Band	0.337	0.049	N(15)
XNCW_259	259-15E	Refuel 18	FAC-08-058	MAIN	Ptop	0.337	0.061	N(15)
XNCW_259	259-16P US	Refuel 18	FAC-08-058	Imported as D/S EXT of 259-15E	Band	0.337	0.051	N(15)
xNCW_259	259-3E	Refuel 16	04UT145	MAIN	Blanket	0.337	0.063	N(3)
XNCW_263	263-12P US	Refuel 18	FAC-08-055	Imported as D/S EXT of 263-13R	Band	0.280	0.051	N(15)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
XNCW_263	263-13R	Refuel 18	FAC-08-055	MAIN DS	Ptop	0.280	0.154	N(15)
XNCW_263	263-13R	Refuel 18	FAC-08-055	MAIN	Ptop	0.216	0.250	N(15)
XNCW_263	263-14P DS	Refuel 18	FAC-08-055	Imported as U/S EXT of 263-13R	Band	0.216	0.054	N(15)
xNCW_267	267-29E	Refuel 16	04UT134	U/S EXT	Band	0.216	0.046	N(3)
xNCW_267	267-29E	Refuel 16	04UT134	MAIN	Blanket	0.216	0.042	N(3)
xNCW_267	267-30P	Refuel 16	04UT132	MAIN	Band	0.216	0.033	N(3)
xNCW_267	267-31R	Refuel 16	04UT131	MAIN	Band	0.216	0.060	N(3)
xNCW_267	267-31R	Refuel 16	04UT131	D/S MAIN	Band	0.280	0.054	N(3)
xNCW_267	267-32E	Refuel 16	04UT133	MAIN	Blanket	0.280	0.062	N(3)
XNCW_267	267-33P	Refuel 18	FAC-08-099	MAIN	Band	0.280	0.177	N(15)
xNCW_2R16 Misc Inspections	DS-FE-419	Refuel 16	04UT096	MAIN	Band	1.187	0.218	N(3)
xNCW_2R16 Misc Inspections	EST-18	Cycle 16B	04UT052	MAIN	Band	0.154	0.061	N(3)
xNCW_2R16 Misc Inspections	EST-18	Cycle 16B	04UT052	D/S EXT	Band	0.147	0.015	N(3)
xNCW_2R16 Misc Inspections	MST-49	Cycle 16B	04UT050	MAIN	Band	0.179	0.109	N(3)
xNCW_2R16 Misc Inspections	MST-49	Cycle 16B	04UT050	D/S EXT	Band	0.147	0.020	N(3)
xNCW_2R17 Misc Inspections	DS-MS-46A	Refuel 17	06UT123	MAIN	Blanket	0.307	0.101	Y
xNCW_2R17 Misc Inspections	FE-449	Refuel 17	06UT112	MAIN	Band	0.912	0.041	Y
xNCW_39	MS-1A1	Refuel 17	06UT084	MAIN	Blanket	0.276	0.038	Y
xNCW_39	MS-1A1N	Refuel 17	06UT084	MAIN	Band	0.276	0.026	N(2)
xNCW_39	MS-1A1P	Refuel 17	06UT084	MAIN	Band	0.276	0.040	Y
xNCW_39	MS-1A2	Refuel 17	06UT084	MAIN	Blanket	0.276	0.043	Y
xNCW_39	MS-1A2P	Refuel 17	06UT084	MAIN	Band	0.276	0.057	Y
xNCW_39	MS-1A3P US	Refuel 17	06UT084	MAIN	Band	0.276	0.044	Y
xNCW_43	MS-2B1	Refuel 17	06UT085	MAIN	Blanket	0.276	0.043	Y
xNCW_43	MS-2B1N	Refuel 17	06UT085	MAIN	Band	0.276	0.042	Y
xNCW_43	MS-2B2	Refuel 17	06UT085	MAIN	Blanket	0.276	0.046	Y
xNCW_43	MS-2B2P	Refuel 17	06UT085	MAIN	Band	0.276	0.020	N(2)
xNCW_43	MS-2B3	Refuel 17	06UT085	MAIN	Blanket	0.276	0.016	N(2)
xNCW_43	MS-2B4	Refuel 17	06UT085	MAIN	Blanket	0.276	0.022	N(2)
xNCW_43	MS-2B4N	Refuel 17	06UT085	MAIN	Band	0.276	0.040	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
xNCW_43	MS-2B4R	Refuel 17	06UT085	MAIN	Band	0.276	0.018	N(2)
xNCW_43	MS-2B4R	Refuel 17	06UT085	D/S MAIN	Band	0.276	0.019	N(2)
XNCW_46B	MS-2A33	Refuel 18	FAC-08-009	MAIN DS	Ptop	0.500	0.231	N(15)
XNCW_46B	MS-2A33	Refuel 18	FAC-08-009	MAIN BRX	Band	0.500	0.095	N(15)
XNCW_46B	MS-2A33	Refuel 18	FAC-08-009	MAIN BR	Band	0.500	0.211	N(15)
XNCW_46B	MS-2A33	Refuel 18	FAC-08-009	MAIN	Ptop	0.500	0.111	N(15)
XNCW_46B	MS-2A34	Refuel 18	FAC-08-018	MAIN DS	Band	0.500	0.300	N(15)
XNCW_46B	MS-2A34	Refuel 18	FAC-08-018	MAIN BRX	Band	0.500	0.067	Y
XNCW_46B	MS-2A34	Refuel 18	FAC-08-018	MAIN BR	Band	0.500	0.130	N(1)
XNCW_46B	MS-2A34	Refuel 18	FAC-08-018	MAIN	Band	0.500	0.215	N(15)
xNCW_48A	MS-1B41P	Cycle 16B	04UT032	MAIN	Band	0.432	0.079	N(3)
xNCW_85	GCD-1P	Cycle 16B	04UT049	Entered as U/S EXT of GCD-2	Band	0.322	0.028	N(3)
xNCW_85	GCD-2	Cycle 16B	04UT049	MAIN	Band	0.322	0.174	N(3)
xNCW_85	GCD-2	Cycle 16B	04UT049	D/S MAIN	Band	0.322	0.165	N(3)
xNCW_85	GCD-2	Cycle 16B	04UT049	BRANCH	Band	0.322	0.049	N(3)
xNCW_85	GCD-2	Cycle 16B	04UT049	BR EXT	Band	0.322	0.026	N(3)
XNCW_91	EST-21	Refuel 18	FAC-08-096	MULYIPLE	Band			N(15)
xNCW_FEEDWATER HEATER SHELLS	FWH 24A	Refuel 16	04UT081	MAIN	Area	0.438	0.104	N(3)
xNCW_FEEDWATER HEATER SHELLS	FWH 24B	Refuel 16	04UT085	MAIN	Area	0.438	0.136	N(3)
xNCW_FEEDWATER HEATER SHELLS	FWH 24C	Refuel 16	04UT086	MAIN	Area	0.438	0.165	N(3)
xNCW_FEEDWATER HEATER SHELLS	FWH-22C	Refuel 17	06UT114	MAIN	Band	0.375	0.032	Y
xNCW_FEEDWATER HEATER SHELLS	FWH-23C 1N	Refuel 17	06UT110	MAIN	Band	0.438	0.060	Y
xNCW_FEEDWATER HEATER SHELLS	FWH-23C 2N	Refuel 17	06UT110	MAIN	Band	0.438	0.059	Y
xNCW_FEEDWATER HEATER SHELLS	FWH-26B DR	Refuel 17	06UT134	MAIN	Band	0.944	0.047	Y

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
xNCW_FEEDWATER HEATER SHELLS	FWH-26B DR N1	Refuel 17	06UT134	MAIN	Band	0.906	0.032	Y
xNCW_FEEDWATER HEATER SHELLS	FWH-26B DR N2	Refuel 17	06UT134	MAIN	Band	0.906	0.058	Y
xNCW_FEEDWATER HEATER SHELLS	FWH-26B EX	Refuel 17	06UT141	MAIN	Band	0.944	0.053	Y
xNCW_FWH 21&22 Nozzles	LPFW22C-1N	Refuel 16	04UT128	MAIN	Band	0.375	0.292	N(3)
xNCW_FWH 21&22 Nozzles	LPFW22C-2N	Refuel 16	04UT129	MAIN	Band	0.375	0.267	N(3)
xNCW_Main Steam Traps	MST24-Pipe 1	Refuel 16	04UT101	MAIN	Band	0.179	0.074	N(3)
xNCW_Main Steam Traps	MST24-Pipe 2 DS	Refuel 16	04UT101	MAIN	Band	0.179	0.029	N(3)
xNCW_Main Steam Traps	MST24-Pipe 2 US	Refuel 16	04UT101	MAIN	Band	0.179	0.087	N(3)
xNCW_Main Steam Traps	MST24-Pipe 3 DS	Refuel 16	04UT101	MAIN	Band	0.179	0.022	N(3)
xNCW_Main Steam Traps	MST24-Pipe 3 US	Refuel 16	04UT101	MAIN	Band	0.179	0.028	N(3)
XNCW_R17 Misc Inspections	FE-449	Refuel 18	FAC-08-103	MAIN	Band	0.912	0.027	N(15)
XNCW-205	205-22P US	Refuel 18	FAC-08-104	MAIN	Band	0.322	0.187	N(15)
XNCW-FEEDWATER HEATER SHELLS	FWH-24A	Refuel 18	FAC-08-091	SHELL	Blanket	0.438	0.125	N(15)
XNCW-FEEDWATER HEATER SHELLS	FWH-24B	Refuel 18	FAC-08-098	SHELL	Blanket	0.438	0.104	N(15)
XNCW-FEEDWATER HEATER SHELLS	FWH-24C	Refuel 18	FAC-08-084	SHELL	Blanket	0.438	0.125	N(15)
XNCW-FEEDWATER HEATER SHELLS	FWH-25B	Refuel 18	FAC-08-097	SHELL	Blanket	0.563	0.025	N(15)
Component Not in Official Model	22 COND NOZ	Refuel 18	FAC-08-126	MAIN	N/A	--	--	N(15)
Component Not in Official Model	236-FCV115 T US	Refuel 18	FAC-08-140	MAIN	N/A	--	--	N(15)
Component Not in Official Model	239-11E	Refuel 18	FAC-08-136	MAIN	N/A	--	--	N(15)
Component Not in Official Model	252-1T	Refuel 18	FAC-08-134	MAIN	N/A	--	--	N(15)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
Component Not in Official Model	252-5E	Refuel 18	FAC-08-065	MAIN	N/A	--	--	N(15)
Component Not in Official Model	252-7E	Refuel 18	FAC-08-066	MAIN	N/A	--	--	N(15)
Component Not in Official Model	254-15E	Refuel 18	FAC-08-135	MAIN	N/A	--	--	N(15)
Component Not in Official Model	259-9E	Refuel 18	FAC-08-131	MAIN	N/A	--	--	N(15)
Component Not in Official Model	267-6T	Refuel 18	FAC-08-127	MAIN	N/A	--	--	N(15)
Component Not in Official Model	272-3P	Refuel 18	FAC-08-128	MAIN	N/A	--	--	N(15)
Component Not in Official Model	2A-18	Refuel 18	FAC-08-141	MAIN	N/A	--	--	N(15)
Component Not in Official Model	4EXD-75	Refuel 18	FAC-08-120	MAIN	N/A	--	--	N(15)
Component Not in Official Model	5EXDP 20P US	Refuel 18	FAC-08-017	MAIN	N/A	--	--	N(15)
Component Not in Official Model	AF138	Refuel 18	FAC-08-124	MAIN	N/A	--	--	N(15)
Component Not in Official Model	BFD-47N	Refuel 18	FAC-08-032	MAIN	N/A	--	--	N(15)
Component Not in Official Model	BFD-82T	Refuel 18	FAC-08-044	MAIN	N/A	--	--	N(15)
Component Not in Official Model	EST-21	Refuel 18	FAC-08-096	MAIN	N/A	--	--	N(15)
Component Not in Official Model	FE-429-DS	Refuel 18	FAC-08-074	MAIN	N/A	--	--	N(15)
Component Not in Official Model	FE-439-DS	Refuel 18	FAC-08-075	MAIN	N/A	--	--	N(15)
Component Not in Official Model	HD-4A DS	Refuel 18	FAC-08-041	MAIN	N/A	--	--	N(15)
Component Not in Official Model	HD-6P US	Refuel 18	FAC-08-040	MAIN	N/A	--	--	N(15)
Component Not in Official Model	LP Gland Pipe Erosion	Refuel 18	FAC-08-142	MAIN	N/A	--	--	N(15)

CHECWORKS Line Name	CHECWORKS Component Name	Inspection Period	Report Number	Component Section	Method	T_{init} or T_{nom} (in.)	Wear (in.)	Used in LCF (Yes/No)
Component Not in Official Model	LP Gland Pipe Erosion	Refuel 18	FAC-08-123	MAIN	N/A	--	--	N(15)
Component Not in Official Model	LP Gland Pipe Erosion	Refuel 18	FAC-08-143	MAIN	N/A	--	--	N(15)
Component Not in Official Model	MS23-1 DS	Refuel 18	FAC-08-129	MAIN	N/A	--	--	N(15)
Component Not in Official Model	MSR-21B	Refuel 18	FAC-08-090	MAIN	N/A	--	--	N(15)
Component Not in Official Model	MSR-22B	Refuel 18	FAC-08-122	MAIN	N/A	--	--	N(15)
Component Not in Official Model	MSR-23B	Refuel 18	FAC-08-093	MAIN	N/A	--	--	N(15)
Component Not in Official Model	MST-51	Refuel 18	FAC-08-024	MAIN	N/A	--	--	N(15)
Component Not in Official Model	MST-64	Refuel 18	FAC-08-130	MAIN	N/A	--	--	N(15)
Component Not in Official Model	US-FCV-115-4E	Refuel 18	FAC-08-115	MAIN	N/A	--	--	N(15)
Component Not in Official Model	US-FCV-115-5E	Refuel 18	FAC-08-116	MAIN	N/A	--	--	N(15)

* Note: Inspections prior to Cycle 16B do not appear in this table.

In LCF Calc "No"	Description
1	CHECWORKS does not use the U/S Ext. or Br. Ext. in the calculation of the LCF.
2	EPRI recommends not to use any calculated lifetime wear less than or equal to 0.030” or 5% of Tnom.
3	This component is an unusual geometry (valve or orifice) and should not be used in calibration of the model.
4	This component was only partially inspected due to an incomplete grid.
5	Non-susceptible material.
6	This is a small bore component or other component not part of the official CHECWORKS model.
7	This wear is not indicative of FAC wear because wear readings are most likely due to manufacturing variances.
8	This portion of the component does not experience any flow.
9	Due to a bug in CHECWORKS, inspections of tees with no data on the U/S Main are not used in the LCF.
10	Inspection on tee or nozzle does not correlate well with inspections on other geometry types.
11	Baseline inspection.
12	Suspicious Tnom inflating measured wear to excessive level.
13	Downstream extension is not a pipe, CHECWORKS will not use this data in determining the LCF.
14	Unable to exclude counterbore
15	Not part of "official" model.

Appendix G

Water Chemistry Analysis Reports

Table of Contents

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:30 am
Analysis Date/Time: 25-Feb-2010 11:25 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : CHEM_1
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		5.000		
Concentration of 1st Constituent (ppm) :	Ammonia	0.550	, Sampling at	Condensate
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		0.000	, Sampling at	Not Used
Concentration of Hydrazine (ppb) :		20.000	, Sampling at	Condensate
Hydrazine at SG (ppb) :		6.312	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		12.624		
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 Ammonia (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	8.80	5.73	0.14	0.00	0.00	28.71	0.000	n/a	0.0542	754.0	511.4	0.0000	-----
Main Steam Line 1	9.20	5.73	0.14	0.00	0.00	28.71	0.000	n/a	13.20562	-----	511.4	0.9999	-----
Main Steam Line 2	9.20	5.97	0.13	0.00	0.00	36.47	0.000	n/a	10.45842	206.5	384.5	0.9288	1138.9
Main Steam Line 3	9.22	5.97	0.13	0.00	0.00	11.66	0.000	n/a	9.717657	-----	382.0	0.9900	-----
Main Steam Line 4	9.22	7.50	0.14	0.00	0.00	5.53	0.000	n/a	7.385737	5.5	166.5	0.7668	899.9
HP Extraction Steam Line 1	9.20	5.82	0.14	0.00	0.00	29.61	0.000	n/a	0.693459	372.9	437.8	0.9280	1147.5
HP Extraction Steam Line 2	9.20	5.97	0.13	0.00	0.00	36.47	0.000	n/a	1.021481	206.5	384.5	0.9288	1138.9
Moisture Separator Drain Line 1	8.77	5.97	0.13	0.00	0.00	12.62	0.000	n/a	0.740767	200.6	382.0	0.0000	354.5
Reheater Steam & Drain Line 1	9.20	5.90	0.47	0.00	0.00	6.51	0.000	n/a	1.032256	619.9	489.7	0.0379	503.3
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.446424	72.6	305.4	1.0000	1192.3
LP Extraction Steam Line 2	9.22	6.65	0.14	0.00	0.00	11.06	0.000	n/a	0.509995	34.9	259.0	0.9149	1087.1
LP Extraction Steam Line 3	9.22	7.07	0.15	0.00	0.00	5.57	0.000	n/a	0.507215	14.0	209.7	0.7760	931.9
LP Extraction Steam Line 4	9.22	7.50	0.14	0.00	0.00	5.53	0.000	n/a	0.729863	5.5	166.5	0.7668	899.9
FWH Tube Side Line 1	9.20	6.10	0.52	0.00	0.00	12.40	0.000	0.00	13.25982	-----	424.4	0.0000	-----
FWH Tube Side Line 2	9.22	6.29	0.55	0.00	0.00	15.65	0.000	0.00	9.771857	-----	379.5	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.20	6.27	0.52	0.00	0.00	12.40	0.000	0.00	13.25982	-----	382.3	0.0000	-----
FWH Tube Side Line 3	9.22	6.75	0.55	0.00	0.00	17.85	0.000	0.00	9.771857	-----	298.3	0.0000	-----
FWH Tube Side Line 4	9.22	7.08	0.55	0.00	0.00	18.72	0.000	0.00	9.771857	-----	253.7	0.0000	-----
FWH Tube Side Line 5	9.22	7.54	0.55	0.00	0.00	19.39	0.000	0.00	9.771857	-----	202.6	0.0000	-----

FWH Tube Side Line 6	9.22	8.06	0.55	0.00	0.00	19.76	0.000	0.00	9.771857	-----	155.4	0.0000	-----
FWH Shell Side Line 1	9.20	6.26	0.53	0.00	0.00	6.31	0.000	n/a	1.725715	-----	385.2	0.0000	-----
FWH Shell Side Line 2	9.20	6.27	0.53	0.00	0.00	6.31	0.000	n/a	1.021481	-----	383.0	0.0000	-----
FWH Shell Side Line 3	9.22	7.02	0.56	0.00	0.00	1.36	0.000	n/a	0.446424	-----	261.0	0.0000	-----
FWH Shell Side Line 4	9.22	7.47	0.56	0.00	0.00	1.36	0.000	n/a	0.956419	-----	209.9	0.0000	-----
			1st Constituent Ammonia	2nd Constituent None									
HBD Item Description	(Note 1) Cold pH	Hot pH	(ppm)	(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 5	9.22	7.93	0.56	0.00	0.00	1.36	0.000	n/a	1.463634	-----	166.7	0.0000	-----
FWH Shell Side Line 6	9.22	8.96	0.56	0.00	0.00	1.36	0.000	n/a	2.193497	-----	92.4	0.0000	-----
Feed Pump Steam & Drain Line 1	9.22	8.29	0.11	0.00	0.00	9.67	0.000	n/a	0.138423	1.0	101.7	0.8662	967.3
Drain Tank Drain Line 1	9.15	6.20	0.44	0.00	0.00	7.65	0.000	0.00	3.487963	220.7	390.1	0.0000	330.6

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:31 am
Analysis Date/Time: 25-Feb-2010 11:25 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 14
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		5.000		
Concentration of 1st Constituent (ppm) :	ethanolamine	2.250	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		1.000	, Sampling at	Condensate
Concentration of Hydrazine (ppb) :		30.000	, Sampling at	Condensate
Hydrazine at SG (ppb) :		15.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		36.000		
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 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	8.44	6.26	5.98	0.00	0.23	68.22	0.000	n/a	0.0542	754.0	511.4	0.0000	-----
Main Steam Line 1	9.36	6.26	5.98	0.00	0.23	68.22	0.000	n/a	13.20562	-----	511.4	0.9999	-----
Main Steam Line 2	9.36	6.77	9.34	0.00	0.16	86.67	0.000	n/a	10.45842	206.5	384.5	0.9288	1138.9
Main Steam Line 3	9.47	6.78	9.07	0.00	0.16	33.25	0.000	n/a	9.717657	-----	382.0	0.9900	-----
Main Steam Line 4	9.47	8.35	6.92	0.00	0.10	15.77	0.000	n/a	7.385737	5.5	166.5	0.7668	899.9
HP Extraction Steam Line 1	9.36	6.50	7.18	0.00	0.19	70.36	0.000	n/a	0.693459	372.9	437.8	0.9280	1147.5
HP Extraction Steam Line 2	9.36	6.77	9.34	0.00	0.16	86.67	0.000	n/a	1.021481	206.5	384.5	0.9288	1138.9
Moisture Separator Drain Line 1	8.85	6.79	9.48	0.00	0.16	36.00	0.000	n/a	0.740767	200.6	382.0	0.0000	354.5
Reheater Steam & Drain Line 1	9.36	6.20	2.29	0.00	0.84	15.47	0.000	n/a	1.032256	619.9	489.7	0.0379	503.3
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.446424	72.6	305.4	1.0000	1192.3
LP Extraction Steam Line 2	9.47	7.62	12.47	0.00	0.11	31.53	0.000	n/a	0.509995	34.9	259.0	0.9149	1087.1
LP Extraction Steam Line 3	9.47	7.91	6.90	0.00	0.12	15.89	0.000	n/a	0.507215	14.0	209.7	0.7760	931.9
LP Extraction Steam Line 4	9.47	8.35	6.92	0.00	0.10	15.77	0.000	n/a	0.729863	5.5	166.5	0.7668	899.9
FWH Tube Side Line 1	9.35	6.41	2.25	0.00	0.94	21.85	0.000	0.00	13.25982	-----	424.4	0.0000	-----
FWH Tube Side Line 2	9.45	6.58	1.71	0.00	1.00	24.69	0.000	0.00	9.771857	-----	379.5	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.35	6.59	2.25	0.00	0.94	21.85	0.000	0.00	13.25982	-----	382.3	0.0000	-----
FWH Tube Side Line 3	9.45	7.04	1.71	0.00	1.00	27.36	0.000	0.00	9.771857	-----	298.3	0.0000	-----
FWH Tube Side Line 4	9.45	7.38	1.71	0.00	1.00	28.41	0.000	0.00	9.771857	-----	253.7	0.0000	-----
FWH Tube Side Line 5	9.45	7.84	1.71	0.00	1.00	29.24	0.000	0.00	9.771857	-----	202.6	0.0000	-----

FWH Tube Side Line 6	9.45	8.35	1.71	0.00	1.00	29.69	0.000	0.00	9.771857	-----	155.4	0.0000	-----
FWH Shell Side Line 1	9.36	6.58	2.23	0.00	0.95	15.00	0.000	n/a	1.725715	-----	385.2	0.0000	-----
FWH Shell Side Line 2	9.36	6.59	2.23	0.00	0.95	15.00	0.000	n/a	1.021481	-----	383.0	0.0000	-----
FWH Shell Side Line 3	9.47	7.32	1.68	0.00	1.01	3.88	0.000	n/a	0.446424	-----	261.0	0.0000	-----
FWH Shell Side Line 4	9.47	7.77	1.68	0.00	1.01	3.88	0.000	n/a	0.956419	-----	209.9	0.0000	-----
			1st Constituent	2nd Constituent									
			ethanolamine	None			Dis.	Vent					
	(Note 1)				Ammonia	Hydrazine	Oxy	Rate	Flow Rate	Pres	Temp	Quality	Enthalpy
HBD Item Description	Cold pH	Hot pH	(ppm)	(ppm)	(ppm)	(ppb)	(ppb)	(%)	(Mlb/hr)	(psia)	(F)		(Btu/lb)
FWH Shell Side Line 5	9.47	8.22	1.68	0.00	1.01	3.88	0.000	n/a	1.463634	-----	166.7	0.0000	-----
FWH Shell Side Line 6	9.47	9.22	1.68	0.00	1.01	3.88	0.000	n/a	2.193497	-----	92.4	0.0000	-----
Feed Pump Steam & Drain Line 1	9.47	9.25	12.24	0.00	0.06	27.58	0.000	n/a	0.138423	1.0	101.7	0.8662	967.3
Drain Tank Drain Line 1	9.14	6.61	3.77	0.00	0.78	19.46	0.000	0.00	3.487963	220.7	390.1	0.0000	330.6

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.

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Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:31 am
Analysis Date/Time: 25-Feb-2010 11:25 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 15
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		5.000		
Concentration of 1st Constituent (ppm) :	ethanolamine	2.250	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		3.000	, Sampling at	Condensate
Concentration of Hydrazine (ppb) :		100.000	, Sampling at	Condensate
Hydrazine at SG (ppb) :		60.000	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		120.000		
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	9.68	6.30	5.93	0.00	0.69	272.88	0.000	n/a	0.0542	754.0	511.4	0.0000	-----
Main Steam Line 1	9.73	6.30	5.92	0.00	0.69	272.88	0.000	n/a	13.20562	-----	511.4	0.9999	-----
Main Steam Line 2	9.73	6.81	9.25	0.00	0.47	346.69	0.000	n/a	10.45842	206.5	384.5	0.9288	1138.9
Main Steam Line 3	9.73	6.81	9.01	0.00	0.47	110.83	0.000	n/a	9.717657	-----	382.0	0.9900	-----
Main Steam Line 4	9.73	8.40	6.93	0.00	0.29	52.58	0.000	n/a	7.385737	5.5	166.5	0.7668	899.9
HP Extraction Steam Line 1	9.73	6.54	7.12	0.00	0.56	281.44	0.000	n/a	0.693459	372.9	437.8	0.9280	1147.5
HP Extraction Steam Line 2	9.73	6.81	9.25	0.00	0.47	346.69	0.000	n/a	1.021481	206.5	384.5	0.9288	1138.9
Moisture Separator Drain Line 1	9.77	6.82	9.39	0.00	0.47	120.00	0.000	n/a	0.740767	200.6	382.0	0.0000	354.5
Reheater Steam & Drain Line 1	9.73	6.32	2.29	0.00	2.52	61.88	0.000	n/a	1.032256	619.9	489.7	0.0379	503.3
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.446424	72.6	305.4	1.0000	1192.3
LP Extraction Steam Line 2	9.73	7.65	12.44	0.00	0.34	105.11	0.000	n/a	0.509995	34.9	259.0	0.9149	1087.1
LP Extraction Steam Line 3	9.73	7.95	6.91	0.00	0.35	52.97	0.000	n/a	0.507215	14.0	209.7	0.7760	931.9
LP Extraction Steam Line 4	9.73	8.40	6.93	0.00	0.29	52.58	0.000	n/a	0.729863	5.5	166.5	0.7668	899.9
FWH Tube Side Line 1	9.73	6.56	2.25	0.00	2.83	81.39	0.000	0.00	13.25982	-----	424.4	0.0000	-----
FWH Tube Side Line 2	9.73	6.75	1.71	0.00	3.00	89.72	0.000	0.00	9.771857	-----	379.5	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.73	6.74	2.25	0.00	2.83	81.39	0.000	0.00	13.25982	-----	382.3	0.0000	-----
FWH Tube Side Line 3	9.73	7.23	1.71	0.00	3.00	95.03	0.000	0.00	9.771857	-----	298.3	0.0000	-----
FWH Tube Side Line 4	9.73	7.57	1.71	0.00	3.00	96.96	0.000	0.00	9.771857	-----	253.7	0.0000	-----
FWH Tube Side Line 5	9.73	8.04	1.71	0.00	3.00	98.50	0.000	0.00	9.771857	-----	202.6	0.0000	-----

FWH Tube Side Line 6	9.73	8.57	1.71	0.00	3.00	99.39	0.000	0.00	9.771857	-----	155.4	0.0000	-----
FWH Shell Side Line 1	9.73	6.73	2.23	0.00	2.85	60.00	0.000	n/a	1.725715	-----	385.2	0.0000	-----
FWH Shell Side Line 2	9.73	6.74	2.23	0.00	2.85	60.00	0.000	n/a	1.021481	-----	383.0	0.0000	-----
FWH Shell Side Line 3	9.73	7.51	1.69	0.00	3.03	12.95	0.000	n/a	0.446424	-----	261.0	0.0000	-----
FWH Shell Side Line 4	9.73	7.97	1.69	0.00	3.03	12.95	0.000	n/a	0.956419	-----	209.9	0.0000	-----
			1st Constituent	2nd Constituent									
			ethanolamine	None			Dis.	Vent					
	(Note 1)				Ammonia	Hydrazine	Oxy	Rate	Flow Rate	Pres	Temp	Quality	Enthalpy
HBD Item Description	Cold pH	Hot pH	(ppm)	(ppm)	(ppm)	(ppb)	(ppb)	(%)	(Mlb/hr)	(psia)	(F)		(Btu/lb)
FWH Shell Side Line 5	9.73	8.43	1.69	0.00	3.03	12.95	0.000	n/a	1.463634	-----	166.7	0.0000	-----
FWH Shell Side Line 6	9.73	9.47	1.69	0.00	3.03	12.95	0.000	n/a	2.193497	-----	92.4	0.0000	-----
Feed Pump Steam & Drain Line 1	9.73	9.41	12.24	0.00	0.17	91.94	0.000	n/a	0.138423	1.0	101.7	0.8662	967.3
Drain Tank Drain Line 1	9.74	6.72	3.75	0.00	2.35	72.74	0.000	0.00	3.487963	220.7	390.1	0.0000	330.6

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:32 am
Analysis Date/Time: 25-Feb-2010 11:25 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 16
Power Level : 100.00%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		3.730		
Concentration of 1st Constituent (ppm) :	ethanolamine	2.680	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		2.810	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		131.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		78.600	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		157.200		
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	9.72	6.33	7.02	0.00	0.69	357.47	0.000	n/a	0.0542	754.0	511.4	0.0000	-----
Main Steam Line 1	9.74	6.33	7.01	0.00	0.69	357.47	0.000	n/a	13.20562	-----	511.4	0.9999	-----
Main Steam Line 2	9.74	6.84	10.91	0.00	0.47	454.17	0.000	n/a	10.45842	206.5	384.5	0.9288	1138.9
Main Steam Line 3	9.74	6.84	10.63	0.00	0.47	145.19	0.000	n/a	9.717657	-----	382.0	0.9900	-----
Main Steam Line 4	9.74	8.45	8.28	0.00	0.29	68.88	0.000	n/a	7.385737	5.5	166.5	0.7668	899.9
HP Extraction Steam Line 1	9.74	6.57	8.40	0.00	0.56	368.68	0.000	n/a	0.693459	372.9	437.8	0.9280	1147.5
HP Extraction Steam Line 2	9.74	6.84	10.91	0.00	0.47	454.17	0.000	n/a	1.021481	206.5	384.5	0.9288	1138.9
Moisture Separator Drain Line 1	9.81	6.85	11.07	0.00	0.47	157.20	0.000	n/a	0.740767	200.6	382.0	0.0000	354.5
Reheater Steam & Drain Line 1	9.74	6.34	2.73	0.00	2.52	81.06	0.000	n/a	1.032256	619.9	489.7	0.0379	503.3
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.446424	72.6	305.4	1.0000	1192.3
LP Extraction Steam Line 2	9.74	7.69	14.75	0.00	0.33	137.69	0.000	n/a	0.509995	34.9	259.0	0.9149	1087.1
LP Extraction Steam Line 3	9.74	7.99	8.25	0.00	0.34	69.40	0.000	n/a	0.507215	14.0	209.7	0.7760	931.9
LP Extraction Steam Line 4	9.74	8.45	8.28	0.00	0.29	68.88	0.000	n/a	0.729863	5.5	166.5	0.7668	899.9
FWH Tube Side Line 1	9.74	6.57	2.68	0.00	2.81	131.01	0.000	0.00	13.25982	-----	424.4	0.0000	-----
FWH Tube Side Line 2	9.73	6.76	2.05	0.00	2.97	154.24	0.000	0.00	9.771857	-----	379.5	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.74	6.75	2.68	0.00	2.81	131.01	0.000	0.00	13.25982	-----	382.3	0.0000	-----
FWH Tube Side Line 3	9.73	7.24	2.05	0.00	2.97	163.21	0.000	0.00	9.771857	-----	298.3	0.0000	-----
FWH Tube Side Line 4	9.73	7.58	2.05	0.00	2.97	165.83	0.000	0.00	9.771857	-----	253.7	0.0000	-----
FWH Tube Side Line 5	9.73	8.05	2.05	0.00	2.97	167.80	0.000	0.00	9.771857	-----	202.6	0.0000	-----

FWH Tube Side Line 6	9.73	8.58	2.05	0.00	2.97	168.92	0.000	0.00	9.771857	-----	155.4	0.0000	-----
FWH Shell Side Line 1	9.74	6.74	2.66	0.00	2.85	78.60	0.000	n/a	1.725715	-----	385.2	0.0000	-----
FWH Shell Side Line 2	9.74	6.75	2.66	0.00	2.85	78.60	0.000	n/a	1.021481	-----	383.0	0.0000	-----
FWH Shell Side Line 3	9.74	7.52	2.02	0.00	3.03	16.96	0.000	n/a	0.446424	-----	261.0	0.0000	-----
FWH Shell Side Line 4	9.74	7.98	2.02	0.00	3.03	16.96	0.000	n/a	0.956419	-----	209.9	0.0000	-----
			1st Constituent ethanolamine	2nd Constituent None									
HBD Item Description	(Note 1) Cold pH	Hot pH	(ppm)	(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 5	9.74	8.44	2.02	0.00	3.03	16.96	0.000	n/a	1.463634	-----	166.7	0.0000	-----
FWH Shell Side Line 6	9.74	9.47	2.02	0.00	3.03	16.96	0.000	n/a	2.193497	-----	92.4	0.0000	-----
Feed Pump Steam & Drain Line 1	9.74	9.45	14.63	0.00	0.17	120.44	0.000	n/a	0.138423	1.0	101.7	0.8662	967.3
Drain Tank Drain Line 1	9.76	6.74	4.45	0.00	2.34	95.29	0.000	0.00	3.487963	220.7	390.1	0.0000	330.6

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:32 am
Analysis Date/Time: 25-Feb-2010 11:25 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 16
Power Level : 101.19%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		3.730		
Concentration of 1st Constituent (ppm) :	ethanolamine	2.680	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		2.810	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		131.000	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		78.600	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		157.200		
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	9.72	6.33	6.97	0.00	0.69	354.75	0.000	n/a	0.0542	765.0	513.1	0.0000	-----
Main Steam Line 1	9.74	6.33	6.96	0.00	0.69	354.75	0.000	n/a	13.38316	-----	513.1	0.9998	-----
Main Steam Line 2	9.74	6.83	10.83	0.00	0.47	451.37	0.000	n/a	10.6045	209.4	385.7	0.9285	1138.9
Main Steam Line 3	9.74	6.84	10.56	0.00	0.47	145.29	0.000	n/a	9.849942	-----	383.2	0.9900	-----
Main Steam Line 4	9.74	8.43	7.88	0.00	0.29	66.01	0.000	n/a	7.516074	5.6	167.2	0.7539	887.5
HP Extraction Steam Line 1	9.74	6.56	8.33	0.00	0.56	365.55	0.000	n/a	0.688561	378.3	439.2	0.9272	1147.0
HP Extraction Steam Line 2	9.74	6.83	10.83	0.00	0.47	451.37	0.000	n/a	1.041833	209.4	385.7	0.9285	1138.9
Moisture Separator Drain Line 1	9.81	6.85	10.99	0.00	0.47	157.20	0.000	n/a	0.75456	203.4	383.2	0.0000	355.7
Reheater Steam & Drain Line 1	9.74	6.33	2.67	0.00	2.79	78.99	0.000	n/a	1.048264	673.7	498.8	0.0062	490.9
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.453736	73.5	306.2	1.0000	1191.5
LP Extraction Steam Line 2	9.74	7.68	14.50	0.00	0.33	135.99	0.000	n/a	0.518228	35.3	259.8	0.9126	1085.2
LP Extraction Steam Line 3	9.74	7.98	8.16	0.00	0.34	69.12	0.000	n/a	0.50895	14.2	210.4	0.7732	929.5
LP Extraction Steam Line 4	9.74	8.43	7.88	0.00	0.29	66.01	0.000	n/a	0.710848	5.6	167.2	0.7539	887.5
FWH Tube Side Line 1	9.74	6.57	2.68	0.00	2.81	131.01	0.000	0.00	13.43736	-----	425.2	0.0000	-----
FWH Tube Side Line 2	9.73	6.75	2.05	0.00	2.97	154.35	0.000	0.00	9.904142	-----	380.5	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.74	6.75	2.68	0.00	2.81	131.01	0.000	0.00	13.43736	-----	383.2	0.0000	-----
FWH Tube Side Line 3	9.73	7.23	2.05	0.00	2.97	163.51	0.000	0.00	9.904142	-----	299.0	0.0000	-----
FWH Tube Side Line 4	9.73	7.60	2.05	0.00	2.97	166.22	0.000	0.00	9.904142	-----	251.4	0.0000	-----
FWH Tube Side Line 5	9.73	8.04	2.05	0.00	2.97	168.07	0.000	0.00	9.904142	-----	203.3	0.0000	-----

FWH Tube Side Line 6	9.73	8.56	2.05	0.00	2.97	169.21	0.000	0.00	9.904142	-----	156.8	0.0000	-----
FWH Shell Side Line 1	9.74	6.73	2.66	0.00	2.85	78.60	0.000	n/a	1.736825	-----	386.5	0.0000	-----
FWH Shell Side Line 2	9.74	6.75	2.66	0.00	2.85	78.60	0.000	n/a	1.041833	-----	384.1	0.0000	-----
FWH Shell Side Line 3	9.74	7.51	2.02	0.00	3.03	17.09	0.000	n/a	0.453736	-----	261.8	0.0000	-----
FWH Shell Side Line 4	9.74	7.97	2.02	0.00	3.03	17.09	0.000	n/a	0.971964	-----	210.8	0.0000	-----
			1st Constituent	2nd Constituent									
			ethanolamine	None			Dis.	Vent					
	(Note 1)				Ammonia	Hydrazine	Oxy	Rate	Flow Rate	Pres	Temp	Quality	Enthalpy
HBD Item Description	Cold pH	Hot pH	(ppm)	(ppm)	(ppm)	(ppb)	(ppb)	(%)	(Mlb/hr)	(psia)	(F)		(Btu/lb)
FWH Shell Side Line 5	9.74	8.43	2.02	0.00	3.03	17.09	0.000	n/a	1.480914	-----	168.1	0.0000	-----
FWH Shell Side Line 6	9.74	9.41	2.02	0.00	3.03	17.09	0.000	n/a	2.191762	-----	96.7	0.0000	-----
Feed Pump Steam & Drain Line 1	9.74	9.45	14.61	0.00	0.17	121.05	0.000	n/a	0.142106	1.0	101.7	0.8658	966.9
Drain Tank Drain Line 1	9.76	6.74	4.44	0.00	2.34	95.39	0.000	0.00	3.533218	222.8	390.9	0.0000	332.6

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:33 am
Analysis Date/Time: 25-Feb-2010 11:26 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 17
Power Level : 104.48%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		6.060		
Concentration of 1st Constituent (ppm) :	ethanolamine	3.634	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		2.638	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		95.349	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		57.209	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		114.419		
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	9.78	6.38	9.36	0.00	0.65	258.21	0.000	n/a	0.0542	765.0	513.1	0.0000	-----
Main Steam Line 1	9.76	6.38	9.35	0.00	0.65	258.21	0.000	n/a	13.90375	-----	513.1	0.9998	-----
Main Steam Line 2	9.76	6.88	14.04	0.00	0.44	315.86	0.000	n/a	11.10692	214.9	387.9	0.9223	1134.2
Main Steam Line 3	9.74	6.87	12.94	0.00	0.45	105.93	0.000	n/a	10.04629	-----	386.2	0.9900	-----
Main Steam Line 4	9.74	8.47	9.96	0.00	0.28	48.82	0.000	n/a	7.687717	5.8	168.4	0.7531	887.3
HP Extraction Steam Line 1	9.76	6.59	10.72	0.00	0.54	253.57	0.000	n/a	0.799284	400.7	444.8	0.9200	1142.0
HP Extraction Steam Line 2	9.76	6.88	14.04	0.00	0.44	315.86	0.000	n/a	1.079704	214.9	387.9	0.9223	1134.2
Moisture Separator Drain Line 1	9.85	6.88	13.44	0.00	0.45	114.42	0.000	n/a	1.060624	210.7	386.2	0.0000	359.2
Reheater Steam & Drain Line 1	9.76	6.35	3.69	0.00	2.40	58.75	0.000	n/a	0.917845	656.0	495.9	0.0331	506.8
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.464923	75.4	308.0	1.0000	1196.2
LP Extraction Steam Line 2	9.74	7.74	19.38	0.00	0.31	108.98	0.000	n/a	0.525277	36.1	261.1	0.9227	1095.2
LP Extraction Steam Line 3	9.74	8.03	10.61	0.00	0.32	52.74	0.000	n/a	0.513168	14.6	211.5	0.7803	937.0
LP Extraction Steam Line 4	9.74	8.47	9.96	0.00	0.28	48.82	0.000	n/a	0.702033	5.8	168.4	0.7531	887.3
FWH Tube Side Line 1	9.75	6.57	3.63	0.00	2.64	95.39	0.000	0.00	13.95795	-----	429.6	0.0000	-----
FWH Tube Side Line 2	9.74	6.75	2.61	0.00	2.86	112.74	0.000	0.00	10.10049	-----	382.4	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.75	6.76	3.63	0.00	2.64	95.39	0.000	0.00	13.95795	-----	385.1	0.0000	-----
FWH Tube Side Line 3	9.74	7.23	2.61	0.00	2.85	120.60	0.000	0.00	10.10049	-----	300.5	0.0000	-----
FWH Tube Side Line 4	9.74	7.57	2.61	0.00	2.85	123.31	0.000	0.00	10.10049	-----	255.5	0.0000	-----
FWH Tube Side Line 5	9.74	8.04	2.61	0.00	2.85	125.55	0.000	0.00	10.10049	-----	204.3	0.0000	-----

FWH Tube Side Line 6	9.74	8.55	2.61	0.00	2.85	126.89	0.000	0.00	10.10049	-----	158.0	0.0000	-----
FWH Shell Side Line 1	9.76	6.74	3.61	0.00	2.67	57.21	0.000	n/a	1.717129	-----	389.3	0.0000	-----
FWH Shell Side Line 2	9.76	6.75	3.61	0.00	2.67	57.21	0.000	n/a	1.079704	-----	386.3	0.0000	-----
FWH Shell Side Line 3	9.74	7.51	2.57	0.00	2.90	12.69	0.000	n/a	0.464923	-----	263.3	0.0000	-----
			1st Constituent	2nd Constituent									
			ethanolamine	None			Dis.	Vent					
	(Note 1)				Ammonia	Hydrazine	Oxy	Rate	Flow Rate	Pres	Temp	Quality	Enthalpy
HBD Item Description	Cold pH	Hot pH	(ppm)	(ppm)	(ppm)	(ppb)	(ppb)	(%)	(Mlb/hr)	(psia)	(F)		(Btu/lb)
FWH Shell Side Line 4	9.74	7.96	2.57	0.00	2.90	12.69	0.000	n/a	0.9902	-----	212.0	0.0000	-----
FWH Shell Side Line 5	9.74	8.42	2.57	0.00	2.90	12.69	0.000	n/a	1.503368	-----	169.4	0.0000	-----
FWH Shell Side Line 6	9.74	9.36	2.57	0.00	2.90	12.69	0.000	n/a	2.205401	-----	100.0	0.0000	-----
Feed Pump Steam & Drain Line 1	9.74	9.52	18.84	0.00	0.16	91.22	0.000	n/a	0.153175	1.0	101.7	0.8679	969.1
Drain Tank Drain Line 1	9.79	6.77	6.31	0.00	2.06	72.94	0.000	0.00	3.857457	225.7	392.1	0.0000	337.5

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3)

Report Date/Time: 25-Feb-2010 11:33 am
Analysis Date/Time: 25-Feb-2010 11:26 am
CHECWORKS SFA Version 3.0 (build 105)

Chemistry Analysis Report

Water Treatment : Cycle 18
Power Level : 104.48%
Plant Type : PWR

Chemistry Condition :

Condensate Dissolved Oxygen (ppb) :		6.720		
Concentration of 1st Constituent (ppm) :	ethanolamine	5.068	, Sampling at	Final Feed Water
Concentration of 2nd Constituent (ppm) :	None	0.000	, Sampling at	Not Used
Concentration of Ammonia (ppm) :		2.542	, Sampling at	Final Feed Water
Concentration of Hydrazine (ppb) :		89.966	, Sampling at	Final Feed Water
Hydrazine at SG (ppb) :		53.979	, Sampling at	Steam outlet
Hydrazine at MSR drain (ppb) :		107.959		
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	6.44	12.91	0.00	0.62	243.63	0.000	n/a	0.0542	765.0	513.1	0.0000	-----
Main Steam Line 1	9.78	6.44	12.90	0.00	0.62	243.63	0.000	n/a	13.90375	-----	513.1	0.9998	-----
Main Steam Line 2	9.78	6.95	19.28	0.00	0.42	298.02	0.000	n/a	11.10692	214.9	387.9	0.9223	1134.2
Main Steam Line 3	9.76	6.94	17.79	0.00	0.43	99.94	0.000	n/a	10.04629	-----	386.2	0.9900	-----
Main Steam Line 4	9.76	8.55	13.97	0.00	0.26	46.06	0.000	n/a	7.687717	5.8	168.4	0.7531	887.3
HP Extraction Steam Line 1	9.78	6.66	14.76	0.00	0.51	239.25	0.000	n/a	0.799284	400.7	444.8	0.9200	1142.0
HP Extraction Steam Line 2	9.78	6.95	19.28	0.00	0.42	298.02	0.000	n/a	1.079704	214.9	387.9	0.9223	1134.2
Moisture Separator Drain Line 1	9.93	6.94	18.47	0.00	0.43	107.96	0.000	n/a	1.060624	210.7	386.2	0.0000	359.2
Reheater Steam & Drain Line 1	9.78	6.38	5.15	0.00	2.31	55.44	0.000	n/a	0.917845	656.0	495.9	0.0331	506.8
LP Extraction Steam Line 1	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	0.000	n/a	0.464923	75.4	308.0	1.0000	1196.2
LP Extraction Steam Line 2	9.76	7.81	26.84	0.00	0.29	102.82	0.000	n/a	0.525277	36.1	261.1	0.9227	1095.2
LP Extraction Steam Line 3	9.76	8.11	14.85	0.00	0.30	49.76	0.000	n/a	0.513168	14.6	211.5	0.7803	937.0
LP Extraction Steam Line 4	9.76	8.55	13.97	0.00	0.26	46.06	0.000	n/a	0.702033	5.8	168.4	0.7531	887.3
FWH Tube Side Line 1	9.78	6.60	5.07	0.00	2.54	90.02	0.000	0.00	13.95795	-----	429.6	0.0000	-----
FWH Tube Side Line 2	9.76	6.78	3.67	0.00	2.75	106.45	0.000	0.00	10.10049	-----	382.4	0.0000	-----
FWH Tube Side Line 2 (MIXED)	9.78	6.79	5.07	0.00	2.54	90.02	0.000	0.00	13.95795	-----	385.1	0.0000	-----
FWH Tube Side Line 3	9.76	7.25	3.67	0.00	2.75	114.14	0.000	0.00	10.10049	-----	300.5	0.0000	-----
FWH Tube Side Line 4	9.76	7.59	3.67	0.00	2.75	116.92	0.000	0.00	10.10049	-----	255.5	0.0000	-----
FWH Tube Side Line 5	9.76	8.06	3.67	0.00	2.75	119.25	0.000	0.00	10.10049	-----	204.3	0.0000	-----

FWH Tube Side Line 6	9.76	8.57	3.67	0.00	2.75	120.66	0.000	0.00	10.10049	-----	158.0	0.0000	-----
FWH Shell Side Line 1	9.78	6.77	5.04	0.00	2.57	53.98	0.000	n/a	1.717129	-----	389.3	0.0000	-----
FWH Shell Side Line 2	9.78	6.78	5.04	0.00	2.57	53.98	0.000	n/a	1.079704	-----	386.3	0.0000	-----
FWH Shell Side Line 3	9.76	7.53	3.62	0.00	2.79	11.97	0.000	n/a	0.464923	-----	263.3	0.0000	-----
FWH Shell Side Line 4	9.76	7.99	3.62	0.00	2.79	11.97	0.000	n/a	0.9902	-----	212.0	0.0000	-----
			1st Constituent ethanolamine	2nd Constituent None									
HBD Item Description	(Note 1) Cold pH	Hot pH	(ppm)	(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 5	9.76	8.44	3.62	0.00	2.79	11.97	0.000	n/a	1.503368	-----	169.4	0.0000	-----
FWH Shell Side Line 6	9.76	9.38	3.62	0.00	2.79	11.97	0.000	n/a	2.205401	-----	100.0	0.0000	-----
Feed Pump Steam & Drain Line 1	9.76	9.60	26.45	0.00	0.15	86.07	0.000	n/a	0.153175	1.0	101.7	0.8679	969.1
Drain Tank Drain Line 1	9.83	6.81	8.73	0.00	1.98	68.82	0.000	0.00	3.857457	225.7	392.1	0.0000	337.5

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:14AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES?-1-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-1P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1P4	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-1P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1P4	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-1P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1P4	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-2P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-2P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	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:	***ES?-2-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-2P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-2P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-3P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-3P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-3P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-4P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P5	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	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:	***ES?-4-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-4P4	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-4P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P5	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P4	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-4P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P5	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P4	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:14AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES?-1-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-1P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1P4	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-1N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-1P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1P4	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-1N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-1P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1P4	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-1N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-2P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-2N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-2P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	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:	***ES?-2-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-2P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-2N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-2P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-2N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-3P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-3N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-3P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-3N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-3P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P2	61	3.170	6.020	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P3	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P4	52	4.254	3.484	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3P5	2	6.266	5.133	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-3N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-4P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P4	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21A-4P5	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	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:	***ES?-4-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-4N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-4P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P4	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4P5	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21B-4N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-4P1	31	10.195	8.362	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P2	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P3	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P4	51	3.743	3.066	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4P5	1	5.368	4.395	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD
LPFW21C-4N	30	6.806	5.575	168.4	227.620	75.3	26.000	7.131	0.000	'46.06'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:14AM

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES?-1-1STPT ES TO FWH 21A**					***Sorted By:Remaining Life***		
LPFW21A-1P1	0.000	0.295	0.043	0.043	263,857	No	222,946
LPFW21A-1N	0.000	0.229	0.043	0.043	292,499	Yes	222,946
LPFW21A-1P4	0.000	0.274	0.043	0.043	460,552	Yes	222,946
LPFW21A-1P2	0.000	0.340	0.043	0.043	592,090	Yes	222,946
LPFW21A-1P3	0.000	0.260	0.043	0.043	618,539	Yes	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21B**					***Sorted By:Remaining Life***		
LPFW21B-1P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-1N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21B-1P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-1P4	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-1P3	0.000	0.280	0.043	0.043	675,525	No	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21C**					***Sorted By:Remaining Life***		
LPFW21C-1P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-1N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21C-1P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-1P4	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-1P3	0.000	0.280	0.043	0.043	675,525	No	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21A**					***Sorted By:Remaining Life***		
LPFW21A-2P1	0.000	0.315	0.043	0.043	284,808	Yes	222,946
LPFW21A-2N	0.000	0.251	0.043	0.043	327,067	Yes	222,946
LPFW21A-2P5	0.000	0.247	0.043	0.043	347,532	Yes	222,946
LPFW21A-2P2	0.000	0.327	0.043	0.043	412,770	Yes	222,946
LPFW21A-2P3	0.000	0.350	0.051	0.051	510,647	Yes	222,946
LPFW21A-2P4	0.000	0.255	0.043	0.043	533,271	Yes	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21B**					***Sorted By:Remaining Life***		
LPFW21B-2P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-2N	0.000	0.202	0.043	0.043	249,067	No	222,946

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: ES?-2-1STPT ES TO FWH 21B					Sorted By:Remaining Life		
LPFW21B-2P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21B-2P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21B-2P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21B-2P4	0.000	0.267	0.043	0.043	561,803	No	222,946
===>Grouped by Line: ES?-2-1STPT ES TO FWH 21C					Sorted By:Remaining Life		
LPFW21C-2P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-2N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21C-2P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21C-2P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21C-2P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21C-2P4	0.000	0.267	0.043	0.043	561,803	No	222,946
===>Grouped by Line: ES?-3-1STPT ES TO FWH 21A					Sorted By:Remaining Life		
LPFW21A-3P1	0.000	0.273	0.043	0.043	240,810	No	222,946
LPFW21A-3N	0.000	0.213	0.043	0.043	267,359	Yes	222,946
LPFW21A-3P5	0.000	0.228	0.043	0.043	315,105	Yes	222,946
LPFW21A-3P3	0.000	0.248	0.051	0.051	336,564	Yes	222,946
LPFW21A-3P2	0.000	0.341	0.043	0.043	433,142	Yes	222,946
LPFW21A-3P4	0.000	0.258	0.043	0.043	540,814	Yes	222,946
===>Grouped by Line: ES?-3-1STPT ES TO FWH 21B					Sorted By:Remaining Life		
LPFW21B-3P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-3N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21B-3P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21B-3P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21B-3P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21B-3P4	0.000	0.267	0.043	0.043	561,803	No	222,946
===>Grouped by Line: ES?-3-1STPT ES TO FWH 21C					Sorted By:Remaining Life		
LPFW21C-3P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-3N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21C-3P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21C-3P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21C-3P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21C-3P4	0.000	0.267	0.043	0.043	561,803	No	222,946
===>Grouped by Line: ES?-4-1STPT ES TO FWH 21A					Sorted By:Remaining Life		
LPFW21A-4P1	0.000	0.255	0.043	0.043	221,954	No	222,946
LPFW21A-4N	0.000	0.222	0.043	0.043	281,501	Yes	222,946
LPFW21A-4P5	0.000	0.243	0.043	0.043	398,769	Yes	222,946

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: **ES?-4-1STPT ES TO FWH 21A**					***Sorted By:Remaining Life***		
LPFW21A-4P2	0.000	0.320	0.043	0.043	552,230	Yes	222,946
LPFW21A-4P3	0.000	0.237	0.043	0.043	552,832	Yes	222,946
LPFW21A-4P4	0.000	0.329	0.043	0.043	815,662	Yes	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21B**					***Sorted By:Remaining Life***		
LPFW21B-4P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-4N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21B-4P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-4P5	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-4P3	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21B-4P4	0.000	0.280	0.043	0.043	675,525	No	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21C**					***Sorted By:Remaining Life***		
LPFW21C-4P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-4N	0.000	0.202	0.043	0.043	249,067	No	222,946
LPFW21C-4P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-4P5	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-4P3	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21C-4P4	0.000	0.280	0.043	0.043	675,525	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:14AM

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES?-1-1STPT ES TO FWH 21A**					***Sorted By:Flow Order***		
LPFW21A-1P1	0.000	0.295	0.043	0.043	263,857	No	222,946
LPFW21A-1P2	0.000	0.340	0.043	0.043	592,090	Yes	222,946
LPFW21A-1P3	0.000	0.260	0.043	0.043	618,539	Yes	222,946
LPFW21A-1P4	0.000	0.274	0.043	0.043	460,552	Yes	222,946
LPFW21A-1N	0.000	0.229	0.043	0.043	292,499	Yes	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21B**					***Sorted By:Flow Order***		
LPFW21B-1P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-1P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-1P3	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21B-1P4	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-1N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21C**					***Sorted By:Flow Order***		
LPFW21C-1P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-1P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-1P3	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21C-1P4	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-1N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21A**					***Sorted By:Flow Order***		
LPFW21A-2P1	0.000	0.315	0.043	0.043	284,808	Yes	222,946
LPFW21A-2P2	0.000	0.327	0.043	0.043	412,770	Yes	222,946
LPFW21A-2P3	0.000	0.350	0.051	0.051	510,647	Yes	222,946
LPFW21A-2P4	0.000	0.255	0.043	0.043	533,271	Yes	222,946
LPFW21A-2P5	0.000	0.247	0.043	0.043	347,532	Yes	222,946
LPFW21A-2N	0.000	0.251	0.043	0.043	327,067	Yes	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21B**					***Sorted By:Flow Order***		
LPFW21B-2P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-2P2	0.000	0.294	0.043	0.043	365,305	No	222,946

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:	**ES?-2-1STPT ES TO FWH 21B**				***Sorted By:Flow Order***		
LPFW21B-2P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21B-2P4	0.000	0.267	0.043	0.043	561,803	No	222,946
LPFW21B-2P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21B-2N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line:	**ES?-2-1STPT ES TO FWH 21C**				***Sorted By:Flow Order***		
LPFW21C-2P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-2P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21C-2P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21C-2P4	0.000	0.267	0.043	0.043	561,803	No	222,946
LPFW21C-2P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21C-2N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21A**				***Sorted By:Flow Order***		
LPFW21A-3P1	0.000	0.273	0.043	0.043	240,810	No	222,946
LPFW21A-3P2	0.000	0.341	0.043	0.043	433,142	Yes	222,946
LPFW21A-3P3	0.000	0.248	0.051	0.051	336,564	Yes	222,946
LPFW21A-3P4	0.000	0.258	0.043	0.043	540,814	Yes	222,946
LPFW21A-3P5	0.000	0.228	0.043	0.043	315,105	Yes	222,946
LPFW21A-3N	0.000	0.213	0.043	0.043	267,359	Yes	222,946
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21B**				***Sorted By:Flow Order***		
LPFW21B-3P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-3P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21B-3P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21B-3P4	0.000	0.267	0.043	0.043	561,803	No	222,946
LPFW21B-3P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21B-3N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21C**				***Sorted By:Flow Order***		
LPFW21C-3P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-3P2	0.000	0.294	0.043	0.043	365,305	No	222,946
LPFW21C-3P3	0.000	0.216	0.051	0.051	281,307	No	222,946
LPFW21C-3P4	0.000	0.267	0.043	0.043	561,803	No	222,946
LPFW21C-3P5	0.000	0.216	0.043	0.043	293,982	No	222,946
LPFW21C-3N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line:	**ES?-4-1STPT ES TO FWH 21A**				***Sorted By:Flow Order***		
LPFW21A-4P1	0.000	0.255	0.043	0.043	221,954	No	222,946
LPFW21A-4P2	0.000	0.320	0.043	0.043	552,230	Yes	222,946
LPFW21A-4P3	0.000	0.237	0.043	0.043	552,832	Yes	222,946

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: **ES?-4-1STPT ES TO FWH 21A**					***Sorted By:Flow Order***		
LPFW21A-4P4	0.000	0.329	0.043	0.043	815,662	Yes	222,946
LPFW21A-4P5	0.000	0.243	0.043	0.043	398,769	Yes	222,946
LPFW21A-4N	0.000	0.222	0.043	0.043	281,501	Yes	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21B**					***Sorted By:Flow Order***		
LPFW21B-4P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21B-4P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-4P3	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21B-4P4	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21B-4P5	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21B-4N	0.000	0.202	0.043	0.043	249,067	No	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21C**					***Sorted By:Flow Order***		
LPFW21C-4P1	0.000	0.116	0.043	0.043	75,686	No	222,946
LPFW21C-4P2	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-4P3	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21C-4P4	0.000	0.280	0.043	0.043	675,525	No	222,946
LPFW21C-4P5	0.000	0.238	0.043	0.043	388,873	No	222,946
LPFW21C-4N	0.000	0.202	0.043	0.043	249,067	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:21:28AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES?-1-2NDPT ES TO FWH 22A***								***Sorted By: Average Wear Rate***		
LPFW22A-1P1	31	0.050	0.050	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P5	1	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P3	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P4	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22B***								***Sorted By: Average Wear Rate***		
LPFW22B-1P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P5	1	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P3	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P4	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22C***								***Sorted By: Average Wear Rate***		
LPFW22C-1P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1E	2	0.026	0.026	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1P4	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1P2	52	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1P3	52	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22A***								***Sorted By: Average Wear Rate***		
LPFW22A-2P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-2N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-2P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22B***								***Sorted By: Average Wear Rate***		
LPFW22B-2P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-2N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-2P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	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:	***ES?-2-2NDPT ES TO FWH 22B***								***Sorted By: Average Wear Rate***		
LPFW22B-2P3	53	0.019	0.019	211.5	212.492	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22C***								***Sorted By: Average Wear Rate***		
LPFW22C-2P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-2N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-2P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:28AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES?-1-2NDPT ES TO FWH 22A***									***Sorted By: Flow Order***	
LPFW22A-1P1	31	0.050	0.050	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P3	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P4	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1P5	1	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-1N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22B***									***Sorted By: Flow Order***	
LPFW22B-1P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P3	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P4	53	0.021	0.021	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1P5	1	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-1N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22C***									***Sorted By: Flow Order***	
LPFW22C-1P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1E	2	0.026	0.026	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1P2	52	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1P3	52	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1P4	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-1N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22A***									***Sorted By: Flow Order***	
LPFW22A-2P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-2P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22A-2N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22B***									***Sorted By: Flow Order***	
LPFW22B-2P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-2P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22B-2P3	53	0.019	0.019	211.5	212.492	78.0	22.000	7.146	0.000	'49.76'	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:	***ES?-2-2NDPT ES TO FWH 22B***									***Sorted By: Flow Order***	
LPFW22B-2N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22C***									***Sorted By: Flow Order***	
LPFW22C-2P1	31	0.042	0.042	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-2P2	3	0.023	0.023	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD
LPFW22C-2N	30	0.028	0.028	211.5	183.157	78.0	22.000	7.146	0.000	'49.76'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:28AM

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES?-1-2NDPT ES TO FWH 22A**					***Sorted By:Remaining Life***		
LPFW22A-1P1	0.000	0.375	0.037	0.037	58,977,312	No	13,140
LPFW22A-1N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
LPFW22A-1P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
LPFW22A-1P5	0.000	0.375	0.037	0.037	134,349,504	No	13,140
LPFW22A-1P3	0.000	0.375	0.037	0.037	141,238,608	No	13,140
LPFW22A-1P4	0.000	0.375	0.037	0.037	141,238,608	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22B**					***Sorted By:Remaining Life***		
LPFW22B-1P1	0.000	0.375	0.037	0.037	70,612,736	No	13,140
LPFW22B-1N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
LPFW22B-1P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
LPFW22B-1P5	0.000	0.375	0.037	0.037	134,349,504	No	13,140
LPFW22B-1P3	0.000	0.375	0.037	0.037	141,238,608	No	13,140
LPFW22B-1P4	0.000	0.375	0.037	0.037	141,238,608	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22C**					***Sorted By:Remaining Life***		
LPFW22C-1P1	0.000	0.375	0.037	0.037	70,596,704	No	29,177
LPFW22C-1N	0.000	0.375	0.037	0.037	105,901,440	No	29,177
LPFW22C-1E	0.000	0.375	0.037	0.037	115,031,632	No	29,177
LPFW22C-1P4	0.000	0.375	0.037	0.037	126,655,600	No	29,177
LPFW22C-1P2	0.000	0.375	0.037	0.037	169,459,824	No	29,177
LPFW22C-1P3	0.000	0.375	0.037	0.037	169,459,824	No	29,177
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22A**					***Sorted By:Remaining Life***		
LPFW22A-2P1	0.000	0.375	0.037	0.037	70,612,736	No	13,140
LPFW22A-2N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
LPFW22A-2P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Remaining Life***		
LPFW22B-2P1	0.000	0.375	0.037	0.037	70,612,736	No	13,140
LPFW22B-2N	0.000	0.375	0.037	0.037	105,917,480	No	13,140

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: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Remaining Life***		
LPFW22B-2P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
LPFW22B-2P3	0.000	0.375	0.037	0.037	157,300,352	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22C**					***Sorted By:Remaining Life***		
LPFW22C-2P1	0.000	0.375	0.037	0.037	70,596,704	No	29,177
LPFW22C-2N	0.000	0.375	0.037	0.037	105,901,440	No	29,177
LPFW22C-2P2	0.000	0.375	0.037	0.037	126,655,600	No	29,177

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:21:28AM

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES?-1-2NDPT ES TO FWH 22A**					***Sorted By:Flow Order***		
LPFW22A-1P1	0.000	0.375	0.037	0.037	58,977,312	No	13,140
LPFW22A-1P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
LPFW22A-1P3	0.000	0.375	0.037	0.037	141,238,608	No	13,140
LPFW22A-1P4	0.000	0.375	0.037	0.037	141,238,608	No	13,140
LPFW22A-1P5	0.000	0.375	0.037	0.037	134,349,504	No	13,140
LPFW22A-1N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22B**					***Sorted By:Flow Order***		
LPFW22B-1P1	0.000	0.375	0.037	0.037	70,612,736	No	13,140
LPFW22B-1P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
LPFW22B-1P3	0.000	0.375	0.037	0.037	141,238,608	No	13,140
LPFW22B-1P4	0.000	0.375	0.037	0.037	141,238,608	No	13,140
LPFW22B-1P5	0.000	0.375	0.037	0.037	134,349,504	No	13,140
LPFW22B-1N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22C**					***Sorted By:Flow Order***		
LPFW22C-1P1	0.000	0.375	0.037	0.037	70,596,704	No	29,177
LPFW22C-1E	0.000	0.375	0.037	0.037	115,031,632	No	29,177
LPFW22C-1P2	0.000	0.375	0.037	0.037	169,459,824	No	29,177
LPFW22C-1P3	0.000	0.375	0.037	0.037	169,459,824	No	29,177
LPFW22C-1P4	0.000	0.375	0.037	0.037	126,655,600	No	29,177
LPFW22C-1N	0.000	0.375	0.037	0.037	105,901,440	No	29,177
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22A**					***Sorted By:Flow Order***		
LPFW22A-2P1	0.000	0.375	0.037	0.037	70,612,736	No	13,140
LPFW22A-2P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140
LPFW22A-2N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Flow Order***		
LPFW22B-2P1	0.000	0.375	0.037	0.037	70,612,736	No	13,140
LPFW22B-2P2	0.000	0.375	0.037	0.037	126,671,632	No	13,140

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: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Flow Order***		
LPFW22B-2P3	0.000	0.375	0.037	0.037	157,300,352	No	13,140
LPFW22B-2N	0.000	0.375	0.037	0.037	105,917,480	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22C**					***Sorted By:Flow Order***		
LPFW22C-2P1	0.000	0.375	0.037	0.037	70,596,704	No	29,177
LPFW22C-2P2	0.000	0.375	0.037	0.037	126,655,600	No	29,177
LPFW22C-2N	0.000	0.375	0.037	0.037	105,901,440	No	29,177

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:22:16AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES1-1-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-18N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-15 (BR/SE)	10	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-16	2	8.055	3.595	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-15 (D/S)	10	8.035	3.835	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-18	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-17	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-17P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-18X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-16P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-15P	60	2.911	1.389	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-2-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-22N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-19	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-22	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-21	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-20	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-21P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-20P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-22X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-19P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-3-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-14 (D/S)	12	14.735	6.624	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-VALVE 3EX-2	25	10.787	4.849	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14	12	10.504	5.015	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-9	4	8.865	3.987	261.1	6.822	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-8	4	8.861	3.984	261.1	6.884	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14 (BR/SE)	12	8.847	3.949	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-8P	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-7P	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	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:	***ES1-3-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-10	2	8.243	3.706	261.1	6.808	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-VALVE 3EX-1	22	8.171	3.672	261.1	14.172	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-12P	58	3.952	1.777	261.1	6.548	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-13P	58	3.951	1.776	261.1	6.563	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-9P	52	2.860	1.358	261.1	15.783	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14P US	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14P DS	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14P DS1	62	2.691	1.210	261.1	6.696	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4	14	0.034	0.031	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4 (D/S)	14	0.025	0.023	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-7	2	0.016	0.015	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-6	2	0.016	0.015	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-5	4	0.016	0.015	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4P US	54	0.014	0.013	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4 (BR/SE)	14	0.011	0.010	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-6P DS	52	0.009	0.008	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-5P	52	0.005	0.004	261.1	15.708	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-4-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-1N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-1	2	0.015	0.013	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-1P	64	0.006	0.006	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-1A	64	0.006	0.006	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-5-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-2N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2A	54	7.474	3.344	261.1	9.132	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2P	54	6.057	3.432	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-3	4	5.762	3.262	261.1	8.847	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-11RP	67	3.060	2.540	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-11R (D/S)	7	0.013	0.012	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-11R	7	0.010	0.009	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-1-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-14N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-11 (BR/SE)	10	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-12	2	8.055	3.595	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-11 (D/S)	10	8.035	3.835	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-14	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	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:	***ES2-1-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-13	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-13P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-14X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-12P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-11P	60	2.911	1.389	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-2-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-18N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-15	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-18	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-17	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-16	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-17P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-16P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-18X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-15P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-3-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-4	14	17.298	7.776	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10 (D/S)	12	14.735	6.624	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-4 (D/S)	14	12.340	5.891	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-VALVE 3EX-4	25	10.787	4.849	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10	12	10.504	5.015	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10 (BR/SE)	12	8.847	3.949	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-4A DS	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-4A US	54	8.621	3.876	261.1	6.515	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-6	2	8.275	3.720	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-5	4	8.241	3.706	261.1	6.812	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-9	2	8.240	3.706	261.1	6.832	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-VALVE 3EX-3	22	8.171	3.672	261.1	14.172	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-8	3	7.490	3.367	261.1	6.776	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-7	1	7.087	3.186	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-4 (BR/SE)	14	5.694	2.541	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-6P DS	51	4.938	2.220	261.1	6.548	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-6P US	51	4.936	2.219	261.1	6.588	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-9A	58	3.956	1.778	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-9P	58	3.953	1.777	261.1	6.532	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-7P	53	3.424	1.626	261.1	15.730	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-5P	52	2.863	1.359	261.1	15.806	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10P US	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	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:	***ES2-3-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-10P DS1	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10P DS	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-4-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-1N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-1	2	7.329	3.274	261.1	8.733	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-4P US	64	3.194	1.428	261.1	8.355	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-1A	64	3.188	1.425	261.1	8.407	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-5-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-2N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2	2	7.195	3.217	261.1	9.328	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-3	2	5.699	3.228	261.1	9.204	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2A	52	4.892	2.188	261.1	8.958	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2P DS	52	3.944	2.235	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2P US	52	3.845	2.180	261.1	9.088	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-3P US	57	3.279	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-3P DS	57	3.279	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-10R (D/S)	7	0.012	0.012	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-10R	7	0.009	0.009	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-1-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-18N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-15 (BR/SE)	10	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-16	2	8.055	3.595	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-15 (D/S)	10	8.035	3.835	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-18	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-17	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-17P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-18X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-16P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-15P	60	2.911	1.389	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-2-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-22N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-19	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-22	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-21	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-20	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-21P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-20P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	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:	***ES3-2-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-22X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-19P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-3-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-4	14	17.298	7.776	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14 (D/S)	12	14.735	6.624	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-4 (D/S)	14	12.340	5.891	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-VALVE 3EX-6	25	10.787	4.849	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14	12	10.504	5.015	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-8	4	8.903	4.002	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-9	4	8.865	3.987	261.1	6.826	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14 (BR/SE)	12	8.847	3.949	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-8P	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-7P	54	8.627	3.878	261.1	6.466	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-7	2	8.275	3.720	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-5	2	8.275	3.720	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-10	2	8.241	3.706	261.1	6.816	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-6	2	8.233	3.703	261.1	6.913	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-VALVE 3EX-5	22	8.171	3.672	261.1	14.172	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-4 (BR/SE)	14	5.694	2.541	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-4P	52	5.618	2.525	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-6P	52	5.609	2.521	261.1	6.588	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-VALVE PCV-1161	23	5.471	2.462	261.1	15.684	92.3	24.000	7.282	0.000	'102.83'	HBD
3EXC-13P	58	3.956	1.778	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-9P	52	2.865	1.360	261.1	15.827	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-5P	52	2.851	1.354	261.1	15.708	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14P US	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14P DS	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14P DS1	62	2.685	1.207	261.1	6.905	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-13R	7	0.004	0.003	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-13R (D/S)	7	0.003	0.003	261.1	15.684	92.3	24.000	7.282	0.000	'102.83'	HBD
3EXC-12R (D/S)	18	0.003	0.003	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-12R	18	0.002	0.002	261.1	15.684	92.3	24.000	7.282	0.000	'102.83'	HBD
3EXC-12P	68	0.002	0.002	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-4-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-1N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-1	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-1A	64	3.200	1.431	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-4P-1 US	64	3.190	1.426	261.1	8.380	92.3	20.000	7.282	0.000	'102.83'	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:	***ES3-5-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-2N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-11R (D/S)	7	6.766	3.020	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2P	54	6.057	3.432	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2A	54	5.931	3.362	261.1	8.940	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-3	4	5.906	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-11R	7	4.969	2.372	261.1	0.359	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-3P	57	3.279	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:22:16AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES1-1-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-18N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-18X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-18	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-17	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-17P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-16	2	8.055	3.595	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-16P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-15 (BR/SE)	10	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-15 (D/S)	10	8.035	3.835	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-15P	60	2.911	1.389	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-2-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-22N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-22X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-22	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-21	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-21P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-20	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-20P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-19	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-19P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-3-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-14	12	10.504	5.015	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14 (BR/SE)	12	8.847	3.949	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-14 (D/S)	12	14.735	6.624	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14P US	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14P DS1	62	2.691	1.210	261.1	6.696	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-14P DS	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-VALVE 3EX-1	22	8.171	3.672	261.1	14.172	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-13P	58	3.951	1.776	261.1	6.563	92.3	28.000	7.282	0.000	'102.83'	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:	***ES1-3-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-VALVE 3EX-2	25	10.787	4.849	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-12P	58	3.952	1.777	261.1	6.548	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-10	2	8.243	3.706	261.1	6.808	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-9P	52	2.860	1.358	261.1	15.783	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-9	4	8.865	3.987	261.1	6.822	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-8P	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-8	4	8.861	3.984	261.1	6.884	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-7P	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-7	2	0.016	0.015	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-6P DS	52	0.009	0.008	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-6	2	0.016	0.015	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-5P	52	0.005	0.004	261.1	15.708	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-5	4	0.016	0.015	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4P US	54	0.014	0.013	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4	14	0.034	0.031	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-4 (BR/SE)	14	0.011	0.010	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-4 (D/S)	14	0.025	0.023	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-4-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-1P	64	0.006	0.006	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-1A	64	0.006	0.006	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-1	2	0.015	0.013	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-1N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES1-5-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-11R	7	0.010	0.009	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXA-11R (D/S)	7	0.013	0.012	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-11RP	67	3.060	2.540	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-3	4	5.762	3.262	261.1	8.847	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2P	54	6.057	3.432	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2A	54	7.474	3.344	261.1	9.132	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXA-2N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-1-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-14N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-14X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-14	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-13	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-13P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	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:	***ES2-1-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-12	2	8.055	3.595	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-12P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-11 (BR/SE)	10	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-11 (D/S)	10	8.035	3.835	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-11P	60	2.911	1.389	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-2-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-18N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-18X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-18	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-17	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-17P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-16	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-16P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-15	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-15P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-3-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-10	12	10.504	5.015	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10 (BR/SE)	12	8.847	3.949	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-10 (D/S)	12	14.735	6.624	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10P US	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10P DS1	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10P DS	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-VALVE 3EX-3	22	8.171	3.672	261.1	14.172	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-9P	58	3.953	1.777	261.1	6.532	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-VALVE 3EX-4	25	10.787	4.849	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-9A	58	3.956	1.778	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-9	2	8.240	3.706	261.1	6.832	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-8	3	7.490	3.367	261.1	6.776	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-7P	53	3.424	1.626	261.1	15.730	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-7	1	7.087	3.186	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-6P US	51	4.936	2.219	261.1	6.588	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-6P DS	51	4.938	2.220	261.1	6.548	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-6	2	8.275	3.720	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-5P	52	2.863	1.359	261.1	15.806	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-5	4	8.241	3.706	261.1	6.812	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-4A US	54	8.621	3.876	261.1	6.515	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-4A DS	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-4	14	17.298	7.776	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	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:	***ES2-3-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-4 (BR/SE)	14	5.694	2.541	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-4 (D/S)	14	12.340	5.891	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-4-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-4P US	64	3.194	1.428	261.1	8.355	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-1A	64	3.188	1.425	261.1	8.407	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-1	2	7.329	3.274	261.1	8.733	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-1N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES2-5-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-10R	7	0.009	0.009	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXB-10R (D/S)	7	0.012	0.012	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-3P US	57	3.279	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-3P DS	57	3.279	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-3	2	5.699	3.228	261.1	9.204	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2P US	52	3.845	2.180	261.1	9.088	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2P DS	52	3.944	2.235	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2A	52	4.892	2.188	261.1	8.958	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2	2	7.195	3.217	261.1	9.328	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXB-2N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-1-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-18N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-18X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-18	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-17	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-17P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-16	2	8.055	3.595	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-16P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-15 (BR/SE)	10	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-15 (D/S)	10	8.035	3.835	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-15P	60	2.911	1.389	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-2-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-22N	31	12.198	5.444	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-22X	6	4.071	1.933	261.1	19.167	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-22	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-21	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-21P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-20	3	6.801	3.035	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-20P	53	6.099	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	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:	***ES3-2-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-19	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-19P	52	2.971	1.410	261.1	15.526	92.3	20.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-3-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-14	12	10.504	5.015	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14 (BR/SE)	12	8.847	3.949	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-14 (D/S)	12	14.735	6.624	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14P US	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14P DS1	62	2.685	1.207	261.1	6.905	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-14P DS	62	2.698	1.213	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-VALVE 3EX-5	22	8.171	3.672	261.1	14.172	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-13P	58	3.956	1.778	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-VALVE 3EX-6	25	10.787	4.849	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-13R	7	0.004	0.003	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-13R (D/S)	7	0.003	0.003	261.1	15.684	92.3	24.000	7.282	0.000	'102.83'	HBD
3EXC-VALVE PCV-1161	23	5.471	2.462	261.1	15.684	92.3	24.000	7.282	0.000	'102.83'	HBD
3EXC-12R	18	0.002	0.002	261.1	15.684	92.3	24.000	7.282	0.000	'102.83'	HBD
3EXC-12R (D/S)	18	0.003	0.003	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-12P	68	0.002	0.002	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-10	2	8.241	3.706	261.1	6.816	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-9P	52	2.865	1.360	261.1	15.827	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-9	4	8.865	3.987	261.1	6.826	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-8P	54	8.627	3.878	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-8	4	8.903	4.002	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-7P	54	8.627	3.878	261.1	6.466	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-7	2	8.275	3.720	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-6P	52	5.609	2.521	261.1	6.588	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-6	2	8.233	3.703	261.1	6.913	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-5P	52	2.851	1.354	261.1	15.708	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-5	2	8.275	3.720	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-4P	52	5.618	2.525	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-4	14	17.298	7.776	261.1	6.461	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-4 (BR/SE)	14	5.694	2.541	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-4 (D/S)	14	12.340	5.891	261.1	0.357	92.3	28.000	7.282	0.000	'102.83'	HBD
===>Grouped by Line:	***ES3-4-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-4P-1 US	64	3.190	1.426	261.1	8.380	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-1A	64	3.200	1.431	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-1	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-1N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	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:	***ES3-5-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-11R	7	4.969	2.372	261.1	0.359	92.3	28.000	7.282	0.000	'102.83'	HBD
3EXC-11R (D/S)	7	6.766	3.020	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-3P	57	3.279	2.722	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-3	4	5.906	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2P	54	6.057	3.432	261.1	8.294	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2A	54	5.931	3.362	261.1	8.940	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2	2	7.488	3.342	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD
3EXC-2N	30	8.133	3.630	261.1	8.129	92.3	20.000	7.282	0.000	'102.83'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:22:16AM

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES1-1-3RDPT ES to FWH 23A**					***Sorted By:Remaining Life***		
3EXA-18N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXA-15 (BR/SE)	0.000	0.043	0.036	0.036	16,494	No	222,946
3EXA-16	0.000	0.045	0.033	0.033	28,509	No	222,946
3EXA-18	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-17	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-15 (D/S)	0.000	0.108	0.051	0.051	130,994	No	222,946
3EXA-17P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXA-18X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXA-16P	0.000	0.174	0.033	0.033	876,511	No	222,946
3EXA-15P	0.000	0.238	0.051	0.051	1,184,189	No	222,946
===>Grouped by Line: **ES1-2-3RDPT ES to FWH 23A**					***Sorted By:Remaining Life***		
3EXA-22N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXA-19	0.000	0.059	0.033	0.033	68,545	No	222,946
3EXA-22	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-21	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-20	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-21P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXA-20P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXA-22X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXA-19P	0.000	0.174	0.033	0.033	876,511	No	222,946
===>Grouped by Line: **ES1-3-3RDPT ES to FWH 23A**					***Sorted By:Remaining Life***		
3EXA-14 (D/S)	0.000	-0.063	0.051	0.051	-102,376	No	222,946
3EXA-14 (BR/SE)	0.000	0.025	0.036	0.036	-25,156	No	222,946
3EXA-VALVE 3EX-2	0.000	0.038	0.050	0.050	-21,597	No	222,946
3EXA-14	0.000	0.045	0.051	0.051	-9,574	No	222,946
3EXA-VALVE 3EX-1	0.000	0.105	0.050	0.050	130,324	No	222,946
3EXA-10	0.413	0.168	0.047	0.047	287,509	Yes	222,946
3EXA-9	0.417	0.231	0.047	0.047	404,163	Yes	222,946
3EXA-8	0.434	0.257	0.047	0.047	462,612	Yes	222,946

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:	**ES1-3-3RDPT ES to FWH 23A**				***Sorted By:Remaining Life***		
3EXA-7P	0.000	0.291	0.051	0.051	543,079	No	222,946
3EXA-8P	0.000	0.300	0.051	0.051	563,408	No	222,946
3EXA-13P	0.342	0.236	0.051	0.051	912,358	Yes	222,946
3EXA-12P	0.338	0.262	0.051	0.051	1,041,093	Yes	222,946
3EXA-14P US	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXA-9P	0.345	0.300	0.051	0.051	1,609,697	Yes	222,946
3EXA-14P DS1	0.381	0.291	0.051	0.051	1,740,971	No	222,946
3EXA-14P DS	0.000	0.317	0.051	0.051	1,923,333	Yes	222,946
3EXA-4	0.000	0.312	0.047	0.047	75,914,096	No	57,833
3EXA-6P DS	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-5P	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-4 (D/S)	0.000	0.312	0.047	0.047	100,221,240	No	57,833
3EXA-7	0.000	0.312	0.047	0.047	158,755,808	No	57,833
3EXA-6	0.000	0.312	0.047	0.047	158,755,808	No	57,833
3EXA-5	0.000	0.312	0.047	0.047	158,755,808	No	57,833
3EXA-4P US	0.000	0.312	0.047	0.047	182,317,744	No	57,833
3EXA-4 (BR/SE)	0.000	0.250	0.033	0.033	189,399,088	No	57,833
===>Grouped by Line:	**ES1-4-3RDPT ES to FWH 23A**				***Sorted By:Remaining Life***		
3EXA-1N	0.000	0.043	0.033	0.033	23,469	No	222,946
3EXA-1P	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1A	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1	0.000	0.250	0.033	0.033	144,018,288	No	57,833
===>Grouped by Line:	**ES1-5-3RDPT ES to FWH 23A**				***Sorted By:Remaining Life***		
3EXA-2N	0.000	0.043	0.033	0.033	23,469	No	222,946
3EXA-2	0.000	0.059	0.033	0.033	68,545	No	222,946
3EXA-2P	0.000	0.161	0.039	0.039	310,189	No	129,394
3EXA-11RP	0.000	0.220	0.039	0.039	623,574	No	86,338
3EXA-3	0.388	0.282	0.033	0.033	668,888	Yes	129,394
3EXA-2A	0.411	0.296	0.039	0.039	673,347	Yes	222,946
3EXA-11R (D/S)	0.000	0.250	0.033	0.033	159,375,136	No	57,833
3EXA-11R	0.000	0.312	0.047	0.047	249,702,400	No	57,833
===>Grouped by Line:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-14N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXB-11 (BR/SE)	0.000	0.043	0.036	0.036	16,494	No	222,946
3EXB-12	0.000	0.045	0.033	0.033	28,509	No	222,946
3EXB-14	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-13	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-11 (D/S)	0.000	0.108	0.051	0.051	130,994	No	222,946

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:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-13P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXB-14X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXB-12P	0.000	0.174	0.033	0.033	876,511	No	222,946
3EXB-11P	0.000	0.238	0.051	0.051	1,184,189	No	222,946
===>Grouped by Line:	**ES2-2-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-18N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXB-15	0.000	0.059	0.033	0.033	68,545	No	222,946
3EXB-18	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-17	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-16	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-17P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXB-16P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXB-18X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXB-15P	0.000	0.174	0.033	0.033	876,511	No	222,946
===>Grouped by Line:	**ES2-3-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-10 (D/S)	0.000	-0.063	0.051	0.051	-102,376	No	222,946
3EXB-10 (BR/SE)	0.000	0.025	0.036	0.036	-25,156	No	222,946
3EXB-VALVE 3EX-4	0.000	0.038	0.050	0.050	-21,597	No	222,946
3EXB-10	0.000	0.045	0.051	0.051	-9,574	No	222,946
3EXB-4A DS	0.000	0.093	0.051	0.051	95,492	No	222,946
3EXB-VALVE 3EX-3	0.000	0.105	0.050	0.050	130,324	No	222,946
3EXB-4	0.000	0.245	0.055	0.055	215,053	No	222,946
3EXB-7	0.000	0.132	0.047	0.047	235,218	No	222,946
3EXB-4 (D/S)	0.000	0.257	0.055	0.055	301,144	No	222,946
3EXB-9	0.420	0.236	0.047	0.047	447,474	Yes	222,946
3EXB-4A US	0.328	0.262	0.051	0.051	478,066	No	222,946
3EXB-5	0.414	0.250	0.047	0.047	480,489	Yes	222,946
3EXB-4 (BR/SE)	0.000	0.190	0.039	0.039	520,771	No	222,946
3EXB-8	0.403	0.252	0.047	0.047	534,002	Yes	222,946
3EXB-6	0.000	0.287	0.047	0.047	567,103	Yes	222,946
3EXB-9A	0.000	0.212	0.051	0.051	793,945	No	222,946
3EXB-9P	0.333	0.219	0.051	0.051	829,613	Yes	222,946
3EXB-6P DS	0.338	0.265	0.051	0.051	844,369	Yes	222,946
3EXB-6P US	0.349	0.294	0.051	0.051	961,956	Yes	222,946
3EXB-10P DS1	0.000	0.201	0.051	0.051	1,085,040	Yes	222,946
3EXB-7P	0.322	0.254	0.051	0.051	1,093,745	Yes	222,946
3EXB-5P	0.355	0.229	0.051	0.051	1,152,708	Yes	222,946
3EXB-10P US	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXB-10P DS	0.000	0.286	0.051	0.051	1,698,926	Yes	222,946

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:	**ES2-4-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-1N	0.000	0.043	0.033	0.033	23,469	No	222,946
3EXB-1	0.367	0.203	0.033	0.033	454,558	No	222,946
3EXB-1A	0.272	0.176	0.039	0.039	841,349	Yes	222,946
3EXB-4P US	0.262	0.203	0.039	0.039	1,009,285	Yes	222,946
===>Grouped by Line:	**ES2-5-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-2N	0.000	0.043	0.033	0.033	23,469	No	222,946
3EXB-2	0.477	0.231	0.033	0.033	537,485	Yes	222,946
3EXB-2P DS	0.000	0.192	0.039	0.039	598,736	No	129,394
3EXB-3	0.454	0.318	0.033	0.033	773,542	Yes	129,394
3EXB-3P DS	0.000	0.351	0.039	0.039	1,005,031	No	86,338
3EXB-3P US	0.000	0.355	0.039	0.039	1,016,682	No	86,338
3EXB-2A	0.378	0.302	0.033	0.033	1,077,457	Yes	222,946
3EXB-2P US	0.402	0.312	0.039	0.039	1,095,788	Yes	129,394
3EXB-10R (D/S)	0.000	0.250	0.033	0.033	159,426,592	No	13,140
3EXB-10R	0.000	0.312	0.047	0.047	249,752,624	No	13,140
===>Grouped by Line:	**ES3-1-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-18N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXC-15 (BR/SE)	0.000	0.043	0.036	0.036	16,494	No	222,946
3EXC-16	0.000	0.045	0.033	0.033	28,509	No	222,946
3EXC-18	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-17	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-15 (D/S)	0.000	0.108	0.051	0.051	130,994	No	222,946
3EXC-17P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXC-18X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXC-16P	0.000	0.174	0.033	0.033	876,511	No	222,946
3EXC-15P	0.000	0.238	0.051	0.051	1,184,189	No	222,946
===>Grouped by Line:	**ES3-2-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-21	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-20	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-21P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXC-20P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXC-22N	0.000	0.193	0.033	0.033	256,717	No	222,946
3EXC-22X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXC-22	0.000	0.248	0.033	0.033	620,958	No	222,946
3EXC-19	0.000	0.314	0.033	0.033	735,788	Yes	222,946
3EXC-19P	0.000	0.174	0.033	0.033	876,511	No	222,946
===>Grouped by Line:	**ES3-3-3RDPT ES to FWH 23C**				***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:	**ES3-3-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-VALVE 3EX-6	0.000	0.038	0.050	0.050	-21,597	No	222,946
3EXC-14	0.000	0.045	0.051	0.051	-9,574	Yes	222,946
3EXC-8	0.000	0.086	0.047	0.047	86,073	No	222,946
3EXC-8P	0.000	0.093	0.051	0.051	95,492	No	222,946
3EXC-7	0.000	0.102	0.047	0.047	130,194	No	222,946
3EXC-VALVE 3EX-5	0.000	0.105	0.050	0.050	130,324	No	222,946
3EXC-4	0.000	0.235	0.055	0.055	202,932	No	222,946
3EXC-VALVE PCV-1161	0.000	0.111	0.043	0.043	241,834	No	222,946
3EXC-4 (D/S)	0.000	0.258	0.055	0.055	303,037	No	222,946
3EXC-14 (D/S)	0.000	0.327	0.051	0.051	365,548	Yes	222,946
3EXC-9	0.418	0.247	0.047	0.047	440,255	Yes	222,946
3EXC-10	0.415	0.245	0.047	0.047	468,715	Yes	222,946
3EXC-4P	0.000	0.192	0.055	0.055	475,327	Yes	222,946
3EXC-6	0.443	0.259	0.047	0.047	502,351	Yes	222,946
3EXC-7P	0.314	0.285	0.051	0.051	529,764	Yes	222,946
3EXC-5	0.000	0.273	0.047	0.047	534,134	Yes	222,946
3EXC-14 (BR/SE)	0.000	0.287	0.036	0.036	556,606	No	222,946
3EXC-4 (BR/SE)	0.000	0.212	0.039	0.039	597,195	No	222,946
3EXC-6P	0.349	0.258	0.051	0.051	719,331	Yes	222,946
3EXC-13P	0.000	0.212	0.051	0.051	793,945	No	222,946
3EXC-5P	0.000	0.240	0.051	0.051	1,224,857	No	222,946
3EXC-14P US	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXC-14P DS	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXC-9P	0.364	0.288	0.051	0.051	1,529,346	Yes	222,946
3EXC-14P DS1	0.440	0.303	0.051	0.051	1,828,921	No	222,946
3EXC-13R	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-13R (D/S)	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-12R	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-12R (D/S)	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-12P	0.000	0.312	0.050	0.050	100,000,000	No	73,373
===>Grouped by Line:	**ES3-4-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-1N	0.000	0.306	0.033	0.033	658,683	No	222,946
3EXC-1	0.000	0.308	0.033	0.033	720,732	Yes	222,946
3EXC-1A	0.000	0.169	0.039	0.039	793,349	No	222,946
3EXC-4P-1 US	0.267	0.231	0.039	0.039	1,182,094	Yes	222,946
===>Grouped by Line:	**ES3-5-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-3	0.000	0.163	0.033	0.033	339,393	No	129,394
3EXC-2N	0.000	0.283	0.033	0.033	603,365	No	222,946
3EXC-2A	0.000	0.286	0.039	0.039	643,811	Yes	129,394

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: **ES3-5-3RDPT ES to FWH 23C**					***Sorted By:Remaining Life***		
3EXC-2	0.000	0.291	0.033	0.033	674,776	Yes	222,946
3EXC-11R	0.319	0.237	0.047	0.047	701,478	Yes	222,946
3EXC-11R (D/S)	0.000	0.277	0.033	0.033	707,628	Yes	222,946
3EXC-2P	0.000	0.336	0.039	0.039	757,652	Yes	129,394
3EXC-3P	0.000	0.364	0.039	0.039	1,047,027	Yes	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:22:16AM

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES1-1-3RDPT ES to FWH 23A**					***Sorted By:Flow Order***		
3EXA-18N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXA-18X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXA-18	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-17	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-17P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXA-16	0.000	0.045	0.033	0.033	28,509	No	222,946
3EXA-16P	0.000	0.174	0.033	0.033	876,511	No	222,946
3EXA-15 (BR/SE)	0.000	0.043	0.036	0.036	16,494	No	222,946
3EXA-15 (D/S)	0.000	0.108	0.051	0.051	130,994	No	222,946
3EXA-15P	0.000	0.238	0.051	0.051	1,184,189	No	222,946
===>Grouped by Line: **ES1-2-3RDPT ES to FWH 23A**					***Sorted By:Flow Order***		
3EXA-22N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXA-22X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXA-22	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-21	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-21P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXA-20	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXA-20P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXA-19	0.000	0.059	0.033	0.033	68,545	No	222,946
3EXA-19P	0.000	0.174	0.033	0.033	876,511	No	222,946
===>Grouped by Line: **ES1-3-3RDPT ES to FWH 23A**					***Sorted By:Flow Order***		
3EXA-14	0.000	0.045	0.051	0.051	-9,574	No	222,946
3EXA-14 (BR/SE)	0.000	0.025	0.036	0.036	-25,156	No	222,946
3EXA-14 (D/S)	0.000	-0.063	0.051	0.051	-102,376	No	222,946
3EXA-14P US	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXA-14P DS1	0.381	0.291	0.051	0.051	1,740,971	No	222,946
3EXA-14P DS	0.000	0.317	0.051	0.051	1,923,333	Yes	222,946
3EXA-VALVE 3EX-1	0.000	0.105	0.050	0.050	130,324	No	222,946
3EXA-13P	0.342	0.236	0.051	0.051	912,358	Yes	222,946

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:	**ES1-3-3RDPT ES to FWH 23A**				***Sorted By:Flow Order***		
3EXA-VALVE 3EX-2	0.000	0.038	0.050	0.050	-21,597	No	222,946
3EXA-12P	0.338	0.262	0.051	0.051	1,041,093	Yes	222,946
3EXA-10	0.413	0.168	0.047	0.047	287,509	Yes	222,946
3EXA-9P	0.345	0.300	0.051	0.051	1,609,697	Yes	222,946
3EXA-9	0.417	0.231	0.047	0.047	404,163	Yes	222,946
3EXA-8P	0.000	0.300	0.051	0.051	563,408	No	222,946
3EXA-8	0.434	0.257	0.047	0.047	462,612	Yes	222,946
3EXA-7P	0.000	0.291	0.051	0.051	543,079	No	222,946
3EXA-7	0.000	0.312	0.047	0.047	158,755,808	No	57,833
3EXA-6P DS	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-6	0.000	0.312	0.047	0.047	158,755,808	No	57,833
3EXA-5P	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-5	0.000	0.312	0.047	0.047	158,755,808	No	57,833
3EXA-4P US	0.000	0.312	0.047	0.047	182,317,744	No	57,833
3EXA-4	0.000	0.312	0.047	0.047	75,914,096	No	57,833
3EXA-4 (BR/SE)	0.000	0.250	0.033	0.033	189,399,088	No	57,833
3EXA-4 (D/S)	0.000	0.312	0.047	0.047	100,221,240	No	57,833
===>Grouped by Line:	**ES1-4-3RDPT ES to FWH 23A**				***Sorted By:Flow Order***		
3EXA-1P	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1A	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1	0.000	0.250	0.033	0.033	144,018,288	No	57,833
3EXA-1N	0.000	0.043	0.033	0.033	23,469	No	222,946
===>Grouped by Line:	**ES1-5-3RDPT ES to FWH 23A**				***Sorted By:Flow Order***		
3EXA-11R	0.000	0.312	0.047	0.047	249,702,400	No	57,833
3EXA-11R (D/S)	0.000	0.250	0.033	0.033	159,375,136	No	57,833
3EXA-11RP	0.000	0.220	0.039	0.039	623,574	No	86,338
3EXA-3	0.388	0.282	0.033	0.033	668,888	Yes	129,394
3EXA-2P	0.000	0.161	0.039	0.039	310,189	No	129,394
3EXA-2A	0.411	0.296	0.039	0.039	673,347	Yes	222,946
3EXA-2	0.000	0.059	0.033	0.033	68,545	No	222,946
3EXA-2N	0.000	0.043	0.033	0.033	23,469	No	222,946
===>Grouped by Line:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-14N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXB-14X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXB-14	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-13	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-13P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXB-12	0.000	0.045	0.033	0.033	28,509	No	222,946

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:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-12P	0.000	0.174	0.033	0.033	876,511	No	222,946
3EXB-11 (BR/SE)	0.000	0.043	0.036	0.036	16,494	No	222,946
3EXB-11 (D/S)	0.000	0.108	0.051	0.051	130,994	No	222,946
3EXB-11P	0.000	0.238	0.051	0.051	1,184,189	No	222,946
===>Grouped by Line:	**ES2-2-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-18N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXB-18X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXB-18	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-17	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-17P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXB-16	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXB-16P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXB-15	0.000	0.059	0.033	0.033	68,545	No	222,946
3EXB-15P	0.000	0.174	0.033	0.033	876,511	No	222,946
===>Grouped by Line:	**ES2-3-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-10	0.000	0.045	0.051	0.051	-9,574	No	222,946
3EXB-10 (BR/SE)	0.000	0.025	0.036	0.036	-25,156	No	222,946
3EXB-10 (D/S)	0.000	-0.063	0.051	0.051	-102,376	No	222,946
3EXB-10P US	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXB-10P DS1	0.000	0.201	0.051	0.051	1,085,040	Yes	222,946
3EXB-10P DS	0.000	0.286	0.051	0.051	1,698,926	Yes	222,946
3EXB-VALVE 3EX-3	0.000	0.105	0.050	0.050	130,324	No	222,946
3EXB-9P	0.333	0.219	0.051	0.051	829,613	Yes	222,946
3EXB-VALVE 3EX-4	0.000	0.038	0.050	0.050	-21,597	No	222,946
3EXB-9A	0.000	0.212	0.051	0.051	793,945	No	222,946
3EXB-9	0.420	0.236	0.047	0.047	447,474	Yes	222,946
3EXB-8	0.403	0.252	0.047	0.047	534,002	Yes	222,946
3EXB-7P	0.322	0.254	0.051	0.051	1,093,745	Yes	222,946
3EXB-7	0.000	0.132	0.047	0.047	235,218	No	222,946
3EXB-6P US	0.349	0.294	0.051	0.051	961,956	Yes	222,946
3EXB-6P DS	0.338	0.265	0.051	0.051	844,369	Yes	222,946
3EXB-6	0.000	0.287	0.047	0.047	567,103	Yes	222,946
3EXB-5P	0.355	0.229	0.051	0.051	1,152,708	Yes	222,946
3EXB-5	0.414	0.250	0.047	0.047	480,489	Yes	222,946
3EXB-4A US	0.328	0.262	0.051	0.051	478,066	No	222,946
3EXB-4A DS	0.000	0.093	0.051	0.051	95,492	No	222,946
3EXB-4	0.000	0.245	0.055	0.055	215,053	No	222,946
3EXB-4 (BR/SE)	0.000	0.190	0.039	0.039	520,771	No	222,946
3EXB-4 (D/S)	0.000	0.257	0.055	0.055	301,144	No	222,946

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:	**ES2-4-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-4P US	0.262	0.203	0.039	0.039	1,009,285	Yes	222,946
3EXB-1A	0.272	0.176	0.039	0.039	841,349	Yes	222,946
3EXB-1	0.367	0.203	0.033	0.033	454,558	No	222,946
3EXB-1N	0.000	0.043	0.033	0.033	23,469	No	222,946
===>Grouped by Line:	**ES2-5-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-10R	0.000	0.312	0.047	0.047	249,752,624	No	13,140
3EXB-10R (D/S)	0.000	0.250	0.033	0.033	159,426,592	No	13,140
3EXB-3P US	0.000	0.355	0.039	0.039	1,016,682	No	86,338
3EXB-3P DS	0.000	0.351	0.039	0.039	1,005,031	No	86,338
3EXB-3	0.454	0.318	0.033	0.033	773,542	Yes	129,394
3EXB-2P US	0.402	0.312	0.039	0.039	1,095,788	Yes	129,394
3EXB-2P DS	0.000	0.192	0.039	0.039	598,736	No	129,394
3EXB-2A	0.378	0.302	0.033	0.033	1,077,457	Yes	222,946
3EXB-2	0.477	0.231	0.033	0.033	537,485	Yes	222,946
3EXB-2N	0.000	0.043	0.033	0.033	23,469	No	222,946
===>Grouped by Line:	**ES3-1-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-18N	0.000	-0.060	0.033	0.033	-102,502	No	222,946
3EXC-18X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXC-18	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-17	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-17P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXC-16	0.000	0.045	0.033	0.033	28,509	No	222,946
3EXC-16P	0.000	0.174	0.033	0.033	876,511	No	222,946
3EXC-15 (BR/SE)	0.000	0.043	0.036	0.036	16,494	No	222,946
3EXC-15 (D/S)	0.000	0.108	0.051	0.051	130,994	No	222,946
3EXC-15P	0.000	0.238	0.051	0.051	1,184,189	No	222,946
===>Grouped by Line:	**ES3-2-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-22N	0.000	0.193	0.033	0.033	256,717	No	222,946
3EXC-22X	0.000	0.146	0.033	0.033	512,647	No	222,946
3EXC-22	0.000	0.248	0.033	0.033	620,958	No	222,946
3EXC-21	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-21P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXC-20	0.000	0.077	0.033	0.033	125,923	No	222,946
3EXC-20P	0.000	0.095	0.033	0.033	197,892	No	222,946
3EXC-19	0.000	0.314	0.033	0.033	735,788	Yes	222,946
3EXC-19P	0.000	0.174	0.033	0.033	876,511	No	222,946
===>Grouped by Line:	**ES3-3-3RDPT ES to FWH 23C**				***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:	**ES3-3-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-14	0.000	0.045	0.051	0.051	-9,574	Yes	222,946
3EXC-14 (BR/SE)	0.000	0.287	0.036	0.036	556,606	No	222,946
3EXC-14 (D/S)	0.000	0.327	0.051	0.051	365,548	Yes	222,946
3EXC-14P US	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXC-14P DS1	0.440	0.303	0.051	0.051	1,828,921	No	222,946
3EXC-14P DS	0.000	0.244	0.051	0.051	1,395,126	No	222,946
3EXC-VALVE 3EX-5	0.000	0.105	0.050	0.050	130,324	No	222,946
3EXC-13P	0.000	0.212	0.051	0.051	793,945	No	222,946
3EXC-VALVE 3EX-6	0.000	0.038	0.050	0.050	-21,597	No	222,946
3EXC-13R	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-13R (D/S)	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-VALVE PCV-1161	0.000	0.111	0.043	0.043	241,834	No	222,946
3EXC-12R	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-12R (D/S)	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-12P	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-10	0.415	0.245	0.047	0.047	468,715	Yes	222,946
3EXC-9P	0.364	0.288	0.051	0.051	1,529,346	Yes	222,946
3EXC-9	0.418	0.247	0.047	0.047	440,255	Yes	222,946
3EXC-8P	0.000	0.093	0.051	0.051	95,492	No	222,946
3EXC-8	0.000	0.086	0.047	0.047	86,073	No	222,946
3EXC-7P	0.314	0.285	0.051	0.051	529,764	Yes	222,946
3EXC-7	0.000	0.102	0.047	0.047	130,194	No	222,946
3EXC-6P	0.349	0.258	0.051	0.051	719,331	Yes	222,946
3EXC-6	0.443	0.259	0.047	0.047	502,351	Yes	222,946
3EXC-5P	0.000	0.240	0.051	0.051	1,224,857	No	222,946
3EXC-5	0.000	0.273	0.047	0.047	534,134	Yes	222,946
3EXC-4P	0.000	0.192	0.055	0.055	475,327	Yes	222,946
3EXC-4	0.000	0.235	0.055	0.055	202,932	No	222,946
3EXC-4 (BR/SE)	0.000	0.212	0.039	0.039	597,195	No	222,946
3EXC-4 (D/S)	0.000	0.258	0.055	0.055	303,037	No	222,946
===>Grouped by Line:	**ES3-4-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-4P-1 US	0.267	0.231	0.039	0.039	1,182,094	Yes	222,946
3EXC-1A	0.000	0.169	0.039	0.039	793,349	No	222,946
3EXC-1	0.000	0.308	0.033	0.033	720,732	Yes	222,946
3EXC-1N	0.000	0.306	0.033	0.033	658,683	No	222,946
===>Grouped by Line:	**ES3-5-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-11R	0.319	0.237	0.047	0.047	701,478	Yes	222,946
3EXC-11R (D/S)	0.000	0.277	0.033	0.033	707,628	Yes	222,946
3EXC-3P	0.000	0.364	0.039	0.039	1,047,027	Yes	86,338

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: **ES3-5-3RDPT ES to FWH 23C**					***Sorted By:Flow Order***		
3EXC-3	0.000	0.163	0.033	0.033	339,393	No	129,394
3EXC-2P	0.000	0.336	0.039	0.039	757,652	Yes	129,394
3EXC-2A	0.000	0.286	0.039	0.039	643,811	Yes	129,394
3EXC-2	0.000	0.291	0.033	0.033	674,776	Yes	222,946
3EXC-2N	0.000	0.283	0.033	0.033	603,365	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:22:55AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES7-1-5THPT ES to FWH 25ABC***								***Sorted By: Average Wear Rate***		
5EX-VALVE-5EX-1	22	19.762	11.621	387.9	58.034	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-VALVE-5EX-3	25	17.809	10.464	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-VALVE-5EX-4	25	17.809	10.464	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-18 (D/S)	12	0.118	0.115	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-18 (BR/SE)	12	0.081	0.079	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
5EX-8	14	0.017	0.016	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8 (D/S)	14	0.014	0.013	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-15	2	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-14	4	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13	2	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-12	4	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13P US	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13P	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13P DS	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8P US	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8P DS	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-11P	54	0.008	0.008	387.9	40.579	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-16	4	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-11	4	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-17	3	0.007	0.007	387.9	41.506	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-16P DS	53	0.007	0.006	387.9	41.296	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-16P US	53	0.007	0.006	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8 (BR/SE)	14	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-14P	52	0.005	0.005	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-15P US	54	0.005	0.005	387.9	83.908	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-15P DS	54	0.005	0.005	387.9	83.908	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-17P	58	0.004	0.004	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-17P-1	58	0.004	0.004	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-2-5THPT ESHDR to FWH 25C***								***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:	***ES7-2-5THPT ESHDR to FWH 25C***								***Sorted By: Average Wear Rate***		
5EX-VALVE 5EX-5-2	22	15.981	9.291	387.9	34.887	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-10N	30	0.012	0.008	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-9	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-10	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-9-10	52	0.005	0.005	387.9	33.428	92.2	18.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-3-5THPT ESHDR 25CT to BT***								***Sorted By: Average Wear Rate***		
5EX-5	14	0.014	0.013	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-5 (D/S)	14	0.012	0.012	387.9	9.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-5 (BR/SE)	14	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-5P US	64	0.003	0.003	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-5P DS	64	0.003	0.003	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-4-5THPT ESHDR to FWH 25B***								***Sorted By: Average Wear Rate***		
5EX-VALVE 5EX-5-1	22	15.981	9.291	387.9	34.887	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-7N	30	0.014	0.008	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-6	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-7	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-6-7	52	0.005	0.005	387.9	33.428	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-6P1	64	0.003	0.003	387.9	33.738	92.2	18.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-5-5THPT ESHDR to FWH 25A***								***Sorted By: Average Wear Rate***		
5EX-VALVE 5EX-5	22	15.981	9.291	387.9	34.887	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-1N	30	0.012	0.008	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-1-2	54	0.008	0.008	387.9	33.428	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-3	2	0.008	0.008	387.9	34.550	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-2	4	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-1	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-4 (D/S)	7	0.007	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-3P US	57	0.006	0.006	387.9	34.633	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-2P	52	0.005	0.005	387.9	35.010	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-4	7	0.005	0.005	387.9	9.204	92.2	28.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7A-1-SEP TKA VNT to FWH25***								***Sorted By: Average Wear Rate***		
MOPS1	31	20.710	13.571	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS5	2	0.009	0.009	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS7	4	0.009	0.009	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS8	54	0.009	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS6	4	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS2	3	0.008	0.007	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS3	3	0.008	0.007	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	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:	***ES7A-1-SEP TKA VNT to FWH25***								***Sorted By: Average Wear Rate***		
MOPS4	53	0.007	0.007	387.9	41.324	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7A-2-SEP TKB VNT to FWH25***								***Sorted By: Average Wear Rate***		
MOPS9	31	21.359	13.995	387.9	43.429	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS10	61	0.010	0.009	387.9	41.324	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS12	54	0.009	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS16	54	0.009	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS11	4	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS13	2	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS15	4	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS17	1	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS14	52	0.006	0.005	387.9	41.324	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS18	51	0.003	0.003	387.9	69.242	92.2	20.000	6.947	0.000	'298.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:22:55AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES7-1-5THPT ES to FWH 25ABC***									***Sorted By: Flow Order***	
5EX-18 (D/S)	12	0.118	0.115	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-VALVE-5EX-1	22	19.762	11.621	387.9	58.034	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-17P	58	0.004	0.004	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-VALVE-5EX-3	25	17.809	10.464	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-17P-1	58	0.004	0.004	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-VALVE-5EX-4	25	17.809	10.464	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-17	3	0.007	0.007	387.9	41.506	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-16P US	53	0.007	0.006	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-16P DS	53	0.007	0.006	387.9	41.296	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-16	4	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-15P US	54	0.005	0.005	387.9	83.908	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-15P DS	54	0.005	0.005	387.9	83.908	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-15	2	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-14P	52	0.005	0.005	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-14	4	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13P US	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13P	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13P DS	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-13	2	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-12	4	0.009	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-11P	54	0.008	0.008	387.9	40.579	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-11	4	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8P US	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8P DS	54	0.008	0.008	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8	14	0.017	0.016	387.9	40.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-8 (BR/SE)	14	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-8 (D/S)	14	0.014	0.013	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-18 (BR/SE)	12	0.081	0.079	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-2-5THPT ESHDR to FWH 25C***									***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:	***ES7-2-5THPT ESHDR to FWH 25C***									***Sorted By: Flow Order***	
5EX-VALVE 5EX-5-2	22	15.981	9.291	387.9	34.887	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-9	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-9-10	52	0.005	0.005	387.9	33.428	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-10	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-10N	30	0.012	0.008	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-3-5THPT ESHDR 25CT to BT***									***Sorted By: Flow Order***	
5EX-5P US	64	0.003	0.003	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-5P DS	64	0.003	0.003	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-5	14	0.014	0.013	387.9	25.799	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-5 (BR/SE)	14	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-5 (D/S)	14	0.012	0.012	387.9	9.204	92.2	28.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-4-5THPT ESHDR to FWH 25B***									***Sorted By: Flow Order***	
5EX-6P1	64	0.003	0.003	387.9	33.738	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-VALVE 5EX-5-1	22	15.981	9.291	387.9	34.887	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-6	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-6-7	52	0.005	0.005	387.9	33.428	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-7	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-7N	30	0.014	0.008	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7-5-5THPT ESHDR to FWH 25A***									***Sorted By: Flow Order***	
5EX-4	7	0.005	0.005	387.9	9.204	92.2	28.000	6.947	0.000	'298.02'	HBD
5EX-4 (D/S)	7	0.007	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-3P US	57	0.006	0.006	387.9	34.633	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-3	2	0.008	0.008	387.9	34.550	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-2P	52	0.005	0.005	387.9	35.010	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-VALVE 5EX-5	22	15.981	9.291	387.9	34.887	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-2	4	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-1-2	54	0.008	0.008	387.9	33.428	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-1	2	0.008	0.007	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
5EX-1N	30	0.012	0.008	387.9	32.872	92.2	18.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7A-1-SEP TKA VNT to FWH25***									***Sorted By: Flow Order***	
MOPS1	31	20.710	13.571	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS2	3	0.008	0.007	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS3	3	0.008	0.007	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS4	53	0.007	0.007	387.9	41.324	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS5	2	0.009	0.009	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS6	4	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS7	4	0.009	0.009	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	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:	***ES7A-1-SEP TKA VNT to FWH25***									***Sorted By: Flow Order***	
MOPS8	54	0.009	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***ES7A-2-SEP TKB VNT to FWH25***									***Sorted By: Flow Order***	
MOPS9	31	21.359	13.995	387.9	43.429	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS10	61	0.010	0.009	387.9	41.324	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS11	4	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS12	54	0.009	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS13	2	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS14	52	0.006	0.005	387.9	41.324	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS15	4	0.008	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS16	54	0.009	0.008	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS17	1	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	'298.02'	HBD
MOPS18	51	0.003	0.003	387.9	69.242	92.2	20.000	6.947	0.000	'298.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:22:55AM

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES7-1-5THPT ES to FWH 25ABC**					***Sorted By:Remaining Life***		
5EX-VALVE-5EX-1	0.000	-0.128	0.248	0.248	-177,998	No	222,946
5EX-VALVE-5EX-3	0.000	-0.078	0.248	0.248	-173,073	No	222,946
5EX-VALVE-5EX-4	0.000	-0.078	0.248	0.248	-173,073	No	222,946
5EX-18 (D/S)	0.000	0.374	0.232	0.232	10,811,661	No	86,338
5EX-18 (BR/SE)	0.000	0.374	0.166	0.166	23,062,340	No	86,338
5EX-8	0.000	0.375	0.269	0.269	56,546,000	No	73,373
5EX-8 (D/S)	0.000	0.375	0.269	0.269	68,842,984	No	73,373
5EX-8P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-17P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-17P-1	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-17	0.570	0.570	0.269	0.269	100,000,000	No	73,373
5EX-16P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-16P DS	0.539	0.539	0.267	0.267	100,000,000	No	73,373
5EX-16	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-15P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-14P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-14	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-13P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-12	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-11P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-11	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-8P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
===>Grouped by Line: **ES7-2-5THPT ESHDR to FWH 25C**					***Sorted By:Remaining Life***		
5EX-VALVE 5EX-5-2	0.000	-0.095	0.160	0.160	-156,219	No	222,946

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:	**ES7-2-5THPT ESHDR to FWH 25C**				***Sorted By:Remaining Life***		
5EX-9	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-9-10	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-10	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-10N	0.000	0.312	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7-3-5THPT ESHDR 25CT to BT**				***Sorted By:Remaining Life***		
5EX-5	0.000	0.375	0.269	0.269	68,842,984	No	73,373
5EX-5 (D/S)	0.000	0.375	0.269	0.269	77,951,304	No	73,373
5EX-5P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
===>Grouped by Line:	**ES7-4-5THPT ESHDR to FWH 25B**				***Sorted By:Remaining Life***		
5EX-VALVE 5EX-5-1	0.000	-0.095	0.160	0.160	-156,219	No	222,946
5EX-6P1	0.000	0.375	0.172	0.172	100,000,000	No	73,373
5EX-6	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-6-7	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-7	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-7N	0.000	0.312	0.149	0.149	100,000,000	No	222,946
===>Grouped by Line:	**ES7-5-5THPT ESHDR to FWH 25A**				***Sorted By:Remaining Life***		
5EX-VALVE 5EX-5	0.000	-0.095	0.160	0.160	-156,219	No	222,946
5EX-4	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-4 (D/S)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-3P US	0.507	0.507	0.172	0.172	100,000,000	No	73,373
5EX-3	0.498	0.498	0.173	0.173	100,000,000	No	73,373
5EX-2P	0.513	0.513	0.172	0.172	100,000,000	No	73,373
5EX-2	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1-2	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-1	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1N	0.000	0.231	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7A-1-SEP TKA VNT to FWH25**				***Sorted By:Remaining Life***		
MOPS1	0.000	0.557	0.166	0.166	252,549	No	158,002
MOPS2	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS3	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS4	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS5	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS6	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS7	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS8	0.000	0.375	0.191	0.191	100,000,000	No	86,338

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: **ES7A-2-SEP TKB VNT to FWH25**					***Sorted By:Remaining Life***		
MOPS9	0.633	0.452	0.166	0.166	179,269	No	158,002
MOPS11	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS12	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS13	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS14	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS15	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS16	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS17	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS18	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS10	0.000	0.375	0.191	0.191	170,433,952	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:22:55AM

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES7-1-5THPT ES to FWH 25ABC**					***Sorted By:Flow Order***		
5EX-18 (D/S)	0.000	0.374	0.232	0.232	10,811,661	No	86,338
5EX-VALVE-5EX-1	0.000	-0.128	0.248	0.248	-177,998	No	222,946
5EX-17P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-VALVE-5EX-3	0.000	-0.078	0.248	0.248	-173,073	No	222,946
5EX-17P-1	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-VALVE-5EX-4	0.000	-0.078	0.248	0.248	-173,073	No	222,946
5EX-17	0.570	0.570	0.269	0.269	100,000,000	No	73,373
5EX-16P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-16P DS	0.539	0.539	0.267	0.267	100,000,000	No	73,373
5EX-16	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-15P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-14P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-14	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-13P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-12	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-11P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-11	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-8P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8	0.000	0.375	0.269	0.269	56,546,000	No	73,373
5EX-8 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-8 (D/S)	0.000	0.375	0.269	0.269	68,842,984	No	73,373
5EX-18 (BR/SE)	0.000	0.374	0.166	0.166	23,062,340	No	86,338
===>Grouped by Line: **ES7-2-5THPT ESHDR to FWH 25C**					***Sorted By:Flow Order***		
5EX-VALVE 5EX-5-2	0.000	-0.095	0.160	0.160	-156,219	No	222,946

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:	**ES7-2-5THPT ESHDR to FWH 25C**				***Sorted By:Flow Order***		
5EX-9	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-9-10	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-10	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-10N	0.000	0.312	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7-3-5THPT ESHDR 25CT to BT**				***Sorted By:Flow Order***		
5EX-5P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5	0.000	0.375	0.269	0.269	68,842,984	No	73,373
5EX-5 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-5 (D/S)	0.000	0.375	0.269	0.269	77,951,304	No	73,373
===>Grouped by Line:	**ES7-4-5THPT ESHDR to FWH 25B**				***Sorted By:Flow Order***		
5EX-6P1	0.000	0.375	0.172	0.172	100,000,000	No	73,373
5EX-VALVE 5EX-5-1	0.000	-0.095	0.160	0.160	-156,219	No	222,946
5EX-6	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-6-7	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-7	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-7N	0.000	0.312	0.149	0.149	100,000,000	No	222,946
===>Grouped by Line:	**ES7-5-5THPT ESHDR to FWH 25A**				***Sorted By:Flow Order***		
5EX-4	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-4 (D/S)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-3P US	0.507	0.507	0.172	0.172	100,000,000	No	73,373
5EX-3	0.498	0.498	0.173	0.173	100,000,000	No	73,373
5EX-2P	0.513	0.513	0.172	0.172	100,000,000	No	73,373
5EX-VALVE 5EX-5	0.000	-0.095	0.160	0.160	-156,219	No	222,946
5EX-2	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1-2	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-1	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1N	0.000	0.231	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7A-1-SEP TKA VNT to FWH25**				***Sorted By:Flow Order***		
MOPS1	0.000	0.557	0.166	0.166	252,549	No	158,002
MOPS2	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS3	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS4	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS5	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS6	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS7	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS8	0.000	0.375	0.191	0.191	100,000,000	No	86,338

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: **ES7A-2-SEP TKB VNT to FWH25**					***Sorted By:Flow Order***		
MOPS9	0.633	0.452	0.166	0.166	179,269	No	158,002
MOPS10	0.000	0.375	0.191	0.191	170,433,952	No	86,338
MOPS11	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS12	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS13	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS14	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS15	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS16	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS17	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS18	0.000	0.375	0.191	0.191	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:23:34AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES8-1-6THPT ES to HDR***								***Sorted By: Average Wear Rate***		
6EX-28N	31	25.034	13.317	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-27P	54	0.012	0.008	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-28	4	0.012	0.008	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-27	4	0.012	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-23	2	0.011	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-23P	54	0.010	0.006	444.8	69.447	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22P	52	0.008	0.005	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22R	18	0.007	0.005	444.8	49.777	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22R (D/S)	18	0.005	0.004	444.8	23.633	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-22A	68	0.004	0.003	444.8	23.633	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-2-6THPT ES to HDR***								***Sorted By: Average Wear Rate***		
6EX-26-1N	31	25.188	13.399	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-26P	54	0.012	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-26-1	4	0.012	0.008	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-25	2	0.012	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-26-2	1	0.010	0.007	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-24	1	0.010	0.007	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-25P	51	0.007	0.005	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-24P	52	0.006	0.004	444.8	69.447	92.0	12.750	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-3-6THPT ESHDR to FWH 26***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-3	25	19.026	10.115	444.8	49.189	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-4	25	19.026	10.115	444.8	49.189	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-1	22	17.593	9.352	444.8	49.958	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-14	14	0.022	0.016	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-22 (D/S)	12	0.019	0.013	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-14 (D/S)	14	0.018	0.013	444.8	32.168	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-22	12	0.013	0.009	444.8	23.633	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-22 (BR/SE)	12	0.013	0.009	444.8	49.777	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-21C	54	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	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:	***ES8-3-6THPT ESHDR to FWH 26***								***Sorted By: Average Wear Rate***		
6EX-21	4	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-20	4	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-19	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-18	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-17	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-16	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-19P	54	0.008	0.005	444.8	77.952	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-18P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-17P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-46P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-16P	52	0.007	0.005	444.8	49.827	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-14 (BR/SE)	14	0.007	0.005	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-20B	58	0.004	0.004	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-20A	58	0.004	0.004	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-21P	62	0.003	0.002	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-4-6THPT ESHDR to FWH 26C***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-5-2	22	14.788	7.800	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-11N	30	13.456	7.102	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-13P	54	0.009	0.007	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-15	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-13	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-12	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-11	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-13C	1	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-15P	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-12P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-14P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-14R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-14R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-5-6THPT ESHDR 26CT to BT***								***Sorted By: Average Wear Rate***		
6EX-10	14	0.018	0.013	444.8	32.168	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-10 (D/S)	14	0.014	0.009	444.8	14.562	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-10 (BR/SE)	14	0.007	0.005	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-10P	64	0.004	0.003	444.8	32.168	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-6-6THPT ESHDR to FWH 26B***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-5-1	22	14.788	7.800	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-6N	30	8.850	7.386	444.8	35.070	92.0	12.750	6.658	0.000	'239.26'	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:	***ES8-6-6THPT ESHDR to FWH 26B***								***Sorted By: Average Wear Rate***		
6EX-6P	54	0.009	0.007	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-6	4	0.009	0.007	444.8	34.678	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-9	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-8	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-7	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-8B	1	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-8BP	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-7P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-9P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-10R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-10R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-7-6THPT ESHDR to FWH 26A***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-5	22	14.788	7.800	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-1N	30	9.076	7.583	444.8	36.773	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-3P	54	0.009	0.007	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-1	4	0.009	0.007	444.8	34.678	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-5	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-4	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-3	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-2	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-5P	67	0.007	0.005	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-4P	54	0.007	0.005	444.8	49.250	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-1P	52	0.006	0.004	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-2P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-5A (D/S)	17	0.004	0.003	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-5A	17	0.004	0.002	444.8	14.562	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-51	64	0.003	0.002	444.8	14.562	92.0	18.000	6.658	0.000	'239.26'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:23:34AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES8-1-6THPT ES to HDR***									***Sorted By: Flow Order***	
6EX-28N	31	25.034	13.317	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-28	4	0.012	0.008	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-27P	54	0.012	0.008	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-27	4	0.012	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-23P	54	0.010	0.006	444.8	69.447	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-23	2	0.011	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22P	52	0.008	0.005	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22R	18	0.007	0.005	444.8	49.777	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22R (D/S)	18	0.005	0.004	444.8	23.633	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-22A	68	0.004	0.003	444.8	23.633	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-2-6THPT ES to HDR***									***Sorted By: Flow Order***	
6EX-26-1N	31	25.188	13.399	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-26-1	4	0.012	0.008	444.8	51.109	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-26P	54	0.012	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-26-2	1	0.010	0.007	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-25P	51	0.007	0.005	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-25	2	0.012	0.008	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-24P	52	0.006	0.004	444.8	69.447	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-24	1	0.010	0.007	444.8	50.558	92.0	12.750	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-3-6THPT ESHDR to FWH 26***									***Sorted By: Flow Order***	
6EX-22	12	0.013	0.009	444.8	23.633	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-22 (BR/SE)	12	0.013	0.009	444.8	49.777	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-22 (D/S)	12	0.019	0.013	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-21P	62	0.003	0.002	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-21	4	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-21C	54	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-1	22	17.593	9.352	444.8	49.958	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-20B	58	0.004	0.004	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-3	25	19.026	10.115	444.8	49.189	92.0	18.000	6.658	0.000	'239.26'	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:	***ES8-3-6THPT ESHDR to FWH 26***									***Sorted By: Flow Order***	
6EX-20A	58	0.004	0.004	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-4	25	19.026	10.115	444.8	49.189	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-20	4	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-19P	54	0.008	0.005	444.8	77.952	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-19	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-18P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-18	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-17P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-17	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-16P	52	0.007	0.005	444.8	49.827	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-16	2	0.011	0.008	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-46P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-14	14	0.022	0.016	444.8	49.196	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-14 (BR/SE)	14	0.007	0.005	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-14 (D/S)	14	0.018	0.013	444.8	32.168	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-4-6THPT ESHDR to FWH 26C***									***Sorted By: Flow Order***	
6EX-14R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-14R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-14P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-15	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-15P	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-13C	1	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-13	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-13P	54	0.009	0.007	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-5-2	22	14.788	7.800	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-12P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-12	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-11	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-11N	30	13.456	7.102	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-5-6THPT ESHDR 26CT to BT***									***Sorted By: Flow Order***	
6EX-10P	64	0.004	0.003	444.8	32.168	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-10	14	0.018	0.013	444.8	32.168	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-10 (BR/SE)	14	0.007	0.005	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-10 (D/S)	14	0.014	0.009	444.8	14.562	92.0	18.000	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-6-6THPT ESHDR to FWH 26B***									***Sorted By: Flow Order***	
6EX-10R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-10R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	'239.26'	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:	***ES8-6-6THPT ESHDR to FWH 26B***									***Sorted By: Flow Order***	
6EX-9P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-9	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-8BP	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-8B	1	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-8	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-6P	54	0.009	0.007	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-5-1	22	14.788	7.800	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-7P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-7	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-6	4	0.009	0.007	444.8	34.678	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-6N	30	8.850	7.386	444.8	35.070	92.0	12.750	6.658	0.000	'239.26'	HBD
===>Grouped by Line:	***ES8-7-6THPT ESHDR to FWH 26A***									***Sorted By: Flow Order***	
6EX-51	64	0.003	0.002	444.8	14.562	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-5A	17	0.004	0.002	444.8	14.562	92.0	18.000	6.658	0.000	'239.26'	HBD
6EX-5A (D/S)	17	0.004	0.003	444.8	32.641	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-5P	67	0.007	0.005	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-5	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-4P	54	0.007	0.005	444.8	49.250	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-4	4	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-3P	54	0.009	0.007	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-3	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-1P	52	0.006	0.004	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-VALVE-6EX-5	22	14.788	7.800	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-2P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-2	2	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-1	4	0.009	0.007	444.8	34.678	92.0	12.750	6.658	0.000	'239.26'	HBD
6EX-1N	30	9.076	7.583	444.8	36.773	92.0	12.750	6.658	0.000	'239.26'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:23:34AM

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES8-1-6THPT ES to HDR**					***Sorted By:Remaining Life***		
6EX-28N	0.000	0.247	0.189	0.189	38,464	No	222,946
6EX-27	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-27P	0.000	0.530	0.189	0.189	100,000,000	No	129,394
6EX-28	0.000	0.515	0.189	0.189	100,000,000	No	129,394
6EX-23P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-23	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-22P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-22R	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-22R (D/S)	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-22A	0.000	0.438	0.267	0.267	100,000,000	No	129,394
===>Grouped by Line: **ES8-2-6THPT ES to HDR**					***Sorted By:Remaining Life***		
6EX-26-1N	0.000	0.244	0.189	0.189	35,907	No	222,946
6EX-26-2	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-26-1	0.000	0.365	0.189	0.189	100,000,000	No	129,394
6EX-26P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
===>Grouped by Line: **ES8-3-6THPT ESHDR to FWH 26**					***Sorted By:Remaining Life***		
6EX-VALVE-6EX-3	0.000	-0.046	0.286	0.286	-168,288	No	222,946
6EX-VALVE-6EX-4	0.000	-0.046	0.286	0.286	-168,288	No	222,946
6EX-VALVE-6EX-1	0.000	-0.010	0.286	0.286	-163,835	No	222,946
6EX-14	0.000	0.438	0.267	0.267	94,668,712	No	116,818
6EX-21P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21C	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-20B	0.000	0.438	0.317	0.317	100,000,000	No	86,338
6EX-20A	0.000	0.438	0.317	0.317	100,000,000	No	86,338

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:	**ES8-3-6THPT ESHDR to FWH 26**				***Sorted By:Remaining Life***		
6EX-20	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-46P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-14 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-22 (D/S)	0.000	0.438	0.267	0.267	111,166,064	No	116,818
6EX-14 (D/S)	0.000	0.438	0.267	0.267	116,850,608	No	116,818
6EX-22 (BR/SE)	0.000	0.330	0.189	0.189	132,159,656	No	116,818
6EX-22	0.000	0.438	0.267	0.267	158,578,640	No	116,818
===>Grouped by Line:	**ES8-4-6THPT ESHDR to FWH 26C**				***Sorted By:Remaining Life***		
6EX-VALVE-6EX-5-2	0.000	-0.001	0.202	0.202	-143,324	No	222,946
6EX-11N	0.000	1.928	0.189	0.189	2,144,413	No	222,946
6EX-14R	0.000	0.692	0.267	0.267	100,000,000	No	116,818
6EX-14R (D/S)	0.000	0.570	0.189	0.189	100,000,000	No	116,818
6EX-14P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13C	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-12P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-12	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-11	0.000	0.375	0.189	0.189	100,000,000	No	116,818
===>Grouped by Line:	**ES8-5-6THPT ESHDR 26CT to BT**				***Sorted By:Remaining Life***		
6EX-10P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-10 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-10	0.000	0.438	0.267	0.267	116,850,608	No	116,818
6EX-10 (D/S)	0.000	0.438	0.267	0.267	159,023,552	No	116,818
===>Grouped by Line:	**ES8-6-6THPT ESHDR to FWH 26B**				***Sorted By:Remaining Life***		
6EX-VALVE-6EX-5-1	0.000	-0.001	0.202	0.202	-143,324	No	222,946
6EX-6N	0.531	0.456	0.189	0.189	317,000	No	97,487
6EX-10R	0.000	0.683	0.267	0.267	100,000,000	No	116,818

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: **ES8-6-6THPT ESHDR to FWH 26B**					***Sorted By:Remaining Life***		
6EX-10R (D/S)	0.000	0.568	0.189	0.189	100,000,000	No	116,818
6EX-9P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-9	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8BP	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8B	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-7P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-7	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6	0.000	0.506	0.189	0.189	100,000,000	No	116,818
===>Grouped by Line: **ES8-7-6THPT ESHDR to FWH 26A**					***Sorted By:Remaining Life***		
6EX-VALVE-6EX-5	0.000	-0.001	0.202	0.202	-143,324	No	222,946
6EX-1N	0.661	0.530	0.189	0.189	393,903	No	97,487
6EX-3	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-1P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-2P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-51	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A (D/S)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-5P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-5	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-2	0.000	0.517	0.189	0.189	100,000,000	No	116,818
6EX-1	0.000	0.479	0.189	0.189	100,000,000	No	116,818

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:23:34AM

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES8-1-6THPT ES to HDR**					***Sorted By:Flow Order***		
6EX-28N	0.000	0.247	0.189	0.189	38,464	No	222,946
6EX-28	0.000	0.515	0.189	0.189	100,000,000	No	129,394
6EX-27P	0.000	0.530	0.189	0.189	100,000,000	No	129,394
6EX-27	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-23P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-23	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-22P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-22R	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-22R (D/S)	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-22A	0.000	0.438	0.267	0.267	100,000,000	No	129,394
===>Grouped by Line: **ES8-2-6THPT ES to HDR**					***Sorted By:Flow Order***		
6EX-26-1N	0.000	0.244	0.189	0.189	35,907	No	222,946
6EX-26-1	0.000	0.365	0.189	0.189	100,000,000	No	129,394
6EX-26P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-26-2	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24	0.000	0.375	0.189	0.189	100,000,000	No	129,394
===>Grouped by Line: **ES8-3-6THPT ESHDR to FWH 26**					***Sorted By:Flow Order***		
6EX-22	0.000	0.438	0.267	0.267	158,578,640	No	116,818
6EX-22 (BR/SE)	0.000	0.330	0.189	0.189	132,159,656	No	116,818
6EX-22 (D/S)	0.000	0.438	0.267	0.267	111,166,064	No	116,818
6EX-21P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21C	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-VALVE-6EX-1	0.000	-0.010	0.286	0.286	-163,835	No	222,946
6EX-20B	0.000	0.438	0.317	0.317	100,000,000	No	86,338
6EX-VALVE-6EX-3	0.000	-0.046	0.286	0.286	-168,288	No	222,946

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:	**ES8-3-6THPT ESHDR to FWH 26**				***Sorted By:Flow Order***		
6EX-20A	0.000	0.438	0.317	0.317	100,000,000	No	86,338
6EX-VALVE-6EX-4	0.000	-0.046	0.286	0.286	-168,288	No	222,946
6EX-20	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-46P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-14	0.000	0.438	0.267	0.267	94,668,712	No	116,818
6EX-14 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-14 (D/S)	0.000	0.438	0.267	0.267	116,850,608	No	116,818
===>Grouped by Line:	**ES8-4-6THPT ESHDR to FWH 26C**				***Sorted By:Flow Order***		
6EX-14R	0.000	0.692	0.267	0.267	100,000,000	No	116,818
6EX-14R (D/S)	0.000	0.570	0.189	0.189	100,000,000	No	116,818
6EX-14P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13C	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-VALVE-6EX-5-2	0.000	-0.001	0.202	0.202	-143,324	No	222,946
6EX-12P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-12	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-11	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-11N	0.000	1.928	0.189	0.189	2,144,413	No	222,946
===>Grouped by Line:	**ES8-5-6THPT ESHDR 26CT to BT**				***Sorted By:Flow Order***		
6EX-10P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-10	0.000	0.438	0.267	0.267	116,850,608	No	116,818
6EX-10 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-10 (D/S)	0.000	0.438	0.267	0.267	159,023,552	No	116,818
===>Grouped by Line:	**ES8-6-6THPT ESHDR to FWH 26B**				***Sorted By:Flow Order***		
6EX-10R	0.000	0.683	0.267	0.267	100,000,000	No	116,818
6EX-10R (D/S)	0.000	0.568	0.189	0.189	100,000,000	No	116,818
6EX-9P	0.000	0.375	0.189	0.189	100,000,000	No	116,818

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: **ES8-6-6THPT ESHDR to FWH 26B**					***Sorted By:Flow Order***		
6EX-9	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8BP	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8B	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-VALVE-6EX-5-1	0.000	-0.001	0.202	0.202	-143,324	No	222,946
6EX-7P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-7	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6	0.000	0.506	0.189	0.189	100,000,000	No	116,818
6EX-6N	0.531	0.456	0.189	0.189	317,000	No	97,487
===>Grouped by Line: **ES8-7-6THPT ESHDR to FWH 26A**					***Sorted By:Flow Order***		
6EX-51	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A (D/S)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-5P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-5	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-1P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-VALVE-6EX-5	0.000	-0.001	0.202	0.202	-143,324	No	222,946
6EX-2P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-2	0.000	0.517	0.189	0.189	100,000,000	No	116,818
6EX-1	0.000	0.479	0.189	0.189	100,000,000	No	116,818
6EX-1N	0.661	0.530	0.189	0.189	393,903	No	97,487

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:24:10AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***SG51-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS46-Valve-MS-71-A	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS46-VALVE-HCV-5046	24	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-PCV-1214	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-PCV-1214A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-MS-131-A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-5	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6-1	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-4 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-7 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-7	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2P-3	52	3.376	0.960	511.5	4.145	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1P US	52	3.322	0.945	511.5	4.083	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1P DS	52	3.296	0.938	511.5	4.048	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1P-1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-5P	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6P1	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6P US	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-3FE	6	2.964	0.843	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6-1P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-4P US	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-4P DS	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-3	3	2.075	0.590	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	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:	***SG51-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS46-4	16	1.515	0.431	511.5	1.750	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-2P-2	68	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-3P	53	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-4P-1 US	56	0.593	0.169	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-4P-1 DS	56	0.593	0.169	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS46-7P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS46-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
===>Grouped by Line:	***SG52-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS45-VALVE-MS-71-B	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS45-VALVE-HCV-5047	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-PCV-1215	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-PCV-1215A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-MS-131-B	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-3FE	6	5.062	1.440	511.5	3.040	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-6	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-5 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-7 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-7	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-1P-1	52	3.349	0.953	511.5	4.110	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-1P	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-6P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-5P	66	2.507	0.713	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-3	3	2.075	0.590	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-4	1	1.956	0.557	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-2P-3	68	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-3P	53	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-5	16	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-4P	51	1.304	0.371	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-3P-1	56	1.012	0.288	511.5	3.040	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS45-7P2	57	0.005	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	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:	***SG52-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS45-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
===>Grouped by Line:	***SG53-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS47-VALVE-MS-71C	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS47-VALVE-HCV-5048	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-PCV-1216	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-PCV-1216A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-MS-131C	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-5	2	5.455	1.552	511.5	4.556	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-10	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-7	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-8	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-6	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-4 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-9 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-9	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-1P-1	52	3.270	0.930	511.5	4.006	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-8VP	52	3.245	0.923	511.5	3.972	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-1P	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-5P US	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-7P1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-3FE	6	2.964	0.843	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-6P	51	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-9P	62	2.507	0.713	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-4P DS	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-3	3	2.075	0.590	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-2P-2	68	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-3P	53	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-4	16	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-4P-1	56	0.593	0.169	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS47-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS47-10P1	52	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	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:	***SG53-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS47-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
===>Grouped by Line:	***SG54-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS48-VALVE-MS-71D	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS48-VALVE-HCV-5049	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-PCV-1217	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-PCV-1217A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-MS-131D	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-10	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-5	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-7	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-8	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-6	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-4 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-9 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-9	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1P-1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1P	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-10P1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1P-2	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-5P	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-7P1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-8VP	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-3FE	6	2.964	0.843	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-6P	51	2.758	0.785	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-9P	65	2.507	0.713	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-4P	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-3	2	2.193	0.624	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-2P-2	68	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-3P	52	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-4	16	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-4P-1	56	0.593	0.169	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	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:	***SG54-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS48-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS48-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:10AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***SG51-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS46-1P-1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1P US	52	3.322	0.945	511.5	4.083	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-1P DS	52	3.296	0.938	511.5	4.048	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2P-3	52	3.376	0.960	511.5	4.145	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-PCV-1214	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-PCV-1214A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-2P-2	68	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-3	3	2.075	0.590	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-3P	53	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-3FE	6	2.964	0.843	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-4P-1 US	56	0.593	0.169	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-4P-1 DS	56	0.593	0.169	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-4	16	1.515	0.431	511.5	1.750	0.0	3.500	6.336	6.720	'354.75'	ARD
MS46-4 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-4P US	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-4P DS	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-5	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-5P	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-MS-131-A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6P1	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6P US	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-6-1	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	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:	***SG51-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS46-6-1P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-7	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-7 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-VALVE-HCV-5046	24	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS46-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS46-7P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS46-Valve-MS-71-A	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
===>Grouped by Line:	***SG52-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS45-1P-1	52	3.349	0.953	511.5	4.110	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-1P	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-PCV-1215	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-PCV-1215A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-2P-3	68	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-3	3	2.075	0.590	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-3P	53	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-3FE	6	5.062	1.440	511.5	3.040	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-3P-1	56	1.012	0.288	511.5	3.040	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-4	1	1.956	0.557	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-4P	51	1.304	0.371	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-5	16	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS45-5 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-MS-131-B	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-5P	66	2.507	0.713	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-6	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-6P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-7	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-7 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-VALVE-HCV-5047	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS45-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS45-7P2	57	0.005	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	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:	***SG52-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS45-VALVE-MS-71-B	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
===>Grouped by Line:	***SG53-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS47-1P-1	52	3.270	0.930	511.5	4.006	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-1P	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-PCV-1216	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-PCV-1216A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-2P-2	68	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-3	3	2.075	0.590	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-3P	53	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-3FE	6	2.964	0.843	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-4P-1	56	0.593	0.169	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-4	16	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS47-4 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-4P DS	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-5	2	5.455	1.552	511.5	4.556	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-5P US	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-6	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-6P	51	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-MS-131C	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-7	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-7P1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-8	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-8VP	52	3.245	0.923	511.5	3.972	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-9	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-9 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-9P	62	2.507	0.713	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-10	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-VALVE-HCV-5048	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-10P1	52	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS47-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS47-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	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:	***SG53-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS47-VALVE-MS-71C	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
===>Grouped by Line:	***SG54-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS48-1P-1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1P	52	3.134	0.892	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-1P-2	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-PCV-1217	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2P	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-PCV-1217A	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2P-1	58	2.758	0.785	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2R	18	3.510	0.999	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-2R (D/S)	18	1.779	0.506	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-2P-2	68	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-3	2	2.193	0.624	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-3P	52	1.482	0.422	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-3FE	6	2.964	0.843	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-4P-1	56	0.593	0.169	511.5	1.706	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-4	16	1.482	0.422	511.5	1.709	0.0	3.500	6.336	6.720	'354.75'	ARD
MS48-4 (D/S)	16	3.886	1.106	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-4P	66	2.507	0.713	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-5	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-5P	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-6	1	4.136	1.177	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-6P	51	2.758	0.785	511.5	3.833	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-MS-131D	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-7	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-7P1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-8	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-8VP	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-9	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-9 (D/S)	15	3.760	1.070	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-9P	65	2.507	0.713	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-10	2	4.638	1.320	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-10P1	52	3.134	0.892	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-VALVE-HCV-5049	22	6.267	1.783	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	'354.75'	ARD
MS48-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	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:	***SG54-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS48-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD
MS48-VALVE-MS-71D	20	18.878	5.371	511.5	15.718	0.0	1.315	6.336	6.720	'354.75'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:10AM

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS46-Valve-MS-71-A	0.000	-0.301	0.040	0.040	-174,877	No	222,946
MS46-VALVE-MS-131-A	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS46-VALVE-HCV-5046	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS46-VALVE-PCV-1214	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS46-VALVE-PCV-1214A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS46-6-1	0.000	0.113	0.072	0.072	304,335	No	222,946
MS46-7	0.000	0.122	0.083	0.083	317,843	No	222,946
MS46-7 (D/S)	0.000	0.122	0.083	0.083	317,843	No	222,946
MS46-2R	0.000	0.129	0.083	0.083	396,517	No	222,946
MS46-1P-1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS46-6P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS46-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS46-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS46-6-1P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS46-1P DS	0.244	0.171	0.083	0.083	815,471	Yes	222,946
MS46-1P US	0.248	0.175	0.083	0.083	843,900	Yes	222,946
MS46-4P DS	0.000	0.154	0.083	0.083	868,559	No	222,946
MS46-1	0.000	0.240	0.083	0.083	1,042,295	No	222,946
MS46-2P-3	0.256	0.198	0.083	0.083	1,045,039	No	222,946
MS46-3FE	0.000	0.225	0.123	0.123	1,054,659	No	222,946
MS46-6P US	0.000	0.200	0.083	0.083	1,142,694	No	222,946
MS46-2	0.000	0.267	0.083	0.083	1,221,544	No	222,946
MS46-5P	0.000	0.213	0.083	0.083	1,270,425	No	222,946
MS46-4 (D/S)	0.000	0.256	0.083	0.083	1,364,526	Yes	222,946
MS46-4P US	0.000	0.202	0.083	0.083	1,459,102	No	222,946
MS46-5	0.000	0.315	0.083	0.083	1,535,386	Yes	222,946
MS46-3	0.000	0.245	0.123	0.123	1,809,598	Yes	222,946
MS46-6	0.000	0.349	0.072	0.072	2,066,222	No	222,946
MS46-2R (D/S)	0.000	0.255	0.123	0.123	2,280,158	No	222,946
MS46-3P	0.000	0.257	0.123	0.123	2,791,769	Yes	222,946
MS46-4	0.317	0.264	0.123	0.123	2,868,114	Yes	222,946

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:* **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS46-2P-2	0.000	0.265	0.123	0.123	2,957,961	Yes	222,946
MS46-4P-1 DS	0.000	0.275	0.123	0.123	7,886,857	Yes	222,946
MS46-4P-1 US	0.000	0.285	0.123	0.123	8,434,977	No	222,946
MS46-7R	0.000	0.803	0.090	0.090	100,000,000	No	222,946
MS46-7R (D/S)	0.000	0.341	0.050	0.050	100,000,000	No	222,946
MS46-7P2	0.000	0.257	0.050	0.050	100,000,000	No	222,946
===>*Grouped by Line:* **SG52-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS45-VALVE-MS-71-B	0.000	-0.301	0.040	0.040	-174,877	No	222,946
MS45-VALVE-MS-131-B	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS45-VALVE-HCV-5047	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS45-VALVE-PCV-1215	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS45-VALVE-PCV-1215A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS45-2	0.000	0.100	0.083	0.083	109,464	No	222,946
MS45-5 (D/S)	0.000	0.119	0.083	0.083	282,313	No	222,946
MS45-3FE	0.000	0.171	0.123	0.123	292,920	No	222,946
MS45-7	0.000	0.122	0.083	0.083	317,843	No	222,946
MS45-7 (D/S)	0.000	0.122	0.083	0.083	317,843	No	222,946
MS45-6	0.000	0.185	0.083	0.083	671,988	No	222,946
MS45-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS45-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS45-6P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS45-5P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS45-1P-1	0.252	0.178	0.083	0.083	871,775	Yes	222,946
MS45-1P	0.000	0.180	0.083	0.083	951,007	Yes	222,946
MS45-1	0.000	0.240	0.083	0.083	1,042,295	No	222,946
MS45-2R	0.000	0.213	0.083	0.083	1,133,385	No	222,946
MS45-4	0.000	0.250	0.123	0.123	2,001,635	No	222,946
MS45-3	0.000	0.289	0.123	0.123	2,463,346	Yes	222,946
MS45-5	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS45-2R (D/S)	0.000	0.304	0.123	0.123	3,138,441	Yes	222,946
MS45-2P-3	0.000	0.283	0.123	0.123	3,314,937	Yes	222,946
MS45-4P	0.000	0.267	0.123	0.123	3,394,248	No	222,946
MS45-3P	0.000	0.322	0.123	0.123	4,125,122	Yes	222,946
MS45-3P-1	0.000	0.269	0.123	0.123	4,431,229	Yes	222,946
MS45-7R	0.000	0.807	0.090	0.090	100,000,000	No	222,946
MS45-7R (D/S)	0.000	0.342	0.050	0.050	100,000,000	No	222,946
MS45-7P2	0.000	0.241	0.050	0.050	100,000,000	No	222,946
===>*Grouped by Line:* **SG53-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS47-VALVE-MS-71C	0.000	-0.301	0.040	0.040	-174,877	No	222,946

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: **SG53-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS47-VALVE-MS-131C	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS47-VALVE-HCV-5048	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS47-VALVE-PCV-1216	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS47-VALVE-PCV-1216A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS47-2	0.000	0.100	0.083	0.083	109,464	No	222,946
MS47-10	0.000	0.100	0.083	0.083	109,464	No	222,946
MS47-7	0.000	0.100	0.072	0.072	186,721	No	222,946
MS47-8	0.000	0.100	0.072	0.072	186,721	No	222,946
MS47-4 (D/S)	0.000	0.119	0.083	0.083	282,313	No	222,946
MS47-6	0.000	0.113	0.072	0.072	304,335	No	222,946
MS47-2R	0.000	0.129	0.083	0.083	396,517	No	222,946
MS47-9	0.000	0.122	0.072	0.072	413,127	No	222,946
MS47-9 (D/S)	0.000	0.122	0.072	0.072	413,127	No	222,946
MS47-7P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS47-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS47-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS47-6P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS47-9P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS47-8VP	0.236	0.177	0.083	0.083	884,575	Yes	222,946
MS47-1P	0.000	0.176	0.083	0.083	911,705	Yes	222,946
MS47-5	0.299	0.241	0.072	0.072	953,355	No	222,946
MS47-4P DS	0.000	0.166	0.083	0.083	1,012,378	Yes	222,946
MS47-1P-1	0.240	0.191	0.083	0.083	1,012,439	No	222,946
MS47-3FE	0.000	0.225	0.123	0.123	1,054,659	No	222,946
MS47-5P US	0.000	0.192	0.083	0.083	1,070,055	Yes	222,946
MS47-1	0.000	0.353	0.083	0.083	1,792,484	No	222,946
MS47-3	0.000	0.276	0.123	0.123	2,269,593	Yes	222,946
MS47-2R (D/S)	0.000	0.255	0.123	0.123	2,280,158	No	222,946
MS47-3P	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS47-4	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS47-2P-2	0.000	0.265	0.123	0.123	2,957,961	No	222,946
MS47-4P-1	0.000	0.290	0.123	0.123	8,694,651	Yes	222,946
MS47-10P1	0.000	0.218	0.088	0.088	100,000,000	No	222,946
MS47-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS47-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS47-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946
===>Grouped by Line: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS48-VALVE-MS-71D	0.000	-0.301	0.040	0.040	-174,877	No	222,946
MS48-VALVE-MS-131D	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS48-VALVE-HCV-5049	0.000	0.058	0.089	0.089	-89,055	No	222,946

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: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS48-VALVE-PCV-1217	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS48-VALVE-PCV-1217A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS48-5	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-7	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-8	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-10	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-2	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-6	0.000	0.113	0.083	0.083	217,713	No	222,946
MS48-4 (D/S)	0.000	0.119	0.083	0.083	282,313	No	222,946
MS48-9	0.000	0.122	0.083	0.083	317,843	No	222,946
MS48-9 (D/S)	0.000	0.122	0.083	0.083	317,843	No	222,946
MS48-2R	0.000	0.129	0.083	0.083	396,517	No	222,946
MS48-5P	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-7P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-10P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-1P-1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-1P-2	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-6P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS48-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS48-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS48-4P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS48-9P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS48-1P	0.000	0.176	0.083	0.083	911,705	Yes	222,946
MS48-3FE	0.000	0.225	0.123	0.123	1,054,659	No	222,946
MS48-8VP	0.000	0.193	0.083	0.083	1,071,178	Yes	222,946
MS48-1	0.000	0.302	0.083	0.083	1,453,903	No	222,946
MS48-3	0.000	0.236	0.123	0.123	1,584,232	Yes	222,946
MS48-2R (D/S)	0.000	0.255	0.123	0.123	2,280,158	No	222,946
MS48-4	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS48-2P-2	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS48-3P	0.000	0.277	0.123	0.123	3,207,248	Yes	222,946
MS48-4P-1	0.000	0.255	0.123	0.123	6,876,930	Yes	222,946
MS48-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS48-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS48-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:10AM

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS46-1P-1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS46-1	0.000	0.240	0.083	0.083	1,042,295	No	222,946
MS46-1P US	0.248	0.175	0.083	0.083	843,900	Yes	222,946
MS46-1P DS	0.244	0.171	0.083	0.083	815,471	Yes	222,946
MS46-2	0.000	0.267	0.083	0.083	1,221,544	No	222,946
MS46-2P-3	0.256	0.198	0.083	0.083	1,045,039	No	222,946
MS46-VALVE-PCV-1214	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS46-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS46-VALVE-PCV-1214A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS46-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS46-2R	0.000	0.129	0.083	0.083	396,517	No	222,946
MS46-2R (D/S)	0.000	0.255	0.123	0.123	2,280,158	No	222,946
MS46-2P-2	0.000	0.265	0.123	0.123	2,957,961	Yes	222,946
MS46-3	0.000	0.245	0.123	0.123	1,809,598	Yes	222,946
MS46-3P	0.000	0.257	0.123	0.123	2,791,769	Yes	222,946
MS46-3FE	0.000	0.225	0.123	0.123	1,054,659	No	222,946
MS46-4P-1 US	0.000	0.285	0.123	0.123	8,434,977	No	222,946
MS46-4P-1 DS	0.000	0.275	0.123	0.123	7,886,857	Yes	222,946
MS46-4	0.317	0.264	0.123	0.123	2,868,114	Yes	222,946
MS46-4 (D/S)	0.000	0.256	0.083	0.083	1,364,526	Yes	222,946
MS46-4P US	0.000	0.202	0.083	0.083	1,459,102	No	222,946
MS46-4P DS	0.000	0.154	0.083	0.083	868,559	No	222,946
MS46-5	0.000	0.315	0.083	0.083	1,535,386	Yes	222,946
MS46-5P	0.000	0.213	0.083	0.083	1,270,425	No	222,946
MS46-VALVE-MS-131-A	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS46-6P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS46-6	0.000	0.349	0.072	0.072	2,066,222	No	222,946
MS46-6P US	0.000	0.200	0.083	0.083	1,142,694	No	222,946
MS46-6-1	0.000	0.113	0.072	0.072	304,335	No	222,946
MS46-6-1P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS46-7	0.000	0.122	0.083	0.083	317,843	No	222,946

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: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS46-7 (D/S)	0.000	0.122	0.083	0.083	317,843	No	222,946
MS46-VALVE-HCV-5046	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS46-7R	0.000	0.803	0.090	0.090	100,000,000	No	222,946
MS46-7R (D/S)	0.000	0.341	0.050	0.050	100,000,000	No	222,946
MS46-7P2	0.000	0.257	0.050	0.050	100,000,000	No	222,946
MS46-Valve-MS-71-A	0.000	-0.301	0.040	0.040	-174,877	No	222,946
===>Grouped by Line: **SG52-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS45-1P-1	0.252	0.178	0.083	0.083	871,775	Yes	222,946
MS45-1	0.000	0.240	0.083	0.083	1,042,295	No	222,946
MS45-1P	0.000	0.180	0.083	0.083	951,007	Yes	222,946
MS45-2	0.000	0.100	0.083	0.083	109,464	No	222,946
MS45-VALVE-PCV-1215	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS45-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS45-VALVE-PCV-1215A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS45-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS45-2R	0.000	0.213	0.083	0.083	1,133,385	No	222,946
MS45-2R (D/S)	0.000	0.304	0.123	0.123	3,138,441	Yes	222,946
MS45-2P-3	0.000	0.283	0.123	0.123	3,314,937	Yes	222,946
MS45-3	0.000	0.289	0.123	0.123	2,463,346	Yes	222,946
MS45-3P	0.000	0.322	0.123	0.123	4,125,122	Yes	222,946
MS45-3FE	0.000	0.171	0.123	0.123	292,920	No	222,946
MS45-3P-1	0.000	0.269	0.123	0.123	4,431,229	Yes	222,946
MS45-4	0.000	0.250	0.123	0.123	2,001,635	No	222,946
MS45-4P	0.000	0.267	0.123	0.123	3,394,248	No	222,946
MS45-5	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS45-5 (D/S)	0.000	0.119	0.083	0.083	282,313	No	222,946
MS45-VALVE-MS-131-B	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS45-5P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS45-6	0.000	0.185	0.083	0.083	671,988	No	222,946
MS45-6P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS45-7	0.000	0.122	0.083	0.083	317,843	No	222,946
MS45-7 (D/S)	0.000	0.122	0.083	0.083	317,843	No	222,946
MS45-VALVE-HCV-5047	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS45-7R	0.000	0.807	0.090	0.090	100,000,000	No	222,946
MS45-7R (D/S)	0.000	0.342	0.050	0.050	100,000,000	No	222,946
MS45-7P2	0.000	0.241	0.050	0.050	100,000,000	No	222,946
MS45-VALVE-MS-71-B	0.000	-0.301	0.040	0.040	-174,877	No	222,946
===>Grouped by Line: **SG53-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS47-1P-1	0.240	0.191	0.083	0.083	1,012,439	No	222,946

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: **SG53-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS47-1	0.000	0.353	0.083	0.083	1,792,484	No	222,946
MS47-1P	0.000	0.176	0.083	0.083	911,705	Yes	222,946
MS47-2	0.000	0.100	0.083	0.083	109,464	No	222,946
MS47-VALVE-PCV-1216	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS47-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS47-VALVE-PCV-1216A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS47-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS47-2R	0.000	0.129	0.083	0.083	396,517	No	222,946
MS47-2R (D/S)	0.000	0.255	0.123	0.123	2,280,158	No	222,946
MS47-2P-2	0.000	0.265	0.123	0.123	2,957,961	No	222,946
MS47-3	0.000	0.276	0.123	0.123	2,269,593	Yes	222,946
MS47-3P	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS47-3FE	0.000	0.225	0.123	0.123	1,054,659	No	222,946
MS47-4P-1	0.000	0.290	0.123	0.123	8,694,651	Yes	222,946
MS47-4	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS47-4 (D/S)	0.000	0.119	0.083	0.083	282,313	No	222,946
MS47-4P DS	0.000	0.166	0.083	0.083	1,012,378	Yes	222,946
MS47-5	0.299	0.241	0.072	0.072	953,355	No	222,946
MS47-5P US	0.000	0.192	0.083	0.083	1,070,055	Yes	222,946
MS47-6	0.000	0.113	0.072	0.072	304,335	No	222,946
MS47-6P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS47-VALVE-MS-131C	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS47-7	0.000	0.100	0.072	0.072	186,721	No	222,946
MS47-7P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS47-8	0.000	0.100	0.072	0.072	186,721	No	222,946
MS47-8VP	0.236	0.177	0.083	0.083	884,575	Yes	222,946
MS47-9	0.000	0.122	0.072	0.072	413,127	No	222,946
MS47-9 (D/S)	0.000	0.122	0.072	0.072	413,127	No	222,946
MS47-9P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS47-10	0.000	0.100	0.083	0.083	109,464	No	222,946
MS47-VALVE-HCV-5048	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS47-10P1	0.000	0.218	0.088	0.088	100,000,000	No	222,946
MS47-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS47-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS47-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946
MS47-VALVE-MS-71C	0.000	-0.301	0.040	0.040	-174,877	No	222,946
===>Grouped by Line: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS48-1P-1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-1	0.000	0.302	0.083	0.083	1,453,903	No	222,946
MS48-1P	0.000	0.176	0.083	0.083	911,705	Yes	222,946

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: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS48-2	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-1P-2	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-VALVE-PCV-1217	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS48-2P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS48-VALVE-PCV-1217A	0.000	0.058	0.072	0.072	-64,850	No	222,946
MS48-2P-1	0.000	0.148	0.083	0.083	718,364	No	222,946
MS48-2R	0.000	0.129	0.083	0.083	396,517	No	222,946
MS48-2R (D/S)	0.000	0.255	0.123	0.123	2,280,158	No	222,946
MS48-2P-2	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS48-3	0.000	0.236	0.123	0.123	1,584,232	Yes	222,946
MS48-3P	0.000	0.277	0.123	0.123	3,207,248	Yes	222,946
MS48-3FE	0.000	0.225	0.123	0.123	1,054,659	No	222,946
MS48-4P-1	0.000	0.255	0.123	0.123	6,876,930	Yes	222,946
MS48-4	0.000	0.262	0.123	0.123	2,892,907	No	222,946
MS48-4 (D/S)	0.000	0.119	0.083	0.083	282,313	No	222,946
MS48-4P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS48-5	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-5P	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-6	0.000	0.113	0.083	0.083	217,713	No	222,946
MS48-6P	0.000	0.148	0.083	0.083	718,364	No	222,946
MS48-VALVE-MS-131D	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS48-7	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-7P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-8	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-8VP	0.000	0.193	0.083	0.083	1,071,178	Yes	222,946
MS48-9	0.000	0.122	0.083	0.083	317,843	No	222,946
MS48-9 (D/S)	0.000	0.122	0.083	0.083	317,843	No	222,946
MS48-9P	0.000	0.154	0.083	0.083	868,559	No	222,946
MS48-10	0.000	0.100	0.083	0.083	109,464	No	222,946
MS48-10P1	0.000	0.138	0.083	0.083	538,130	No	222,946
MS48-VALVE-HCV-5049	0.000	0.058	0.089	0.089	-89,055	No	222,946
MS48-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS48-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS48-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946
MS48-VALVE-MS-71D	0.000	-0.301	0.040	0.040	-174,877	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:24:27AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD83-1-HDR HDP to BFP21T***								***Sorted By: Average Wear Rate***		
CD-82T	14	12.624	5.284	377.7	15.770	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-81T (D/S)	12	9.410	3.939	377.7	15.770	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-81T	12	9.410	3.939	377.7	15.770	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-82T (D/S)	14	8.569	3.586	377.7	7.885	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-82T (BR/SE)	14	7.370	3.085	377.7	12.729	0.0	24.000	6.828	0.000	'90.02'	ARD
===>Grouped by Line:	***CD83-2-HDR to BFP21***								***Sorted By: Average Wear Rate***		
CD-72FE	6	13.941	5.835	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-VALVE-CD-21	22	10.313	4.317	377.7	12.318	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-9	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-66	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-67	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-68	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-69	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-70	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-71	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-38	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-8	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-73	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-7	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-64	3	7.370	3.085	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-74	1	6.949	2.909	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P US	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P DS	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-7P	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65R (D/S)	17	5.481	2.294	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
CD-65N	30	5.300	5.098	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
CD-66P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	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:	***CD83-2-HDR to BFP21***								***Sorted By: Average Wear Rate***		
CD-67P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-69P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-70P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-71P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-38P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-8P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-73P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-64P	53	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65R	17	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-68P	58	4.633	1.939	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-9P	64	4.212	1.763	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P-1 US	56	2.788	1.167	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P-1 DS	56	2.788	1.167	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
===>Grouped by Line:	***CD83-3-HDR to BFP22***								***Sorted By: Average Wear Rate***		
CD-76FE	6	13.941	5.835	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75N	30	12.179	5.098	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
CD-VALVE-CD-21-1	22	10.313	4.317	377.7	12.318	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-84T	12	8.634	3.614	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-6	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-10	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-84T (BR/SE)	12	7.160	2.997	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76P US	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-82R (D/S)	7	6.738	2.820	377.7	12.729	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-83T (D/S)	15	6.318	2.644	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-83T	15	6.318	2.644	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75R (D/S)	17	5.481	2.294	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
CD-82R	7	5.453	2.282	377.7	7.885	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-82P US	57	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-10P DS	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75P US	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75R	17	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76P DS	56	2.788	1.167	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:27AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD83-1-HDR HDP to BFP21T***									***Sorted By: Flow Order***	
CD-81T (D/S)	12	9.410	3.939	377.7	15.770	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-82T	14	12.624	5.284	377.7	15.770	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-82T (BR/SE)	14	7.370	3.085	377.7	12.729	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-82T (D/S)	14	8.569	3.586	377.7	7.885	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-81T	12	9.410	3.939	377.7	15.770	0.0	30.000	6.828	0.000	'90.02'	ARD
===>Grouped by Line:	***CD83-2-HDR to BFP21***									***Sorted By: Flow Order***	
CD-9P	64	4.212	1.763	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-9	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-66P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-66	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-67P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-67	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-VALVE-CD-21	22	10.313	4.317	377.7	12.318	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-68P	58	4.633	1.939	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-68	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-69P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-69	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-70P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-70	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-71P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-71	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-38P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-38	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-8P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-8	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P US	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P DS	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72FE	6	13.941	5.835	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	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:	***CD83-2-HDR to BFP21***									***Sorted By: Flow Order***	
CD-72P-1 US	56	2.788	1.167	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-72P-1 DS	56	2.788	1.167	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-73	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-73P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-7	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-7P	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-74	1	6.949	2.909	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-64	3	7.370	3.085	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-64P	53	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65R	17	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-65R (D/S)	17	5.481	2.294	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
CD-65N	30	5.300	5.098	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
===>Grouped by Line:	***CD83-3-HDR to BFP22***									***Sorted By: Flow Order***	
CD-82R	7	5.453	2.282	377.7	7.885	0.0	30.000	6.828	0.000	'90.02'	ARD
CD-82R (D/S)	7	6.738	2.820	377.7	12.729	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-82P US	57	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-83T	15	6.318	2.644	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-83T (D/S)	15	6.318	2.644	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-84T	12	8.634	3.614	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-84T (BR/SE)	12	7.160	2.997	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-VALVE-CD-21-1	22	10.313	4.317	377.7	12.318	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-6	4	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76P US	54	6.739	2.820	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76FE	6	13.941	5.835	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76P DS	56	2.788	1.167	377.7	19.891	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-76	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-10P DS	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-10	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75P US	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75	2	7.792	3.261	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75P	52	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75R	17	5.265	2.203	377.7	12.731	0.0	24.000	6.828	0.000	'90.02'	ARD
CD-75R (D/S)	17	5.481	2.294	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD
CD-75N	30	12.179	5.098	377.7	22.881	0.0	18.000	6.828	0.000	'90.02'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:27AM

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD83-1-HDR HDP to BFP21T**					***Sorted By:Remaining Life***		
CD-82T	0.000	0.616	0.561	0.561	91,244	No	222,946
CD-81T	0.000	0.626	0.561	0.561	143,268	No	222,946
CD-82T (D/S)	0.000	0.621	0.561	0.561	144,663	No	222,946
CD-81T (D/S)	0.000	0.628	0.561	0.561	147,716	No	222,946
CD-82T (BR/SE)	0.000	0.642	0.449	0.449	547,945	No	222,946
===>Grouped by Line: **CD83-2-HDR to BFP21**					***Sorted By:Remaining Life***		
CD-72FE	0.000	0.333	0.523	0.523	-145,125	No	222,946
CD-VALVE-CD-21	0.000	0.426	0.559	0.559	-141,075	No	222,946
CD-38	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-70	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-68	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-67	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-8	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-72	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-7	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-65	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-66	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-74	0.000	0.511	0.523	0.523	-34,558	No	222,946
CD-72P US	0.000	0.516	0.523	0.523	-19,358	No	222,946
CD-7P	0.000	0.516	0.523	0.523	-19,358	No	222,946
CD-65R (D/S)	0.000	0.423	0.392	0.392	116,336	No	222,946
CD-71P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-8P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-73P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-64P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-65R	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-67P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-71	0.000	0.590	0.523	0.523	180,847	Yes	222,946
CD-65P	0.000	0.574	0.523	0.523	201,932	Yes	222,946
CD-9	0.000	0.602	0.523	0.523	213,081	Yes	222,946

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:* **CD83-2-HDR to BFP21**					***Sorted By:Remaining Life***		
CD-68P	0.000	0.570	0.523	0.523	213,964	No	222,946
CD-69	0.000	0.618	0.523	0.523	255,030	Yes	222,946
CD-64	0.000	0.614	0.523	0.523	257,988	Yes	222,946
CD-9P	0.000	0.581	0.523	0.523	288,627	No	222,946
CD-73	0.000	0.636	0.523	0.523	303,235	Yes	222,946
CD-72P DS	0.000	0.631	0.523	0.523	337,177	No	222,946
CD-66P	0.000	0.611	0.523	0.523	349,026	Yes	222,946
CD-69P	0.000	0.616	0.523	0.523	372,247	Yes	222,946
CD-38P	0.000	0.640	0.523	0.523	464,316	Yes	222,946
CD-70P	0.000	0.653	0.523	0.523	518,407	Yes	222,946
CD-65N	0.000	0.839	0.392	0.392	768,073	No	57,833
CD-72P-1 US	0.000	0.655	0.523	0.523	995,662	Yes	222,946
CD-72P-1 DS	0.000	0.661	0.523	0.523	1,040,413	Yes	222,946
===>*Grouped by Line:* **CD83-3-HDR to BFP22**					***Sorted By:Remaining Life***		
CD-76FE	0.000	0.333	0.523	0.523	-145,125	No	222,946
CD-VALVE-CD-21-1	0.000	0.426	0.559	0.559	-141,075	No	222,946
CD-75N	0.000	0.252	0.392	0.392	-131,349	No	222,946
CD-76	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-83T	0.000	0.527	0.523	0.523	14,862	No	222,946
CD-83T (D/S)	0.000	0.527	0.523	0.523	14,862	No	222,946
CD-82R	0.000	0.592	0.561	0.561	118,732	Yes	222,946
CD-75P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-76P US	0.000	0.584	0.523	0.523	189,478	Yes	222,946
CD-84T	0.000	0.628	0.523	0.523	255,047	Yes	222,946
CD-75R (D/S)	0.000	0.460	0.392	0.392	257,859	Yes	222,946
CD-75P US	0.000	0.591	0.523	0.523	269,720	Yes	222,946
CD-6	0.000	0.631	0.523	0.523	290,431	Yes	222,946
CD-10P DS	0.000	0.600	0.523	0.523	305,499	Yes	222,946
CD-10	0.000	0.647	0.523	0.523	333,410	Yes	222,946
CD-84T (BR/SE)	0.000	0.657	0.523	0.523	391,859	Yes	222,946
CD-82P US	0.000	0.633	0.523	0.523	436,692	Yes	222,946
CD-75	0.000	0.691	0.523	0.523	452,291	Yes	222,946
CD-75R	0.000	0.657	0.523	0.523	532,104	Yes	222,946
CD-82R (D/S)	0.000	0.651	0.449	0.449	625,701	Yes	222,946
CD-76P DS	0.000	0.617	0.523	0.523	707,955	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:27AM

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD83-1-HDR HDP to BFP21T**					***Sorted By:Flow Order***		
CD-81T (D/S)	0.000	0.628	0.561	0.561	147,716	No	222,946
CD-82T	0.000	0.616	0.561	0.561	91,244	No	222,946
CD-82T (BR/SE)	0.000	0.642	0.449	0.449	547,945	No	222,946
CD-82T (D/S)	0.000	0.621	0.561	0.561	144,663	No	222,946
CD-81T	0.000	0.626	0.561	0.561	143,268	No	222,946
===>Grouped by Line: **CD83-2-HDR to BFP21**					***Sorted By:Flow Order***		
CD-9P	0.000	0.581	0.523	0.523	288,627	No	222,946
CD-9	0.000	0.602	0.523	0.523	213,081	Yes	222,946
CD-66P	0.000	0.611	0.523	0.523	349,026	Yes	222,946
CD-66	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-67P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-67	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-VALVE-CD-21	0.000	0.426	0.559	0.559	-141,075	No	222,946
CD-68P	0.000	0.570	0.523	0.523	213,964	No	222,946
CD-68	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-69P	0.000	0.616	0.523	0.523	372,247	Yes	222,946
CD-69	0.000	0.618	0.523	0.523	255,030	Yes	222,946
CD-70P	0.000	0.653	0.523	0.523	518,407	Yes	222,946
CD-70	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-71P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-71	0.000	0.590	0.523	0.523	180,847	Yes	222,946
CD-38P	0.000	0.640	0.523	0.523	464,316	Yes	222,946
CD-38	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-8P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-8	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-72	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-72P US	0.000	0.516	0.523	0.523	-19,358	No	222,946
CD-72P DS	0.000	0.631	0.523	0.523	337,177	No	222,946
CD-72FE	0.000	0.333	0.523	0.523	-145,125	No	222,946
CD-72P-1 US	0.000	0.655	0.523	0.523	995,662	Yes	222,946

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: **CD83-2-HDR to BFP21**					***Sorted By:Flow Order***		
CD-72P-1 DS	0.000	0.661	0.523	0.523	1,040,413	Yes	222,946
CD-73	0.000	0.636	0.523	0.523	303,235	Yes	222,946
CD-73P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-7	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-7P	0.000	0.516	0.523	0.523	-19,358	No	222,946
CD-74	0.000	0.511	0.523	0.523	-34,558	No	222,946
CD-64	0.000	0.614	0.523	0.523	257,988	Yes	222,946
CD-64P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-65	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-65P	0.000	0.574	0.523	0.523	201,932	Yes	222,946
CD-65R	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-65R (D/S)	0.000	0.423	0.392	0.392	116,336	No	222,946
CD-65N	0.000	0.839	0.392	0.392	768,073	No	57,833
===>Grouped by Line: **CD83-3-HDR to BFP22**					***Sorted By:Flow Order***		
CD-82R	0.000	0.592	0.561	0.561	118,732	Yes	222,946
CD-82R (D/S)	0.000	0.651	0.449	0.449	625,701	Yes	222,946
CD-82P US	0.000	0.633	0.523	0.523	436,692	Yes	222,946
CD-83T	0.000	0.527	0.523	0.523	14,862	No	222,946
CD-83T (D/S)	0.000	0.527	0.523	0.523	14,862	No	222,946
CD-84T	0.000	0.628	0.523	0.523	255,047	Yes	222,946
CD-84T (BR/SE)	0.000	0.657	0.523	0.523	391,859	Yes	222,946
CD-VALVE-CD-21-1	0.000	0.426	0.559	0.559	-141,075	No	222,946
CD-6	0.000	0.631	0.523	0.523	290,431	Yes	222,946
CD-76P US	0.000	0.584	0.523	0.523	189,478	Yes	222,946
CD-76FE	0.000	0.333	0.523	0.523	-145,125	No	222,946
CD-76P DS	0.000	0.617	0.523	0.523	707,955	No	222,946
CD-76	0.000	0.490	0.523	0.523	-80,809	No	222,946
CD-10P DS	0.000	0.600	0.523	0.523	305,499	Yes	222,946
CD-10	0.000	0.647	0.523	0.523	333,410	Yes	222,946
CD-75P US	0.000	0.591	0.523	0.523	269,720	Yes	222,946
CD-75	0.000	0.691	0.523	0.523	452,291	Yes	222,946
CD-75P	0.000	0.554	0.523	0.523	124,368	No	222,946
CD-75R	0.000	0.657	0.523	0.523	532,104	Yes	222,946
CD-75R (D/S)	0.000	0.460	0.392	0.392	257,859	Yes	222,946
CD-75N	0.000	0.252	0.392	0.392	-131,349	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:24:54AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD80A-1-FWH 22A to HEADER***								***Sorted By: Average Wear Rate***		
CD-101N	31	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-8	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-102	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-103	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-104	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-105	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-106	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-104P	54	6.004	2.889	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-106P	54	6.004	2.889	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-107	18	5.253	2.528	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-101P	61	5.065	2.437	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-102P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-105P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-107 (D/S)	18	3.578	1.722	204.3	8.066	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-107P	9	2.623	1.274	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-2-FWH 22B to HEADER***								***Sorted By: Average Wear Rate***		
CD-108N	31	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-8-1	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-109	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-110	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-111	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-112	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-108P	61	5.065	2.437	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-109P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-112P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-111P	58	4.127	1.986	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-3-FWH 22C to HEADER***								***Sorted By: Average Wear Rate***		
CD-113N	31	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-8-2	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	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:	***CD80A-3-FWH 22C to HEADER***								***Sorted By: Average Wear Rate***		
CD-114	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-115	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-116	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-117	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-116P	54	6.004	2.889	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-113P	61	5.065	2.437	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-114P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-117P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-116P-1	58	4.127	1.986	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-4-FWH 22 OUTLET HEADER***								***Sorted By: Average Wear Rate***		
CD-118T (D/S)	12	7.211	3.470	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-118T (BR/SE)	12	6.379	3.069	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-120	18	4.924	2.369	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-118T	12	4.890	2.353	204.3	8.066	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-120 (D/S)	18	4.183	2.013	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-118P	62	3.517	1.692	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-119P	9	2.440	1.185	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-5-FWH 22 to FWH 23 HEAD***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-1110	23	11.003	5.294	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-135	14	9.617	4.628	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-130	14	9.617	4.628	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-130 (D/S)	14	9.596	4.617	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-132	19	8.802	4.235	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-135 (D/S)	14	7.669	3.690	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-121 (D/S)	12	7.169	3.450	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-134 (D/S)	12	7.169	3.450	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-134	12	7.153	3.442	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-131 (D/S)	7	7.042	3.388	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-132 (D/S)	19	6.979	3.358	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-135 (BR/SE)	14	6.566	3.160	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-123	2	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-125	2	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-128	2	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-129	4	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-133	2	6.455	3.106	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-121 (BR/SE)	12	6.379	3.069	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-124	3	6.120	2.945	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-131	7	6.106	2.938	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	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:	***CD80A-5-FWH 22 to FWH 23 HEAD***								***Sorted By: Average Wear Rate***		
CD-126	1	5.770	2.777	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-121	12	5.717	2.751	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-129P	54	5.595	2.692	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-122 (D/S)	15	5.246	2.524	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-122	15	5.246	2.524	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-131P-1	58	4.841	2.329	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-124P	53	4.371	2.103	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-125P	52	4.371	2.103	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-128P	52	4.371	2.103	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-132P	69	4.362	2.099	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-126P	51	3.847	1.851	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-122P	65	3.497	1.683	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-121P	62	3.497	1.683	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-130P	62	3.489	1.679	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-127P	9	2.453	1.191	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-6-FWH 23 INLET HEADER***								***Sorted By: Average Wear Rate***		
CD-137	14	7.669	3.690	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-137 (BR/SE)	14	6.566	3.160	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-137 (D/S)	14	4.763	2.313	204.3	5.577	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-136 (D/S)	15	4.183	2.013	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-136	15	4.183	2.013	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-136P	65	2.789	1.342	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-7-HEADER to FWH 23A***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-16	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-141N	30	7.504	3.611	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-139	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-140	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-138 (BR/SE)	14	6.566	3.160	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-141	1	6.191	2.979	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-138	14	4.763	2.313	204.3	5.577	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-139P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-140P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-138P	64	3.752	1.805	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-137P	64	1.732	0.841	204.3	5.577	0.0	24.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-8-HEADER to FWH 23B***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-16-1	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-144N	30	7.504	3.611	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	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:	***CD80A-8-HEADER to FWH 23B***								***Sorted By: Average Wear Rate***		
CD-142	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-143	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-144	1	6.191	2.979	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-142P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-143P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-141P	64	3.752	1.805	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-9-HEADER to FWH 23C***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-16-2	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-147N	30	7.504	3.611	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-145	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-146	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-147	1	6.191	2.979	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-145P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-146P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-144P	64	3.752	1.805	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:54AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD80A-1-FWH 22A to HEADER***									***Sorted By: Flow Order***	
CD-101N	31	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-101P	61	5.065	2.437	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-102	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-102P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-8	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-103	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-104	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-104P	54	6.004	2.889	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-105	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-105P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-106	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-106P	54	6.004	2.889	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-107P	9	2.623	1.274	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-107	18	5.253	2.528	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-107 (D/S)	18	3.578	1.722	204.3	8.066	0.0	20.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-2-FWH 22B to HEADER***									***Sorted By: Flow Order***	
CD-108N	31	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-108P	61	5.065	2.437	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-109	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-109P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-110	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-111	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-8-1	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-111P	58	4.127	1.986	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-112	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-112P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-3-FWH 22C to HEADER***									***Sorted By: Flow Order***	
CD-113N	31	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-113P	61	5.065	2.437	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	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:	***CD80A-3-FWH 22C to HEADER***									***Sorted By: Flow Order***	
CD-114	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-114P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-115	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-116	4	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-116P	54	6.004	2.889	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-8-2	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-116P-1	58	4.127	1.986	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-117	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-117P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-4-FWH 22 OUTLET HEADER***									***Sorted By: Flow Order***	
CD-118T	12	4.890	2.353	204.3	8.066	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-118T (BR/SE)	12	6.379	3.069	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-118T (D/S)	12	7.211	3.470	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-118P	62	3.517	1.692	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-119P	9	2.440	1.185	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-120	18	4.924	2.369	204.3	16.155	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-120 (D/S)	18	4.183	2.013	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-5-FWH 22 to FWH 23 HEAD***									***Sorted By: Flow Order***	
CD-121 (BR/SE)	12	6.379	3.069	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-121	12	5.717	2.751	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-121 (D/S)	12	7.169	3.450	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-121P	62	3.497	1.683	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-122	15	5.246	2.524	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-122 (D/S)	15	5.246	2.524	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-122P	65	3.497	1.683	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-123	2	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-124	3	6.120	2.945	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-124P	53	4.371	2.103	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-125	2	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-125P	52	4.371	2.103	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-126	1	5.770	2.777	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-126P	51	3.847	1.851	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-127P	9	2.453	1.191	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-128	2	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-128P	52	4.371	2.103	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-129	4	6.470	3.113	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-129P	54	5.595	2.692	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-130	14	9.617	4.628	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	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:	***CD80A-5-FWH 22 to FWH 23 HEAD***									***Sorted By: Flow Order***	
CD-130 (D/S)	14	9.596	4.617	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-130P	62	3.489	1.679	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-131	7	6.106	2.938	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-131 (D/S)	7	7.042	3.388	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-1110	23	11.003	5.294	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-131P-1	58	4.841	2.329	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-132	19	8.802	4.235	204.3	24.124	0.0	20.000	7.015	0.000	'119.25'	HBD
CD-132 (D/S)	19	6.979	3.358	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-132P	69	4.362	2.099	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-133	2	6.455	3.106	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-134	12	7.153	3.442	204.3	16.679	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-134 (D/S)	12	7.169	3.450	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-135	14	9.617	4.628	204.3	16.746	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-135 (BR/SE)	14	6.566	3.160	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-135 (D/S)	14	7.669	3.690	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-6-FWH 23 INLET HEADER***									***Sorted By: Flow Order***	
CD-136 (D/S)	15	4.183	2.013	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-136P	65	2.789	1.342	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-137	14	7.669	3.690	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-137 (D/S)	14	4.763	2.313	204.3	5.577	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-137 (BR/SE)	14	6.566	3.160	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-136	15	4.183	2.013	204.3	11.170	0.0	24.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-7-HEADER to FWH 23A***									***Sorted By: Flow Order***	
CD-137P	64	1.732	0.841	204.3	5.577	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-138	14	4.763	2.313	204.3	5.577	0.0	24.000	7.015	0.000	'119.25'	HBD
CD-138 (BR/SE)	14	6.566	3.160	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-138P	64	3.752	1.805	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-139	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-139P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-16	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-140	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-140P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-141	1	6.191	2.979	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-141N	30	7.504	3.611	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-8-HEADER to FWH 23B***									***Sorted By: Flow Order***	
CD-141P	64	3.752	1.805	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-142	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	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:	***CD80A-8-HEADER to FWH 23B***									***Sorted By: Flow Order***	
CD-142P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-16-1	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-143	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-143P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-144	1	6.191	2.979	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-144N	30	7.504	3.611	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
===>Grouped by Line:	***CD80A-9-HEADER to FWH 23C***									***Sorted By: Flow Order***	
CD-144P	64	3.752	1.805	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-145	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-145P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-VALVE-CD-16-2	22	9.380	4.514	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-146	2	6.942	3.340	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-146P	52	4.690	2.257	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-147	1	6.191	2.979	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD
CD-147N	30	7.504	3.611	204.3	16.572	0.0	14.000	7.015	0.000	'119.25'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:54AM

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD80A-1-FWH 22A to HEADER**					***Sorted By:Remaining Life***		
CD-VALVE-CD-8	0.000	0.199	0.326	0.326	-142,531	No	222,946
CD-102	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-106	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-105	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-106P	0.000	0.285	0.305	0.305	-58,423	No	222,946
CD-107	0.000	0.304	0.305	0.305	-2,144	No	222,946
CD-102P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-105P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-101P	0.000	0.358	0.305	0.305	189,077	Yes	222,946
CD-101N	0.000	0.409	0.305	0.305	202,612	No	222,946
CD-104P	0.000	0.378	0.305	0.305	222,018	Yes	222,946
CD-107 (D/S)	0.000	0.503	0.436	0.436	342,543	No	222,946
CD-107P	0.000	0.371	0.305	0.305	456,042	No	222,946
CD-103	0.000	0.481	0.305	0.305	460,735	Yes	222,946
CD-104	0.000	0.499	0.305	0.305	507,943	Yes	222,946
===>Grouped by Line: **CD80A-2-FWH 22B to HEADER**					***Sorted By:Remaining Life***		
CD-VALVE-CD-8-1	0.000	0.199	0.326	0.326	-142,531	No	222,946
CD-108N	0.000	0.199	0.305	0.305	-127,143	No	222,946
CD-110	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-109	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-111	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-112	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-108P	0.000	0.309	0.305	0.305	14,937	No	222,946
CD-109P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-112P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-111P	0.000	0.333	0.305	0.305	123,636	No	222,946
===>Grouped by Line: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Remaining Life***		
CD-VALVE-CD-8-2	0.000	0.199	0.326	0.326	-142,531	No	222,946
CD-113N	0.000	0.199	0.305	0.305	-127,143	No	222,946

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: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Remaining Life***		
CD-114	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-117	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-116P	0.000	0.285	0.305	0.305	-58,423	No	222,946
CD-113P	0.000	0.309	0.305	0.305	14,937	No	222,946
CD-114P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-117P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-116P-1	0.000	0.333	0.305	0.305	123,636	No	222,946
CD-115	0.000	0.454	0.305	0.305	390,948	Yes	222,946
CD-116	0.000	0.456	0.305	0.305	396,193	Yes	222,946
===>Grouped by Line: **CD80A-4-FWH 22 OUTLET HEADER**					***Sorted By:Remaining Life***		
CD-120	0.000	0.469	0.436	0.436	122,252	No	222,946
CD-120 (D/S)	0.000	0.582	0.523	0.523	255,948	No	222,946
CD-118T (D/S)	0.000	0.547	0.436	0.436	282,369	Yes	222,946
CD-118T (BR/SE)	0.000	0.419	0.305	0.305	324,943	Yes	222,946
CD-118P	0.000	0.504	0.436	0.436	356,489	No	222,946
CD-118T	0.000	0.550	0.436	0.436	426,469	Yes	222,946
CD-119P	0.000	0.532	0.436	0.436	711,828	No	222,946
===>Grouped by Line: **CD80A-5-FWH 22 to FWH 23 HEAD**					***Sorted By:Remaining Life***		
CD-VALVE-CD-1110	0.000	0.314	0.466	0.466	-144,469	No	222,946
CD-130	0.000	0.443	0.523	0.523	-106,893	No	222,946
CD-135	0.000	0.443	0.523	0.523	-106,893	No	222,946
CD-130 (D/S)	0.000	0.444	0.523	0.523	-106,633	No	222,946
CD-132	0.000	0.370	0.436	0.436	-101,423	No	222,946
CD-135 (BR/SE)	0.000	0.271	0.305	0.305	-85,884	No	222,946
CD-121 (BR/SE)	0.000	0.276	0.305	0.305	-78,672	No	222,946
CD-135 (D/S)	0.000	0.493	0.523	0.523	-69,051	No	222,946
CD-131 (D/S)	0.000	0.415	0.436	0.436	-52,688	No	222,946
CD-121 (D/S)	0.000	0.506	0.523	0.523	-42,981	No	222,946
CD-134 (D/S)	0.000	0.506	0.523	0.523	-42,981	No	222,946
CD-134	0.000	0.506	0.523	0.523	-42,083	No	222,946
CD-132 (D/S)	0.000	0.510	0.523	0.523	-32,054	No	222,946
CD-123	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-125	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-128	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-129	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-133	0.000	0.524	0.523	0.523	2,764	No	222,946
CD-124	0.000	0.532	0.523	0.523	28,295	No	222,946
CD-131	0.000	0.533	0.523	0.523	29,398	No	222,946
CD-126	0.000	0.541	0.523	0.523	58,091	No	222,946

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: **CD80A-5-FWH 22 to FWH 23 HEAD**					***Sorted By:Remaining Life***		
CD-121	0.000	0.543	0.523	0.523	62,969	No	222,946
CD-129P	0.000	0.546	0.523	0.523	74,386	No	222,946
CD-122	0.000	0.554	0.523	0.523	110,234	No	222,946
CD-122 (D/S)	0.000	0.554	0.523	0.523	110,234	No	222,946
CD-131P-1	0.000	0.471	0.436	0.436	132,309	No	222,946
CD-124P	0.000	0.577	0.523	0.523	224,948	No	222,946
CD-125P	0.000	0.577	0.523	0.523	224,948	No	222,946
CD-128P	0.000	0.577	0.523	0.523	224,948	No	222,946
CD-132P	0.000	0.577	0.523	0.523	226,492	No	222,946
CD-126P	0.000	0.590	0.523	0.523	318,806	No	222,946
CD-121P	0.000	0.599	0.523	0.523	397,020	No	222,946
CD-122P	0.000	0.599	0.523	0.523	397,020	No	222,946
CD-130P	0.000	0.599	0.523	0.523	398,950	No	222,946
CD-127P	0.000	0.626	0.523	0.523	756,499	No	222,946
===>Grouped by Line: **CD80A-6-FWH 23 INLET HEADER**					***Sorted By:Remaining Life***		
CD-137 (BR/SE)	0.000	0.271	0.305	0.305	-85,884	No	222,946
CD-137	0.000	0.493	0.523	0.523	-69,051	No	222,946
CD-137 (D/S)	0.000	0.567	0.523	0.523	166,805	No	222,946
CD-136	0.000	0.582	0.523	0.523	255,948	No	222,946
CD-136 (D/S)	0.000	0.582	0.523	0.523	255,948	No	222,946
CD-136P	0.000	0.617	0.523	0.523	615,591	No	222,946
===>Grouped by Line: **CD80A-7-HEADER to FWH 23A**					***Sorted By:Remaining Life***		
CD-VALVE-CD-16	0.000	0.199	0.305	0.305	-127,196	No	222,946
CD-141N	0.000	0.247	0.305	0.305	-103,259	No	222,946
CD-139	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-140	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-138 (BR/SE)	0.000	0.271	0.305	0.305	-85,884	No	222,946
CD-141	0.000	0.280	0.305	0.305	-70,226	No	222,946
CD-139P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-140P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-138	0.000	0.567	0.523	0.523	166,805	No	222,946
CD-138P	0.000	0.343	0.305	0.305	181,974	No	222,946
CD-137P	0.000	0.644	0.523	0.523	1,262,191	No	222,946
===>Grouped by Line: **CD80A-8-HEADER to FWH 23B**					***Sorted By:Remaining Life***		
CD-VALVE-CD-16-1	0.000	0.199	0.305	0.305	-127,196	No	222,946
CD-144N	0.000	0.247	0.305	0.305	-103,259	No	222,946
CD-142	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-143	0.000	0.261	0.305	0.305	-93,554	No	222,946

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: **CD80A-8-HEADER to FWH 23B**					***Sorted By:Remaining Life***		
CD-144	0.000	0.280	0.305	0.305	-70,226	No	222,946
CD-142P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-143P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-141P	0.000	0.343	0.305	0.305	181,974	No	222,946
===>Grouped by Line: **CD80A-9-HEADER to FWH 23C**					***Sorted By:Remaining Life***		
CD-VALVE-CD-16-2	0.000	0.199	0.305	0.305	-127,196	No	222,946
CD-145	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-145P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-144P	0.000	0.343	0.305	0.305	181,974	No	222,946
CD-146	0.000	0.458	0.305	0.305	400,638	Yes	222,946
CD-146P	0.000	0.409	0.305	0.305	405,254	Yes	222,946
CD-147	0.000	0.493	0.305	0.305	552,754	Yes	222,946
CD-147N	0.000	0.573	0.305	0.305	649,793	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:24:54AM

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD80A-1-FWH 22A to HEADER**					***Sorted By:Flow Order***		
CD-101N	0.000	0.409	0.305	0.305	202,612	No	222,946
CD-101P	0.000	0.358	0.305	0.305	189,077	Yes	222,946
CD-102	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-102P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-VALVE-CD-8	0.000	0.199	0.326	0.326	-142,531	No	222,946
CD-103	0.000	0.481	0.305	0.305	460,735	Yes	222,946
CD-104	0.000	0.499	0.305	0.305	507,943	Yes	222,946
CD-104P	0.000	0.378	0.305	0.305	222,018	Yes	222,946
CD-105	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-105P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-106	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-106P	0.000	0.285	0.305	0.305	-58,423	No	222,946
CD-107P	0.000	0.371	0.305	0.305	456,042	No	222,946
CD-107	0.000	0.304	0.305	0.305	-2,144	No	222,946
CD-107 (D/S)	0.000	0.503	0.436	0.436	342,543	No	222,946
===>Grouped by Line: **CD80A-2-FWH 22B to HEADER**					***Sorted By:Flow Order***		
CD-108N	0.000	0.199	0.305	0.305	-127,143	No	222,946
CD-108P	0.000	0.309	0.305	0.305	14,937	No	222,946
CD-109	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-109P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-110	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-111	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-VALVE-CD-8-1	0.000	0.199	0.326	0.326	-142,531	No	222,946
CD-111P	0.000	0.333	0.305	0.305	123,636	No	222,946
CD-112	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-112P	0.000	0.319	0.305	0.305	53,199	No	222,946
===>Grouped by Line: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Flow Order***		
CD-113N	0.000	0.199	0.305	0.305	-127,143	No	222,946
CD-113P	0.000	0.309	0.305	0.305	14,937	No	222,946

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: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Flow Order***		
CD-114	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-114P	0.000	0.319	0.305	0.305	53,199	No	222,946
CD-115	0.000	0.454	0.305	0.305	390,948	Yes	222,946
CD-116	0.000	0.456	0.305	0.305	396,193	Yes	222,946
CD-116P	0.000	0.285	0.305	0.305	-58,423	No	222,946
CD-VALVE-CD-8-2	0.000	0.199	0.326	0.326	-142,531	No	222,946
CD-116P-1	0.000	0.333	0.305	0.305	123,636	No	222,946
CD-117	0.000	0.261	0.305	0.305	-93,482	No	222,946
CD-117P	0.000	0.319	0.305	0.305	53,199	No	222,946
===>Grouped by Line: **CD80A-4-FWH 22 OUTLET HEADER**					***Sorted By:Flow Order***		
CD-118T	0.000	0.550	0.436	0.436	426,469	Yes	222,946
CD-118T (BR/SE)	0.000	0.419	0.305	0.305	324,943	Yes	222,946
CD-118T (D/S)	0.000	0.547	0.436	0.436	282,369	Yes	222,946
CD-118P	0.000	0.504	0.436	0.436	356,489	No	222,946
CD-119P	0.000	0.532	0.436	0.436	711,828	No	222,946
CD-120	0.000	0.469	0.436	0.436	122,252	No	222,946
CD-120 (D/S)	0.000	0.582	0.523	0.523	255,948	No	222,946
===>Grouped by Line: **CD80A-5-FWH 22 to FWH 23 HEAD**					***Sorted By:Flow Order***		
CD-121 (BR/SE)	0.000	0.276	0.305	0.305	-78,672	No	222,946
CD-121	0.000	0.543	0.523	0.523	62,969	No	222,946
CD-121 (D/S)	0.000	0.506	0.523	0.523	-42,981	No	222,946
CD-121P	0.000	0.599	0.523	0.523	397,020	No	222,946
CD-122	0.000	0.554	0.523	0.523	110,234	No	222,946
CD-122 (D/S)	0.000	0.554	0.523	0.523	110,234	No	222,946
CD-122P	0.000	0.599	0.523	0.523	397,020	No	222,946
CD-123	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-124	0.000	0.532	0.523	0.523	28,295	No	222,946
CD-124P	0.000	0.577	0.523	0.523	224,948	No	222,946
CD-125	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-125P	0.000	0.577	0.523	0.523	224,948	No	222,946
CD-126	0.000	0.541	0.523	0.523	58,091	No	222,946
CD-126P	0.000	0.590	0.523	0.523	318,806	No	222,946
CD-127P	0.000	0.626	0.523	0.523	756,499	No	222,946
CD-128	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-128P	0.000	0.577	0.523	0.523	224,948	No	222,946
CD-129	0.000	0.523	0.523	0.523	1,720	No	222,946
CD-129P	0.000	0.546	0.523	0.523	74,386	No	222,946
CD-130	0.000	0.443	0.523	0.523	-106,893	No	222,946
CD-130 (D/S)	0.000	0.444	0.523	0.523	-106,633	No	222,946

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:	**CD80A-5-FWH 22 to FWH 23 HEAD**				***Sorted By:Flow Order***		
CD-130P	0.000	0.599	0.523	0.523	398,950	No	222,946
CD-131	0.000	0.533	0.523	0.523	29,398	No	222,946
CD-131 (D/S)	0.000	0.415	0.436	0.436	-52,688	No	222,946
CD-VALVE-CD-1110	0.000	0.314	0.466	0.466	-144,469	No	222,946
CD-131P-1	0.000	0.471	0.436	0.436	132,309	No	222,946
CD-132	0.000	0.370	0.436	0.436	-101,423	No	222,946
CD-132 (D/S)	0.000	0.510	0.523	0.523	-32,054	No	222,946
CD-132P	0.000	0.577	0.523	0.523	226,492	No	222,946
CD-133	0.000	0.524	0.523	0.523	2,764	No	222,946
CD-134	0.000	0.506	0.523	0.523	-42,083	No	222,946
CD-134 (D/S)	0.000	0.506	0.523	0.523	-42,981	No	222,946
CD-135	0.000	0.443	0.523	0.523	-106,893	No	222,946
CD-135 (BR/SE)	0.000	0.271	0.305	0.305	-85,884	No	222,946
CD-135 (D/S)	0.000	0.493	0.523	0.523	-69,051	No	222,946
===>Grouped by Line:	**CD80A-6-FWH 23 INLET HEADER**				***Sorted By:Flow Order***		
CD-136 (D/S)	0.000	0.582	0.523	0.523	255,948	No	222,946
CD-136P	0.000	0.617	0.523	0.523	615,591	No	222,946
CD-137	0.000	0.493	0.523	0.523	-69,051	No	222,946
CD-137 (D/S)	0.000	0.567	0.523	0.523	166,805	No	222,946
CD-137 (BR/SE)	0.000	0.271	0.305	0.305	-85,884	No	222,946
CD-136	0.000	0.582	0.523	0.523	255,948	No	222,946
===>Grouped by Line:	**CD80A-7-HEADER to FWH 23A**				***Sorted By:Flow Order***		
CD-137P	0.000	0.644	0.523	0.523	1,262,191	No	222,946
CD-138	0.000	0.567	0.523	0.523	166,805	No	222,946
CD-138 (BR/SE)	0.000	0.271	0.305	0.305	-85,884	No	222,946
CD-138P	0.000	0.343	0.305	0.305	181,974	No	222,946
CD-139	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-139P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-VALVE-CD-16	0.000	0.199	0.305	0.305	-127,196	No	222,946
CD-140	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-140P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-141	0.000	0.280	0.305	0.305	-70,226	No	222,946
CD-141N	0.000	0.247	0.305	0.305	-103,259	No	222,946
===>Grouped by Line:	**CD80A-8-HEADER to FWH 23B**				***Sorted By:Flow Order***		
CD-141P	0.000	0.343	0.305	0.305	181,974	No	222,946
CD-142	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-142P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-VALVE-CD-16-1	0.000	0.199	0.305	0.305	-127,196	No	222,946

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: **CD80A-8-HEADER to FWH 23B**					***Sorted By:Flow Order***		
CD-143	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-143P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-144	0.000	0.280	0.305	0.305	-70,226	No	222,946
CD-144N	0.000	0.247	0.305	0.305	-103,259	No	222,946
===>Grouped by Line: **CD80A-9-HEADER to FWH 23C**					***Sorted By:Flow Order***		
CD-144P	0.000	0.343	0.305	0.305	181,974	No	222,946
CD-145	0.000	0.261	0.305	0.305	-93,554	No	222,946
CD-145P	0.000	0.319	0.305	0.305	52,912	No	222,946
CD-VALVE-CD-16-2	0.000	0.199	0.305	0.305	-127,196	No	222,946
CD-146	0.000	0.458	0.305	0.305	400,638	Yes	222,946
CD-146P	0.000	0.409	0.305	0.305	405,254	Yes	222,946
CD-147	0.000	0.493	0.305	0.305	552,754	Yes	222,946
CD-147N	0.000	0.573	0.305	0.305	649,793	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:25:04AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD80-1-FWH 23A to FWH 24A***								***Sorted By: Average Wear Rate***		
CD-11N	31	14.493	7.010	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-41N	30	11.594	5.608	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-11	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-12	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-2	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-5	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-1	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-17	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-41	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-12P	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-2P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-5P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-1P	51	6.377	3.085	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-17P	51	6.377	3.085	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
===>Grouped by Line:	***CD80-2-FWH 23B to FWH 24B***								***Sorted By: Average Wear Rate***		
CD-14N	31	14.493	7.010	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-42N	30	11.594	5.608	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-14	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-13	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-3	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-4	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-19	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-42	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-13P US	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-4P	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-19P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
===>Grouped by Line:	***CD80-3-FWH 23C to FWH 24C***								***Sorted By: Average Wear Rate***		
CD-16N	31	14.493	7.010	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-43N	30	11.594	5.608	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	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:	***CD80-3-FWH 23C to FWH 24C***								***Sorted By: Average Wear Rate***		
CD-16	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-15	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-39	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-40	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-22	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-43	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-15P US	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-40P	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-22P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:04AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD80-1-FWH 23A to FWH 24A***									***Sorted By: Flow Order***	
CD-11N	31	14.493	7.010	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-11	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-12	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-12P	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-1	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-1P	51	6.377	3.085	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-2	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-2P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-17	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-17P	51	6.377	3.085	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-5	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-5P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-41	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-41N	30	11.594	5.608	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
===>Grouped by Line:	***CD80-2-FWH 23B to FWH 24B***									***Sorted By: Flow Order***	
CD-14N	31	14.493	7.010	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-14	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-13	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-13P US	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-3	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-4	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-4P	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-19	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-19P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-42	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-42N	30	11.594	5.608	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
===>Grouped by Line:	***CD80-3-FWH 23C to FWH 24C***									***Sorted By: Flow Order***	
CD-16N	31	14.493	7.010	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-16	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	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:	***CD80-3-FWH 23C to FWH 24C***									***Sorted By: Flow Order***	
CD-15	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-15P US	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-39	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-40	4	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-40P	54	9.275	4.487	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-22	2	10.725	5.188	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-22P	52	7.246	3.505	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-43	1	9.565	4.627	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD
CD-43N	30	11.594	5.608	255.5	16.955	0.0	14.000	7.015	0.000	'116.92'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:04AM

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD80-1-FWH 23A to FWH 24A**					***Sorted By:Remaining Life***		
CD-41N	0.000	0.143	0.305	0.305	-145,461	No	222,946
CD-5	0.000	0.165	0.305	0.305	-139,179	No	222,946
CD-17	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-41	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-1	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-5P	0.000	0.254	0.305	0.305	-98,971	No	222,946
CD-17P	0.000	0.276	0.305	0.305	-78,682	No	222,946
CD-1P	0.000	0.276	0.305	0.305	-78,682	No	222,946
CD-12P	0.000	0.341	0.305	0.305	69,576	Yes	222,946
CD-12	0.000	0.349	0.305	0.305	74,833	Yes	222,946
CD-11	0.000	0.353	0.305	0.305	81,559	Yes	222,946
CD-2	0.000	0.357	0.305	0.305	87,348	Yes	222,946
CD-2P	0.000	0.341	0.305	0.305	91,394	Yes	222,946
CD-11N	0.000	0.472	0.305	0.305	208,783	No	222,946
===>Grouped by Line: **CD80-2-FWH 23B to FWH 24B**					***Sorted By:Remaining Life***		
CD-3	0.000	0.165	0.305	0.305	-139,179	No	222,946
CD-4P	0.000	0.202	0.305	0.305	-126,090	No	222,946
CD-4	0.000	0.369	0.305	0.305	107,612	Yes	222,946
CD-13P US	0.000	0.363	0.305	0.305	112,556	Yes	222,946
CD-42	0.000	0.371	0.305	0.305	124,688	Yes	222,946
CD-13	0.000	0.388	0.305	0.305	139,555	Yes	222,946
CD-42N	0.000	0.402	0.305	0.305	151,738	No	222,946
CD-14N	0.000	0.459	0.305	0.305	192,478	No	222,946
CD-14	0.000	0.420	0.305	0.305	193,591	Yes	222,946
CD-19P	0.000	0.397	0.305	0.305	230,925	Yes	222,946
CD-19	0.000	0.446	0.305	0.305	238,375	Yes	222,946
===>Grouped by Line: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Remaining Life***		
CD-43	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-22P	0.000	0.254	0.305	0.305	-98,971	No	222,946

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: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Remaining Life***		
CD-15P US	0.000	0.361	0.305	0.305	108,651	Yes	222,946
CD-15	0.000	0.404	0.305	0.305	166,573	Yes	222,946
CD-43N	0.000	0.414	0.305	0.305	171,006	No	222,946
CD-22	0.000	0.407	0.305	0.305	172,518	Yes	222,946
CD-16	0.000	0.416	0.305	0.305	186,837	Yes	222,946
CD-40	0.000	0.421	0.305	0.305	196,606	Yes	222,946
CD-40P	0.000	0.414	0.305	0.305	212,457	Yes	222,946
CD-16N	0.000	0.485	0.305	0.305	224,968	No	222,946
CD-39	0.000	0.438	0.305	0.305	225,313	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:04AM

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD80-1-FWH 23A to FWH 24A**					***Sorted By:Flow Order***		
CD-11N	0.000	0.472	0.305	0.305	208,783	No	222,946
CD-11	0.000	0.353	0.305	0.305	81,559	Yes	222,946
CD-12	0.000	0.349	0.305	0.305	74,833	Yes	222,946
CD-12P	0.000	0.341	0.305	0.305	69,576	Yes	222,946
CD-1	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-1P	0.000	0.276	0.305	0.305	-78,682	No	222,946
CD-2	0.000	0.357	0.305	0.305	87,348	Yes	222,946
CD-2P	0.000	0.341	0.305	0.305	91,394	Yes	222,946
CD-17	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-17P	0.000	0.276	0.305	0.305	-78,682	No	222,946
CD-5	0.000	0.165	0.305	0.305	-139,179	No	222,946
CD-5P	0.000	0.254	0.305	0.305	-98,971	No	222,946
CD-41	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-41N	0.000	0.143	0.305	0.305	-145,461	No	222,946
===>Grouped by Line: **CD80-2-FWH 23B to FWH 24B**					***Sorted By:Flow Order***		
CD-14N	0.000	0.459	0.305	0.305	192,478	No	222,946
CD-14	0.000	0.420	0.305	0.305	193,591	Yes	222,946
CD-13	0.000	0.388	0.305	0.305	139,555	Yes	222,946
CD-13P US	0.000	0.363	0.305	0.305	112,556	Yes	222,946
CD-3	0.000	0.165	0.305	0.305	-139,179	No	222,946
CD-4	0.000	0.369	0.305	0.305	107,612	Yes	222,946
CD-4P	0.000	0.202	0.305	0.305	-126,090	No	222,946
CD-19	0.000	0.446	0.305	0.305	238,375	Yes	222,946
CD-19P	0.000	0.397	0.305	0.305	230,925	Yes	222,946
CD-42	0.000	0.371	0.305	0.305	124,688	Yes	222,946
CD-42N	0.000	0.402	0.305	0.305	151,738	No	222,946
===>Grouped by Line: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Flow Order***		
CD-16N	0.000	0.485	0.305	0.305	224,968	No	222,946
CD-16	0.000	0.416	0.305	0.305	186,837	Yes	222,946

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: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Flow Order***		
CD-15	0.000	0.404	0.305	0.305	166,573	Yes	222,946
CD-15P US	0.000	0.361	0.305	0.305	108,651	Yes	222,946
CD-39	0.000	0.438	0.305	0.305	225,313	Yes	222,946
CD-40	0.000	0.421	0.305	0.305	196,606	Yes	222,946
CD-40P	0.000	0.414	0.305	0.305	212,457	Yes	222,946
CD-22	0.000	0.407	0.305	0.305	172,518	Yes	222,946
CD-22P	0.000	0.254	0.305	0.305	-98,971	No	222,946
CD-43	0.000	0.195	0.305	0.305	-129,025	No	222,946
CD-43N	0.000	0.414	0.305	0.305	171,006	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:25:15AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD81-1-FWH 24A to FWH 25A***								***Sorted By: Average Wear Rate***		
CD-37N	31	17.291	8.269	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-56N	30	13.833	6.615	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-37	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-18	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-46	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-47	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-48	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-28	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-56	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-18P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-48P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-46P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-47P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-28P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
===>Grouped by Line:	***CD81-2-FWH 24B to FWH 25B***								***Sorted By: Average Wear Rate***		
CD-21N	31	17.291	8.269	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-44N	30	13.833	6.615	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-21	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-20	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-49	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-51	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-52	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-29	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-50	3	12.104	5.788	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-57	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-44	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-20P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-52P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-29P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	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:	***CD81-2-FWH 24B to FWH 25B***								***Sorted By: Average Wear Rate***		
CD-50P	53	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-51P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
===>Grouped by Line:	***CD81-3-FWH 24C to FWH 25C***								***Sorted By: Average Wear Rate***		
CD-24N	31	17.291	8.269	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-45N	30	13.833	6.615	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-24	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-23	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-53	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-54	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-55	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-30	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-45	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-23P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-53P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-54P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-55P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-30P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:15AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD81-1-FWH 24A to FWH 25A***									***Sorted By: Flow Order***	
CD-37N	31	17.291	8.269	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-37	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-18	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-18P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-46	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-46P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-47	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-47P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-48	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-48P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-28	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-28P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-56	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-56N	30	13.833	6.615	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
===>Grouped by Line:	***CD81-2-FWH 24B to FWH 25B***									***Sorted By: Flow Order***	
CD-21N	31	17.291	8.269	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-21	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-20	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-20P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-49	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-50	3	12.104	5.788	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-50P	53	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-51	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-51P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-52	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-52P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-57	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-29	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-29P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	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:	***CD81-2-FWH 24B to FWH 25B***									***Sorted By: Flow Order***	
CD-44	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-44N	30	13.833	6.615	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
===>Grouped by Line:	***CD81-3-FWH 24C to FWH 25C***									***Sorted By: Flow Order***	
CD-24N	31	17.291	8.269	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-24	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-23	4	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-23P	54	11.066	5.292	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-53	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-53P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-54	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-54P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-55	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-55P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-30	2	12.795	6.119	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-30P	52	8.645	4.134	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-45	1	11.412	5.457	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD
CD-45N	30	13.833	6.615	300.5	17.360	0.0	14.000	7.015	0.000	'114.14'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:15AM

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD81-1-FWH 24A to FWH 25A**					***Sorted By:Remaining Life***		
CD-37N	0.000	-0.002	0.305	0.305	-171,010	No	222,946
CD-28	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-48	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-47	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-48P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-28P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-47P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-37	0.000	0.315	0.305	0.305	14,651	Yes	222,946
CD-18P	0.000	0.316	0.305	0.305	17,754	Yes	222,946
CD-18	0.000	0.326	0.305	0.305	29,578	Yes	222,946
CD-46	0.000	0.330	0.305	0.305	36,126	Yes	222,946
CD-46P	0.000	0.332	0.305	0.305	56,392	Yes	222,946
CD-56	0.000	0.393	0.305	0.305	141,081	Yes	222,946
CD-56N	0.000	0.468	0.305	0.305	215,702	No	222,946
===>Grouped by Line: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Remaining Life***		
CD-44N	0.000	0.086	0.305	0.305	-158,026	No	222,946
CD-52	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-29	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-49	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-57	0.000	0.148	0.305	0.305	-144,255	No	222,946
CD-44	0.000	0.148	0.305	0.305	-144,255	No	222,946
CD-52P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-29P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-20P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-51	0.000	0.304	0.305	0.305	-1,918	Yes	222,946
CD-21N	0.000	0.314	0.305	0.305	9,583	Yes	222,946
CD-50	0.000	0.330	0.305	0.305	38,420	Yes	222,946
CD-51P	0.000	0.332	0.305	0.305	57,231	Yes	222,946
CD-21	0.000	0.368	0.305	0.305	90,843	Yes	222,946
CD-50P	0.000	0.390	0.305	0.305	180,346	No	222,946

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: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Remaining Life***		
CD-20	0.000	0.446	0.305	0.305	201,422	Yes	222,946
===>Grouped by Line: **CD81-3-FWH 24C to FWH 25C**					***Sorted By:Remaining Life***		
CD-54	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-55	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-45	0.000	0.148	0.305	0.305	-144,255	No	222,946
CD-53P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-54P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-30P	0.000	0.351	0.305	0.305	96,650	Yes	222,946
CD-24N	0.000	0.409	0.305	0.305	110,346	No	222,946
CD-55P	0.000	0.360	0.305	0.305	115,719	Yes	222,946
CD-53	0.000	0.390	0.305	0.305	121,250	Yes	222,946
CD-24	0.000	0.393	0.305	0.305	125,545	Yes	222,946
CD-23P	0.000	0.392	0.305	0.305	143,457	Yes	222,946
CD-23	0.000	0.454	0.305	0.305	212,876	Yes	222,946
CD-45N	0.000	0.466	0.305	0.305	213,659	No	222,946
CD-30	0.000	0.471	0.305	0.305	237,506	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:15AM

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD81-1-FWH 24A to FWH 25A**					***Sorted By:Flow Order***		
CD-37N	0.000	-0.002	0.305	0.305	-171,010	No	222,946
CD-37	0.000	0.315	0.305	0.305	14,651	Yes	222,946
CD-18	0.000	0.326	0.305	0.305	29,578	Yes	222,946
CD-18P	0.000	0.316	0.305	0.305	17,754	Yes	222,946
CD-46	0.000	0.330	0.305	0.305	36,126	Yes	222,946
CD-46P	0.000	0.332	0.305	0.305	56,392	Yes	222,946
CD-47	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-47P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-48	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-48P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-28	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-28P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-56	0.000	0.393	0.305	0.305	141,081	Yes	222,946
CD-56N	0.000	0.468	0.305	0.305	215,702	No	222,946
===>Grouped by Line: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Flow Order***		
CD-21N	0.000	0.314	0.305	0.305	9,583	Yes	222,946
CD-21	0.000	0.368	0.305	0.305	90,843	Yes	222,946
CD-20	0.000	0.446	0.305	0.305	201,422	Yes	222,946
CD-20P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-49	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-50	0.000	0.330	0.305	0.305	38,420	Yes	222,946
CD-50P	0.000	0.390	0.305	0.305	180,346	No	222,946
CD-51	0.000	0.304	0.305	0.305	-1,918	Yes	222,946
CD-51P	0.000	0.332	0.305	0.305	57,231	Yes	222,946
CD-52	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-52P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-57	0.000	0.148	0.305	0.305	-144,255	No	222,946
CD-29	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-29P	0.000	0.156	0.305	0.305	-141,796	No	222,946
CD-44	0.000	0.148	0.305	0.305	-144,255	No	222,946

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: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Flow Order***		
CD-44N	0.000	0.086	0.305	0.305	-158,026	No	222,946
===>Grouped by Line: **CD81-3-FWH 24C to FWH 25C**					***Sorted By:Flow Order***		
CD-24N	0.000	0.409	0.305	0.305	110,346	No	222,946
CD-24	0.000	0.393	0.305	0.305	125,545	Yes	222,946
CD-23	0.000	0.454	0.305	0.305	212,876	Yes	222,946
CD-23P	0.000	0.392	0.305	0.305	143,457	Yes	222,946
CD-53	0.000	0.390	0.305	0.305	121,250	Yes	222,946
CD-53P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-54	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-54P	0.000	0.218	0.305	0.305	-119,075	No	222,946
CD-55	0.000	0.112	0.305	0.305	-152,762	No	222,946
CD-55P	0.000	0.360	0.305	0.305	115,719	Yes	222,946
CD-30	0.000	0.471	0.305	0.305	237,506	Yes	222,946
CD-30P	0.000	0.351	0.305	0.305	96,650	Yes	222,946
CD-45	0.000	0.148	0.305	0.305	-144,255	No	222,946
CD-45N	0.000	0.466	0.305	0.305	213,659	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:25:25AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD82-1-FWH 25A to HDR***								***Sorted By: Average Wear Rate***		
CD-32N	31	13.607	5.987	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-VALVE-CD-18	22	13.444	5.915	382.4	17.949	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-32	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-60	2	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61R	18	7.620	3.353	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-60P	52	6.803	2.993	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31P-1 US	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31P-1 DS	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61R (D/S)	18	3.881	1.724	382.4	6.156	0.0	24.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-2-FWH 25B to HDR***								***Sorted By: Average Wear Rate***		
CD-34N	31	13.607	5.987	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-VALVE-CD-18-1	22	13.444	5.915	382.4	17.949	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-34	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-62	2	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-62P	52	6.803	2.993	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33P-1 US	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33P-1 DS	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-3-FWH 25C to HDR***								***Sorted By: Average Wear Rate***		
CD-36N	31	13.607	5.987	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-VALVE-CD-18-2	22	13.444	5.915	382.4	17.949	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-36	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-35	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-63	2	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	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:	***CD82-3-FWH 25C to HDR***								***Sorted By: Average Wear Rate***		
CD-58	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-35P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-58P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-35P-1	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-4-HDR 25BT to 25CT***								***Sorted By: Average Wear Rate***		
CD-62T (BR/SE)	12	9.252	4.071	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-62T (D/S)	12	8.292	3.649	382.4	12.331	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-62T	12	5.304	2.356	382.4	6.156	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-62P-1	62	4.045	1.780	382.4	12.331	0.0	24.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-5-HDR 25CT to HDP OUT***								***Sorted By: Average Wear Rate***		
CD-59T (D/S)	12	10.399	4.575	382.4	18.488	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59	4	9.385	4.129	382.4	18.488	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59T (BR/SE)	12	9.252	4.071	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-80T (BR/SE)	12	8.623	3.794	382.4	18.485	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59T	12	8.292	3.649	382.4	12.331	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59P	54	8.116	3.571	382.4	18.488	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-80T	12	7.693	3.385	382.4	11.450	0.0	30.000	6.777	0.000	'106.45'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:25AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***CD82-1-FWH 25A to HDR***									***Sorted By: Flow Order***	
CD-32N	31	13.607	5.987	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-32	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-VALVE-CD-18	22	13.444	5.915	382.4	17.949	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31P-1 US	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-31P-1 DS	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-60	2	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-60P	52	6.803	2.993	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61R	18	7.620	3.353	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-61R (D/S)	18	3.881	1.724	382.4	6.156	0.0	24.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-2-FWH 25B to HDR***									***Sorted By: Flow Order***	
CD-34N	31	13.607	5.987	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-34	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-VALVE-CD-18-1	22	13.444	5.915	382.4	17.949	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33P-1 US	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-33P-1 DS	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-62	2	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-62P	52	6.803	2.993	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-3-FWH 25C to HDR***									***Sorted By: Flow Order***	
CD-36N	31	13.607	5.987	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-36	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-35	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-35P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-VALVE-CD-18-2	22	13.444	5.915	382.4	17.949	0.0	14.000	6.777	0.000	'106.45'	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:	***CD82-3-FWH 25C to HDR***									***Sorted By: Flow Order***	
CD-35P-1	58	5.987	2.634	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-63	2	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-58	4	10.069	4.430	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-58P	54	8.708	3.831	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-4-HDR 25BT to 25CT***									***Sorted By: Flow Order***	
CD-62T	12	5.304	2.356	382.4	6.156	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-62T (BR/SE)	12	9.252	4.071	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-62T (D/S)	12	8.292	3.649	382.4	12.331	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-62P-1	62	4.045	1.780	382.4	12.331	0.0	24.000	6.777	0.000	'106.45'	HBD
===>Grouped by Line:	***CD82-5-HDR 25CT to HDP OUT***									***Sorted By: Flow Order***	
CD-59T (BR/SE)	12	9.252	4.071	382.4	18.295	0.0	14.000	6.777	0.000	'106.45'	HBD
CD-59T	12	8.292	3.649	382.4	12.331	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59T (D/S)	12	10.399	4.575	382.4	18.488	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59	4	9.385	4.129	382.4	18.488	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-59P	54	8.116	3.571	382.4	18.488	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-80T (BR/SE)	12	8.623	3.794	382.4	18.485	0.0	24.000	6.777	0.000	'106.45'	HBD
CD-80T	12	7.693	3.385	382.4	11.450	0.0	30.000	6.777	0.000	'106.45'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:25AM

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD82-1-FWH 25A to HDR**					***Sorted By:Remaining Life***		
CD-VALVE-CD-18	0.000	0.096	0.326	0.326	-167,879	No	222,946
CD-60	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-32	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-31	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-61P	0.000	0.216	0.305	0.305	-121,665	No	222,946
CD-31P	0.000	0.216	0.305	0.305	-121,665	No	222,946
CD-60P	0.000	0.265	0.305	0.305	-93,306	No	222,946
CD-31P-1 US	0.000	0.286	0.305	0.305	-62,057	No	222,946
CD-61	0.000	0.337	0.305	0.305	63,370	Yes	222,946
CD-32N	0.000	0.454	0.305	0.305	218,558	No	222,946
CD-31P-1 DS	0.000	0.406	0.305	0.305	336,422	No	222,946
CD-61R	0.000	0.525	0.305	0.305	574,971	Yes	222,946
CD-61R (D/S)	0.000	0.643	0.523	0.523	613,251	Yes	222,946
===>Grouped by Line: **CD82-2-FWH 25B to HDR**					***Sorted By:Remaining Life***		
CD-VALVE-CD-18-1	0.000	0.096	0.326	0.326	-167,879	No	222,946
CD-34N	0.000	0.092	0.305	0.305	-158,126	No	222,946
CD-62	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-62P	0.000	0.265	0.305	0.305	-93,306	No	222,946
CD-33P-1 DS	0.000	0.286	0.305	0.305	-62,057	No	222,946
CD-33P	0.000	0.409	0.305	0.305	238,527	Yes	222,946
CD-33P-1 US	0.000	0.381	0.305	0.305	253,094	Yes	222,946
CD-33	0.000	0.435	0.305	0.305	257,908	Yes	222,946
CD-34	0.000	0.438	0.305	0.305	263,840	Yes	222,946
===>Grouped by Line: **CD82-3-FWH 25C to HDR**					***Sorted By:Remaining Life***		
CD-VALVE-CD-18-2	0.000	0.096	0.326	0.326	-167,879	No	222,946
CD-63	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-35P-1	0.000	0.286	0.305	0.305	-62,057	No	222,946
CD-58P	0.000	0.330	0.305	0.305	56,905	Yes	222,946
CD-58	0.000	0.353	0.305	0.305	95,008	Yes	222,946

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: **CD82-3-FWH 25C to HDR**					***Sorted By:Remaining Life***		
CD-35P	0.000	0.347	0.305	0.305	95,162	Yes	222,946
CD-36	0.000	0.405	0.305	0.305	198,519	Yes	222,946
CD-35	0.000	0.406	0.305	0.305	200,496	Yes	222,946
CD-36N	0.000	0.445	0.305	0.305	204,571	No	222,946
===>Grouped by Line: **CD82-4-HDR 25BT to 25CT**					***Sorted By:Remaining Life***		
CD-62T (BR/SE)	0.000	0.408	0.305	0.305	221,572	Yes	222,946
CD-62P-1	0.000	0.585	0.523	0.523	306,742	No	222,946
CD-62T (D/S)	0.000	0.669	0.523	0.523	350,056	No	222,946
CD-62T	0.000	0.671	0.523	0.523	553,021	No	222,946
===>Grouped by Line: **CD82-5-HDR 25CT to HDP OUT**					***Sorted By:Remaining Life***		
CD-80T	0.000	0.626	0.561	0.561	166,345	No	222,946
CD-59T (BR/SE)	0.000	0.392	0.305	0.305	188,320	Yes	222,946
CD-59T (D/S)	0.000	0.652	0.523	0.523	247,041	Yes	222,946
CD-59	0.000	0.640	0.523	0.523	249,712	Yes	222,946
CD-59P	0.000	0.637	0.523	0.523	279,437	Yes	222,946
CD-59T	0.000	0.659	0.523	0.523	326,817	Yes	222,946
CD-80T (BR/SE)	0.000	0.636	0.449	0.449	430,878	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:25AM

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **CD82-1-FWH 25A to HDR**					***Sorted By:Flow Order***		
CD-32N	0.000	0.454	0.305	0.305	218,558	No	222,946
CD-32	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-31	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-31P	0.000	0.216	0.305	0.305	-121,665	No	222,946
CD-VALVE-CD-18	0.000	0.096	0.326	0.326	-167,879	No	222,946
CD-31P-1 US	0.000	0.286	0.305	0.305	-62,057	No	222,946
CD-31P-1 DS	0.000	0.406	0.305	0.305	336,422	No	222,946
CD-60	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-60P	0.000	0.265	0.305	0.305	-93,306	No	222,946
CD-61	0.000	0.337	0.305	0.305	63,370	Yes	222,946
CD-61P	0.000	0.216	0.305	0.305	-121,665	No	222,946
CD-61R	0.000	0.525	0.305	0.305	574,971	Yes	222,946
CD-61R (D/S)	0.000	0.643	0.523	0.523	613,251	Yes	222,946
===>Grouped by Line: **CD82-2-FWH 25B to HDR**					***Sorted By:Flow Order***		
CD-34N	0.000	0.092	0.305	0.305	-158,126	No	222,946
CD-34	0.000	0.438	0.305	0.305	263,840	Yes	222,946
CD-33	0.000	0.435	0.305	0.305	257,908	Yes	222,946
CD-33P	0.000	0.409	0.305	0.305	238,527	Yes	222,946
CD-VALVE-CD-18-1	0.000	0.096	0.326	0.326	-167,879	No	222,946
CD-33P-1 US	0.000	0.381	0.305	0.305	253,094	Yes	222,946
CD-33P-1 DS	0.000	0.286	0.305	0.305	-62,057	No	222,946
CD-62	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-62P	0.000	0.265	0.305	0.305	-93,306	No	222,946
===>Grouped by Line: **CD82-3-FWH 25C to HDR**					***Sorted By:Flow Order***		
CD-36N	0.000	0.445	0.305	0.305	204,571	No	222,946
CD-36	0.000	0.405	0.305	0.305	198,519	Yes	222,946
CD-35	0.000	0.406	0.305	0.305	200,496	Yes	222,946
CD-35P	0.000	0.347	0.305	0.305	95,162	Yes	222,946
CD-VALVE-CD-18-2	0.000	0.096	0.326	0.326	-167,879	No	222,946

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: **CD82-3-FWH 25C to HDR**					***Sorted By:Flow Order***		
CD-35P-1	0.000	0.286	0.305	0.305	-62,057	No	222,946
CD-63	0.000	0.182	0.305	0.305	-135,351	No	222,946
CD-58	0.000	0.353	0.305	0.305	95,008	Yes	222,946
CD-58P	0.000	0.330	0.305	0.305	56,905	Yes	222,946
===>Grouped by Line: **CD82-4-HDR 25BT to 25CT**					***Sorted By:Flow Order***		
CD-62T	0.000	0.671	0.523	0.523	553,021	No	222,946
CD-62T (BR/SE)	0.000	0.408	0.305	0.305	221,572	Yes	222,946
CD-62T (D/S)	0.000	0.669	0.523	0.523	350,056	No	222,946
CD-62P-1	0.000	0.585	0.523	0.523	306,742	No	222,946
===>Grouped by Line: **CD82-5-HDR 25CT to HDP OUT**					***Sorted By:Flow Order***		
CD-59T (BR/SE)	0.000	0.392	0.305	0.305	188,320	Yes	222,946
CD-59T	0.000	0.659	0.523	0.523	326,817	Yes	222,946
CD-59T (D/S)	0.000	0.652	0.523	0.523	247,041	Yes	222,946
CD-59	0.000	0.640	0.523	0.523	249,712	Yes	222,946
CD-59P	0.000	0.637	0.523	0.523	279,437	Yes	222,946
CD-80T (BR/SE)	0.000	0.636	0.449	0.449	430,878	Yes	222,946
CD-80T	0.000	0.626	0.561	0.561	166,345	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:25:52AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MS56-1-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-49N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-52	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-53	4	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-49EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-53R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-52P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-53R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-53P	68	0.009	0.005	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-2-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-50N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-51	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-62	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-50EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50P3	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-51P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-3-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-55	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-54 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-55 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-54 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-54	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	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:	***MS56-3-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-55 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-54P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-4-PRESEP to MSR23A***								***Sorted By: Average Wear Rate***		
5EX-56N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-56	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-55EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-55EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-56P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-5-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-57	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-57 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-55R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-57 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-55R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-55P-1	68	0.014	0.008	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-6-PRESEP to MSR22A***								***Sorted By: Average Wear Rate***		
5EX-58N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-58	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-57EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-57EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-58P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-7-PRESEP to MSR21A***								***Sorted By: Average Wear Rate***		
5EX-60N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-59	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-60	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-57R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-57P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-59EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-59EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-60P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-57R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	'107.96'	ARD
5EX-59P	56	0.006	0.003	387.9	81.998	90.5	27.750	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-1-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-37N	31	0.039	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-40	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-41	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	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:	***MS57-1-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-37EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-41R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-40P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-41R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-2-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-38N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-38	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-39	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-61	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-61EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-61EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-38P	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-61P1	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-61P2	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-39P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-3-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-43	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-42 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-43 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-42 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-42	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-43 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-41P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-4-PRESEP to MSR23B***								***Sorted By: Average Wear Rate***		
5EX-44N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-44	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-43EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-43EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-5-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-45	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-45 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-43R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-43P1	57	0.020	0.012	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-45 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	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:	***MS57-5-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-43R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-6-PRESEP to MSR22B***								***Sorted By: Average Wear Rate***		
5EX-46N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-46	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-45EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-45EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-7-PRESEP to MSR21B***								***Sorted By: Average Wear Rate***		
5EX-48N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-47	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-48	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-45R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-47EJ2	6	0.022	0.013	387.9	92.605	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-47EJ1	6	0.021	0.013	387.9	92.605	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-47P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-45R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	'107.96'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:52AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MS56-1-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-49N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-49EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-49EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-52	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-52P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-53	4	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-53R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-53R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-53P	68	0.009	0.005	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-2-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-50N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-50P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-62	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-50EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50P3	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-50EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-51	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-51P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-3-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-54	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-54 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-54 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-54P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-55	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	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:	***MS56-3-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-55 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-55 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-4-PRESEP to MSR23A***									***Sorted By: Flow Order***	
5EX-55EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-55EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-56	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-56P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-56N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-5-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-55R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-55R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-55P-1	68	0.014	0.008	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-57	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-57 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-57 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-6-PRESEP to MSR22A***									***Sorted By: Flow Order***	
5EX-57EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-57EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-58	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-58P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-58N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS56-7-PRESEP to MSR21A***									***Sorted By: Flow Order***	
5EX-57R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	'107.96'	ARD
5EX-57R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-57P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-59	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-59EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-59P	56	0.006	0.003	387.9	81.998	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-59EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-60	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-60P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-60N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-1-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-37N	31	0.039	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-37EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	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:	***MS57-1-PRESEP to MSR-B***								***Sorted By: Flow Order***		
5EX-37P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-37EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-40	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-40P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-41	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-41R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-41R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-2-PRESEP to MSR-B***								***Sorted By: Flow Order***		
5EX-38N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-38P	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-38	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-61P1	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-61	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-61EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-61P2	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-61EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-39	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	'107.96'	ARD
5EX-39P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-3-PRESEP to MSR-B***								***Sorted By: Flow Order***		
5EX-42	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-42 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	'107.96'	ARD
5EX-42 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-41P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-43	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-43 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-43 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-4-PRESEP to MSR23B***								***Sorted By: Flow Order***		
5EX-43EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-43EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-44	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-44N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-5-PRESEP to MSR-B***								***Sorted By: Flow Order***		
5EX-43R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	'107.96'	ARD
5EX-43R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-43P1	57	0.020	0.012	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-45	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	'107.96'	ARD
5EX-45 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	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:	***MS57-5-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-45 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-6-PRESEP to MSR22B***									***Sorted By: Flow Order***	
5EX-45EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-45EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-46	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-46N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD
===>Grouped by Line:	***MS57-7-PRESEP to MSR21B***									***Sorted By: Flow Order***	
5EX-45R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	'107.96'	ARD
5EX-45R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-47P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-47	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-47EJ1	6	0.021	0.013	387.9	92.605	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-47EJ2	6	0.022	0.013	387.9	92.605	90.5	27.500	6.937	0.000	'107.96'	ARD
5EX-48	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	'107.96'	ARD
5EX-48N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	'107.96'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:52AM

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MS56-1-PRESEP to MSR-A**					***Sorted By:Remaining Life***		
5EX-49N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-53R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-52P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-53P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-49EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-49EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-49P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-49	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-53	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-52	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-49P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-53R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
===>Grouped by Line: **MS56-2-PRESEP to MSR-A**					***Sorted By:Remaining Life***		
5EX-50N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-51P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-50P3	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-50EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-50EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-50P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-51	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-50	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-50P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-62	0.000	0.624	0.231	0.231	269,104,576	No	222,946
===>Grouped by Line: **MS56-3-PRESEP to MSR-A**					***Sorted By:Remaining Life***		
5EX-54P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-54 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-55	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-54 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-55 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946

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:	**MS56-3-PRESEP to MSR-A**				***Sorted By:Remaining Life***		
5EX-55 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
5EX-54	0.000	0.999	0.337	0.337	330,007,200	No	222,946
===>Grouped by Line:	**MS56-4-PRESEP to MSR23A**				***Sorted By:Remaining Life***		
5EX-56N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
5EX-55EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-55EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-56	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-56P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
===>Grouped by Line:	**MS56-5-PRESEP to MSR-A**				***Sorted By:Remaining Life***		
5EX-57	0.000	0.499	0.264	0.264	66,987,732	No	222,946
5EX-57 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
5EX-55P-1	0.000	0.500	0.264	0.264	100,000,000	No	222,946
5EX-55R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-57 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-55R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
===>Grouped by Line:	**MS56-6-PRESEP to MSR22A**				***Sorted By:Remaining Life***		
5EX-58N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
5EX-57EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-57EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-58	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-58P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
===>Grouped by Line:	**MS56-7-PRESEP to MSR21A**				***Sorted By:Remaining Life***		
5EX-59EJ2	0.000	0.299	0.219	0.219	57,188,608	No	222,946
5EX-59EJ1	0.000	0.351	0.219	0.219	94,310,952	No	222,946
5EX-59P	0.000	0.319	0.193	0.193	100,000,000	No	222,946
5EX-57R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-60N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
5EX-59	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-60	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-60P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-57R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-57P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946
===>Grouped by Line:	**MS57-1-PRESEP to MSR-B**				***Sorted By:Remaining Life***		
5EX-37N	0.000	0.499	0.230	0.230	97,036,584	No	180,315
5EX-40P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-41R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946

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:	**MS57-1-PRESEP to MSR-B**				***Sorted By:Remaining Life***		
5EX-37EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-37EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-37	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-40	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-41	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-37P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-37P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-41R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
===>Grouped by Line:	**MS57-2-PRESEP to MSR-B**				***Sorted By:Remaining Life***		
5EX-38N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-61P2	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-39P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-61EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-61EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-38	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-39	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-38P	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-61P1	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-61	0.000	0.624	0.248	0.248	257,332,528	No	222,946
===>Grouped by Line:	**MS57-3-PRESEP to MSR-B**				***Sorted By:Remaining Life***		
5EX-41P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-42 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-43	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-42 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-43 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-43 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
5EX-42	0.000	0.999	0.337	0.337	330,007,200	No	222,946
===>Grouped by Line:	**MS57-4-PRESEP to MSR23B**				***Sorted By:Remaining Life***		
5EX-44N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
5EX-43EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-43EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-44	0.000	0.624	0.207	0.207	242,282,816	No	222,946
===>Grouped by Line:	**MS57-5-PRESEP to MSR-B**				***Sorted By:Remaining Life***		
5EX-45	0.000	0.499	0.264	0.264	66,987,732	No	222,946
5EX-45 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
5EX-43R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-43P1	0.000	0.499	0.264	0.264	172,502,816	No	222,946

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: **MS57-5-PRESEP to MSR-B**					***Sorted By:Remaining Life***		
5EX-45 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-43R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
===>Grouped by Line: **MS57-6-PRESEP to MSR22B**					***Sorted By:Remaining Life***		
5EX-46N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
5EX-45EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-45EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-46	0.000	0.624	0.207	0.207	242,282,816	No	222,946
===>Grouped by Line: **MS57-7-PRESEP to MSR21B**					***Sorted By:Remaining Life***		
5EX-47EJ1	0.000	0.232	0.219	0.219	8,727,003	No	180,315
5EX-47EJ2	0.000	0.314	0.219	0.219	63,347,440	No	222,946
5EX-45R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-48N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
5EX-47	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-48	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-45R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-47P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:52AM

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MS56-1-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-49N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-49P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-49	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-49EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-49P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-49EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-52	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-52P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-53	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-53R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
5EX-53R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-53P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
===>Grouped by Line: **MS56-2-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-50N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-50P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-50	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-50P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-62	0.000	0.624	0.231	0.231	269,104,576	No	222,946
5EX-50EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-50P3	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-50EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-51	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-51P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
===>Grouped by Line: **MS56-3-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-54	0.000	0.999	0.337	0.337	330,007,200	No	222,946
5EX-54 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-54 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-54P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-55	0.000	0.999	0.337	0.337	199,189,456	No	222,946

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:	**MS56-3-PRESEP to MSR-A**				***Sorted By:Flow Order***		
5EX-55 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-55 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
===>Grouped by Line:	**MS56-4-PRESEP to MSR23A**				***Sorted By:Flow Order***		
5EX-55EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-55EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-56	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-56P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-56N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
===>Grouped by Line:	**MS56-5-PRESEP to MSR-A**				***Sorted By:Flow Order***		
5EX-55R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
5EX-55R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-55P-1	0.000	0.500	0.264	0.264	100,000,000	No	222,946
5EX-57	0.000	0.499	0.264	0.264	66,987,732	No	222,946
5EX-57 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-57 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
===>Grouped by Line:	**MS56-6-PRESEP to MSR22A**				***Sorted By:Flow Order***		
5EX-57EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-57EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-58	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-58P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-58N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
===>Grouped by Line:	**MS56-7-PRESEP to MSR21A**				***Sorted By:Flow Order***		
5EX-57R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-57R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-57P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946
5EX-59	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-59EJ1	0.000	0.351	0.219	0.219	94,310,952	No	222,946
5EX-59P	0.000	0.319	0.193	0.193	100,000,000	No	222,946
5EX-59EJ2	0.000	0.299	0.219	0.219	57,188,608	No	222,946
5EX-60	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-60P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-60N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
===>Grouped by Line:	**MS57-1-PRESEP to MSR-B**				***Sorted By:Flow Order***		
5EX-37N	0.000	0.499	0.230	0.230	97,036,584	No	180,315
5EX-37P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-37	0.000	0.624	0.248	0.248	220,318,464	No	222,946

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: **MS57-1-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-37EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-37P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-37EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-40	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-40P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-41	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-41R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
5EX-41R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
===>Grouped by Line: **MS57-2-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-38N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-38P	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-38	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-61P1	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-61	0.000	0.624	0.248	0.248	257,332,528	No	222,946
5EX-61EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-61P2	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-61EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-39	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-39P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
===>Grouped by Line: **MS57-3-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-42	0.000	0.999	0.337	0.337	330,007,200	No	222,946
5EX-42 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-42 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-41P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-43	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-43 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-43 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
===>Grouped by Line: **MS57-4-PRESEP to MSR23B**					***Sorted By:Flow Order***		
5EX-43EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-43EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-44	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-44N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
===>Grouped by Line: **MS57-5-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-43R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
5EX-43R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-43P1	0.000	0.499	0.264	0.264	172,502,816	No	222,946
5EX-45	0.000	0.499	0.264	0.264	66,987,732	No	222,946

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: **MS57-5-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-45 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-45 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
===>Grouped by Line: **MS57-6-PRESEP to MSR22B**					***Sorted By:Flow Order***		
5EX-45EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-45EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-46	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-46N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
===>Grouped by Line: **MS57-7-PRESEP to MSR21B**					***Sorted By:Flow Order***		
5EX-45R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-45R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-47P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946
5EX-47	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-47EJ1	0.000	0.232	0.219	0.219	8,727,003	No	180,315
5EX-47EJ2	0.000	0.314	0.219	0.219	63,347,440	No	222,946
5EX-48	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-48N	0.000	0.499	0.219	0.219	150,040,320	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:25:54AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES-BFPT Drain to Condenser 21***									***Sorted By: Average Wear Rate***	
TEMP05	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	'86.09'	HBD
===>Grouped by Line:	***ES-BFPT Drain to Condenser 22***									***Sorted By: Average Wear Rate***	
TEMP06	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	'86.09'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:54AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES-BFPT Drain to Condenser 21***									***Sorted By: Flow Order***	
TEMP05	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	'86.09'	HBD
===>Grouped by Line:	***ES-BFPT Drain to Condenser 22***									***Sorted By: Flow Order***	
TEMP06	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	'86.09'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:54AM

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES-BFPT Drain to Condenser 21**					***Sorted By:Remaining Life***		
TEMP05	0.000	0.612	0.080	0.080	17,418,200	No	222,946
===>Grouped by Line: **ES-BFPT Drain to Condenser 22**					***Sorted By:Remaining Life***		
TEMP06	0.000	0.612	0.080	0.080	17,418,200	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:25:54AM

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **ES-BFPT Drain to Condenser 21**					***Sorted By:Flow Order***		
TEMP05	0.000	0.612	0.080	0.080	17,418,200	No	222,946
===>Grouped by Line: **ES-BFPT Drain to Condenser 22**					***Sorted By:Flow Order***		
TEMP06	0.000	0.612	0.080	0.080	17,418,200	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:26:23AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***FW71-1-BFP21 DISCH to HDR***								***Sorted By: Average Wear Rate***		
BFD VALVE-BFD-1	25	15.530	6.457	380.7	24.354	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD VALVE-BFD-2-21	22	15.455	6.426	380.7	24.168	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14R	18	10.651	4.428	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-14	4	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-2	4	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-4	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-5	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-6	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-7	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-8	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-9	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-10	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14P-1	54	8.862	3.685	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-2P US	54	8.862	3.685	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-2P DS	54	8.862	3.685	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14R (D/S)	18	8.309	3.454	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14N	31	8.230	7.908	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-4P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-5P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-6P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-7P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-7P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-8P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-9P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-9P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-10P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-10P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14P-2	58	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14P	61	4.444	4.270	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	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:	***FW72-1-BFP22 DISCH to HDR***								***Sorted By: Average Wear Rate***		
BFD-15N	31	19.020	7.908	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-1-1	25	15.530	6.457	380.7	24.354	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-2-22	22	15.455	6.426	380.7	24.168	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15R	18	10.651	4.428	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-15	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-16	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-13	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-17	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-18	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-19	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-20	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-21	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-22	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12	1	9.139	3.800	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15R (D/S)	18	8.309	3.454	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-23R	18	7.755	3.224	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15P-1	68	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-16P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-13P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-17P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-18P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-19P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-20P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-21P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-21P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-22P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12P	51	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12P-1	58	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12P-2	58	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-23R (D/S)	18	4.858	2.020	380.7	8.648	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-1-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-11 (D/S)	12	9.782	4.067	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-11 (BR/SE)	12	9.416	3.915	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-23	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-24	4	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-25	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	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:	***FW73-1-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-26	4	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-27	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-28	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-29	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-24P DS	54	7.635	3.174	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-26P US	54	7.635	3.174	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T (D/S)	15	7.158	2.976	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T	15	7.158	2.976	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-11	12	6.640	2.761	380.7	8.648	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-25P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-27P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-28P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-29P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-2-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-32T-C	14	13.122	5.456	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-C (D/S)	14	10.464	4.350	380.7	11.536	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-C (BR/SE)	14	8.830	3.671	380.7	16.725	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-32P-1	65	4.772	1.984	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-3-BFPHDR to FWH26C***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-3-2	22	12.617	5.245	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-42N	30	10.093	4.196	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-40	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-41	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-42	1	8.327	3.462	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-41P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-42P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-41P-1	58	5.551	2.308	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-40P US	64	5.047	2.098	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-4-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-32T-B	14	10.464	4.350	380.7	11.536	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-B (BR/SE)	14	8.830	3.671	380.7	16.725	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-32T-B (D/S)	14	6.525	2.753	380.7	5.759	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32P-2	64	3.805	1.582	380.7	11.536	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-5-BFPHDR to FWH26B***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-3-1	22	12.617	5.245	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	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:	***FW73-5-BFPHDR to FWH26B***								***Sorted By: Average Wear Rate***		
BFD-39N	30	10.093	4.196	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-37	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-38	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-39	1	8.327	3.462	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-38P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-39P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-38P-1	58	5.551	2.308	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-37P	64	5.047	2.098	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-6-BFPHDR to FWH26A***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-3	22	12.617	5.245	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-36N	30	10.093	4.196	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-35	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-36	1	8.327	3.462	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33R (D/S)	7	8.073	3.357	380.7	16.725	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33P-1 DS	57	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33P US	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33P DS	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34P US	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34P DS	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-35P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34P-1	58	5.551	2.308	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33R	7	4.152	1.752	380.7	5.759	0.0	30.000	6.818	0.000	'90.02'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:26:23AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***FW71-1-BFP21 DISCH to HDR***									***Sorted By: Flow Order***	
BFD-14N	31	8.230	7.908	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-14P	61	4.444	4.270	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-14R	18	10.651	4.428	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-14R (D/S)	18	8.309	3.454	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14	4	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14P-1	54	8.862	3.685	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD VALVE-BFD-1	25	15.530	6.457	380.7	24.354	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-14P-2	58	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD VALVE-BFD-2-21	22	15.455	6.426	380.7	24.168	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-2	4	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-2P US	54	8.862	3.685	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-2P DS	54	8.862	3.685	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-4	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-4P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-5	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-5P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-6	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-6P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-7	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-7P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-7P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-8	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-8P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-9	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-9P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-9P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-10	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-10P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-10P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	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:	***FW72-1-BFP22 DISCH to HDR***									***Sorted By: Flow Order***	
BFD-15N	31	19.020	7.908	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-15R	18	10.651	4.428	380.7	33.616	0.0	16.000	6.818	0.000	'90.02'	ARD
BFD-15R (D/S)	18	8.309	3.454	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15P-1	68	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-15P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12	1	9.139	3.800	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12P	51	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-1-1	25	15.530	6.457	380.7	24.354	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12P-1	58	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-2-22	22	15.455	6.426	380.7	24.168	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-12P-2	58	6.093	2.533	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-16	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-16P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-13	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-13P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-17	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-17P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-18	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-18P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-19	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-19P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-20	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-20P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-21	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-21P US	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-21P DS	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-22	2	10.247	4.260	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-22P	52	6.924	2.879	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-23R	18	7.755	3.224	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-23R (D/S)	18	4.858	2.020	380.7	8.648	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-1-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-11 (BR/SE)	12	9.416	3.915	380.7	20.295	0.0	20.000	6.818	0.000	'90.02'	ARD
BFD-11	12	6.640	2.761	380.7	8.648	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-11 (D/S)	12	9.782	4.067	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-23	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-24	4	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	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:	***FW73-1-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-24P DS	54	7.635	3.174	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-25	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-25P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-26	4	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-26P US	54	7.635	3.174	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-27	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-27P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-28	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-28P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-29	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-29P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32	2	8.828	3.670	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32P	52	5.965	2.480	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T	15	7.158	2.976	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T (D/S)	15	7.158	2.976	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-2-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-32P-1	65	4.772	1.984	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-C	14	13.122	5.456	380.7	17.296	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-C (BR/SE)	14	8.830	3.671	380.7	16.725	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-32T-C (D/S)	14	10.464	4.350	380.7	11.536	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-3-BFPHDR to FWH26C***									***Sorted By: Flow Order***	
BFD-40P US	64	5.047	2.098	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-40	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-41P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-3-2	22	12.617	5.245	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-41P-1	58	5.551	2.308	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-41	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-42P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-42	1	8.327	3.462	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-42N	30	10.093	4.196	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-4-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-32P-2	64	3.805	1.582	380.7	11.536	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-B	14	10.464	4.350	380.7	11.536	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-32T-B (BR/SE)	14	8.830	3.671	380.7	16.725	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-32T-B (D/S)	14	6.525	2.753	380.7	5.759	0.0	30.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-5-BFPHDR to FWH26B***									***Sorted By: Flow Order***	
BFD-37P	64	5.047	2.098	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	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:	***FW73-5-BFPHDR to FWH26B***									***Sorted By: Flow Order***	
BFD-37	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-38P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-3-1	22	12.617	5.245	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-38P-1	58	5.551	2.308	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-38	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-39P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-39	1	8.327	3.462	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-39N	30	10.093	4.196	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
===>Grouped by Line:	***FW73-6-BFPHDR to FWH26A***									***Sorted By: Flow Order***	
BFD-33R	7	4.152	1.752	380.7	5.759	0.0	30.000	6.818	0.000	'90.02'	ARD
BFD-33R (D/S)	7	8.073	3.357	380.7	16.725	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33P-1 DS	57	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33P US	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-33P DS	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34P US	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34P DS	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-VALVE-BFD-3	22	12.617	5.245	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-34P-1	58	5.551	2.308	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-35	2	9.336	3.882	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-35P	52	6.308	2.623	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-36	1	8.327	3.462	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD
BFD-36N	30	10.093	4.196	380.7	16.729	0.0	18.000	6.818	0.000	'90.02'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:26:23AM

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **FW71-1-BFP21 DISCH to HDR**					***Sorted By:Remaining Life***		
BFD VALVE-BFD-1	0.000	0.636	0.988	0.988	-204,757	No	222,946
BFD VALVE-BFD-2-21	0.000	0.638	0.988	0.988	-204,669	No	222,946
BFD-7	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-14	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-5	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-14P-1	0.000	0.805	0.797	0.797	20,949	No	222,946
BFD-10P DS	0.000	0.939	0.924	0.924	44,180	Yes	222,946
BFD-8	0.000	0.999	0.924	0.924	152,624	Yes	222,946
BFD-4	0.000	1.009	0.924	0.924	173,186	Yes	222,946
BFD-7P US	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-6	0.000	1.028	0.924	0.924	212,894	Yes	222,946
BFD-10	0.000	1.030	0.924	0.924	216,239	Yes	222,946
BFD-14N	0.000	0.977	0.740	0.740	262,612	No	57,833
BFD-2	0.000	1.055	0.924	0.924	267,770	Yes	222,946
BFD-10P US	0.000	0.911	0.797	0.797	348,076	Yes	222,946
BFD-9	0.000	1.098	0.924	0.924	357,647	Yes	222,946
BFD-2P US	0.000	0.966	0.797	0.797	401,899	Yes	222,946
BFD-9P DS	0.000	0.938	0.797	0.797	430,240	No	222,946
BFD-6P	0.000	0.954	0.797	0.797	478,381	Yes	222,946
BFD-5P	0.000	0.955	0.797	0.797	481,424	Yes	222,946
BFD-2P DS	0.000	1.001	0.797	0.797	485,109	No	222,946
BFD-14P	0.000	0.977	0.740	0.740	486,308	No	57,833
BFD-9P US	0.000	0.959	0.797	0.797	494,419	Yes	222,946
BFD-8P	0.000	0.961	0.797	0.797	500,852	Yes	222,946
BFD-4P US	0.000	0.990	0.797	0.797	589,103	Yes	222,946
BFD-14P-2	0.000	0.979	0.797	0.797	629,230	Yes	222,946
BFD-7P DS	0.000	1.020	0.797	0.797	680,397	Yes	222,946
BFD-14R	0.000	1.108	0.740	0.740	729,248	No	222,946
BFD-14R (D/S)	0.000	1.437	0.924	0.924	1,300,929	Yes	222,946
===>Grouped by Line: **FW72-1-BFP22 DISCH 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: **FW72-1-BFP22 DISCH to HDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-1-1	0.000	0.636	0.988	0.988	-204,757	No	222,946
BFD-VALVE-BFD-2-22	0.000	0.638	0.988	0.988	-204,669	No	222,946
BFD-15	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-17	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-18	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-19	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-20	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-22	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-15N	0.000	0.843	0.740	0.740	114,326	No	222,946
BFD-15P-1	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-15P US	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-17P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-18P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-19P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-20P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-21P DS	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-21	0.000	1.012	0.924	0.924	179,228	Yes	222,946
BFD-16	0.000	1.045	0.924	0.924	247,380	Yes	222,946
BFD-12P-1	0.000	0.876	0.797	0.797	274,216	No	222,946
BFD-12P-2	0.000	0.876	0.797	0.797	274,216	No	222,946
BFD-12	0.000	1.049	0.924	0.924	286,774	Yes	222,946
BFD-23R (D/S)	0.000	1.271	1.195	1.195	330,887	Yes	222,946
BFD-15R	0.000	0.917	0.740	0.740	350,312	No	222,946
BFD-13	0.000	1.105	0.924	0.924	370,751	Yes	222,946
BFD-21P US	0.000	0.956	0.797	0.797	485,017	Yes	222,946
BFD-12P	0.000	0.939	0.797	0.797	490,905	Yes	222,946
BFD-22P	0.000	0.970	0.797	0.797	527,620	Yes	222,946
BFD-15P DS	0.000	0.983	0.797	0.797	567,801	Yes	222,946
BFD-16P	0.000	0.989	0.797	0.797	586,643	Yes	222,946
BFD-13P	0.000	1.025	0.797	0.797	696,196	Yes	222,946
BFD-15R (D/S)	0.000	1.417	0.924	0.924	1,250,211	No	222,946
BFD-23R	0.000	1.323	0.797	0.797	1,431,368	Yes	222,946
===>Grouped by Line: **FW73-1-BFPHDR to FWH26ABC**					***Sorted By:Remaining Life***		
BFD-24	0.000	1.035	1.195	1.195	-174,625	No	222,946
BFD-27	0.000	1.035	1.195	1.195	-174,625	No	222,946
BFD-28	0.000	1.035	1.195	1.195	-174,625	No	222,946
BFD-27P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-28P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-29P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-32P	0.000	1.108	1.195	1.195	-151,430	No	222,946

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: **FW73-1-BFPHDR to FWH26ABC**					***Sorted By:Remaining Life***		
BFD-26P US	0.000	1.276	1.195	1.195	222,928	Yes	222,946
BFD-11 (D/S)	0.000	1.305	1.195	1.195	237,832	No	222,946
BFD-25	0.000	1.310	1.195	1.195	275,753	No	222,946
BFD-26	0.000	1.312	1.195	1.195	280,527	Yes	222,946
BFD-32T (D/S)	0.000	1.291	1.195	1.195	282,547	No	222,946
BFD-32T	0.000	1.293	1.195	1.195	288,435	No	222,946
BFD-24P DS	0.000	1.302	1.195	1.195	295,088	Yes	222,946
BFD-11	0.000	1.303	1.195	1.195	341,835	No	222,946
BFD-23	0.000	1.349	1.195	1.195	368,361	Yes	222,946
BFD-32	0.000	1.373	1.195	1.195	424,427	Yes	222,946
BFD-11 (BR/SE)	0.000	0.997	0.797	0.797	448,568	No	222,946
BFD-25P	0.000	1.325	1.195	1.195	459,495	Yes	222,946
BFD-29	0.000	1.441	1.195	1.195	588,446	Yes	222,946
===>Grouped by Line: **FW73-2-BFPHDR to FWH26ABC**					***Sorted By:Remaining Life***		
BFD-32P-1	0.000	1.139	1.195	1.195	-133,552	No	222,946
BFD-32T-C	0.000	1.247	1.195	1.195	84,186	No	222,946
BFD-32T-C (D/S)	0.000	1.258	1.195	1.195	126,272	No	222,946
BFD-32T-C (BR/SE)	0.000	0.861	0.717	0.717	344,168	No	222,946
===>Grouped by Line: **FW73-3-BFPHDR to FWH26C**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-3-2	0.000	0.617	0.889	0.889	-197,545	No	222,946
BFD-41	0.000	0.700	0.832	0.832	-148,525	No	222,946
BFD-42N	0.000	0.887	0.832	0.832	114,096	Yes	222,946
BFD-42P	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-41P-1	0.000	0.797	0.717	0.717	302,672	No	222,946
BFD-42	0.000	0.973	0.832	0.832	356,164	Yes	222,946
BFD-40	0.000	1.017	0.832	0.832	417,556	Yes	222,946
BFD-41P	0.000	0.906	0.717	0.717	632,243	Yes	222,946
BFD-40P US	0.000	0.870	0.717	0.717	637,595	Yes	222,946
===>Grouped by Line: **FW73-4-BFPHDR to FWH26ABC**					***Sorted By:Remaining Life***		
BFD-32P-2	0.000	1.163	1.195	1.195	-110,841	No	222,946
BFD-32T-B	0.000	1.331	1.195	1.195	272,954	Yes	222,946
BFD-32T-B (BR/SE)	0.000	0.874	0.717	0.717	374,142	Yes	222,946
BFD-32T-B (D/S)	0.000	1.349	1.195	1.195	489,541	Yes	222,946
===>Grouped by Line: **FW73-5-BFPHDR to FWH26B**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-3-1	0.000	0.617	0.889	0.889	-197,545	No	222,946
BFD-37	0.000	0.700	0.832	0.832	-148,525	No	222,946
BFD-39N	0.000	0.870	0.832	0.832	78,694	Yes	222,946

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: **FW73-5-BFPHDR to FWH26B**					***Sorted By:Remaining Life***		
BFD-38P	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-39	0.000	0.940	0.832	0.832	271,976	Yes	222,946
BFD-38	0.000	0.961	0.832	0.832	290,727	Yes	222,946
BFD-38P-1	0.000	0.797	0.717	0.717	302,672	No	222,946
BFD-37P	0.000	0.810	0.717	0.717	386,563	No	222,946
BFD-39P	0.000	0.861	0.717	0.717	480,590	Yes	222,946
===>Grouped by Line: **FW73-6-BFPHDR to FWH26A**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-3	0.000	0.617	0.889	0.889	-197,545	No	222,946
BFD-36N	0.000	0.681	0.832	0.832	-154,106	No	222,946
BFD-35	0.000	0.700	0.832	0.832	-148,525	No	222,946
BFD-36	0.000	0.726	0.832	0.832	-139,504	No	222,946
BFD-33R	0.000	1.154	1.195	1.195	-120,070	No	222,946
BFD-33R (D/S)	0.000	0.732	0.717	0.717	37,992	No	222,946
BFD-34	0.000	0.904	0.832	0.832	163,120	Yes	222,946
BFD-34P DS	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-35P	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-33	0.000	0.931	0.832	0.832	223,024	Yes	222,946
BFD-34P-1	0.000	0.797	0.717	0.717	302,672	No	222,946
BFD-33P-1 DS	0.000	0.851	0.717	0.717	447,189	Yes	222,946
BFD-33P US	0.000	0.867	0.717	0.717	500,630	Yes	222,946
BFD-33P DS	0.000	0.884	0.717	0.717	557,808	Yes	222,946
BFD-34P US	0.000	0.891	0.717	0.717	581,188	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:26:23AM

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **FW71-1-BFP21 DISCH to HDR**					***Sorted By:Flow Order***		
BFD-14N	0.000	0.977	0.740	0.740	262,612	No	57,833
BFD-14P	0.000	0.977	0.740	0.740	486,308	No	57,833
BFD-14R	0.000	1.108	0.740	0.740	729,248	No	222,946
BFD-14R (D/S)	0.000	1.437	0.924	0.924	1,300,929	Yes	222,946
BFD-14	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-14P-1	0.000	0.805	0.797	0.797	20,949	No	222,946
BFD VALVE-BFD-1	0.000	0.636	0.988	0.988	-204,757	No	222,946
BFD-14P-2	0.000	0.979	0.797	0.797	629,230	Yes	222,946
BFD VALVE-BFD-2-21	0.000	0.638	0.988	0.988	-204,669	No	222,946
BFD-2	0.000	1.055	0.924	0.924	267,770	Yes	222,946
BFD-2P US	0.000	0.966	0.797	0.797	401,899	Yes	222,946
BFD-2P DS	0.000	1.001	0.797	0.797	485,109	No	222,946
BFD-4	0.000	1.009	0.924	0.924	173,186	Yes	222,946
BFD-4P US	0.000	0.990	0.797	0.797	589,103	Yes	222,946
BFD-5	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-5P	0.000	0.955	0.797	0.797	481,424	Yes	222,946
BFD-6	0.000	1.028	0.924	0.924	212,894	Yes	222,946
BFD-6P	0.000	0.954	0.797	0.797	478,381	Yes	222,946
BFD-7	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-7P US	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-7P DS	0.000	1.020	0.797	0.797	680,397	Yes	222,946
BFD-8	0.000	0.999	0.924	0.924	152,624	Yes	222,946
BFD-8P	0.000	0.961	0.797	0.797	500,852	Yes	222,946
BFD-9	0.000	1.098	0.924	0.924	357,647	Yes	222,946
BFD-9P US	0.000	0.959	0.797	0.797	494,419	Yes	222,946
BFD-9P DS	0.000	0.938	0.797	0.797	430,240	No	222,946
BFD-10	0.000	1.030	0.924	0.924	216,239	Yes	222,946
BFD-10P US	0.000	0.911	0.797	0.797	348,076	Yes	222,946
BFD-10P DS	0.000	0.939	0.924	0.924	44,180	Yes	222,946
===>Grouped by Line: **FW72-1-BFP22 DISCH 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: **FW72-1-BFP22 DISCH to HDR**					***Sorted By:Flow Order***		
BFD-15N	0.000	0.843	0.740	0.740	114,326	No	222,946
BFD-15R	0.000	0.917	0.740	0.740	350,312	No	222,946
BFD-15R (D/S)	0.000	1.417	0.924	0.924	1,250,211	No	222,946
BFD-15P-1	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-15	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-15P US	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-15P DS	0.000	0.983	0.797	0.797	567,801	Yes	222,946
BFD-12	0.000	1.049	0.924	0.924	286,774	Yes	222,946
BFD-12P	0.000	0.939	0.797	0.797	490,905	Yes	222,946
BFD-VALVE-BFD-1-1	0.000	0.636	0.988	0.988	-204,757	No	222,946
BFD-12P-1	0.000	0.876	0.797	0.797	274,216	No	222,946
BFD-VALVE-BFD-2-22	0.000	0.638	0.988	0.988	-204,669	No	222,946
BFD-12P-2	0.000	0.876	0.797	0.797	274,216	No	222,946
BFD-16	0.000	1.045	0.924	0.924	247,380	Yes	222,946
BFD-16P	0.000	0.989	0.797	0.797	586,643	Yes	222,946
BFD-13	0.000	1.105	0.924	0.924	370,751	Yes	222,946
BFD-13P	0.000	1.025	0.797	0.797	696,196	Yes	222,946
BFD-17	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-17P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-18	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-18P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-19	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-19P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-20	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-20P	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-21	0.000	1.012	0.924	0.924	179,228	Yes	222,946
BFD-21P US	0.000	0.956	0.797	0.797	485,017	Yes	222,946
BFD-21P DS	0.000	0.855	0.797	0.797	176,962	No	222,946
BFD-22	0.000	0.770	0.924	0.924	-154,788	No	222,946
BFD-22P	0.000	0.970	0.797	0.797	527,620	Yes	222,946
BFD-23R	0.000	1.323	0.797	0.797	1,431,368	Yes	222,946
BFD-23R (D/S)	0.000	1.271	1.195	1.195	330,887	Yes	222,946
===>Grouped by Line: **FW73-1-BFPHDR to FWH26ABC**					***Sorted By:Flow Order***		
BFD-11 (BR/SE)	0.000	0.997	0.797	0.797	448,568	No	222,946
BFD-11	0.000	1.303	1.195	1.195	341,835	No	222,946
BFD-11 (D/S)	0.000	1.305	1.195	1.195	237,832	No	222,946
BFD-23	0.000	1.349	1.195	1.195	368,361	Yes	222,946
BFD-24	0.000	1.035	1.195	1.195	-174,625	No	222,946
BFD-24P DS	0.000	1.302	1.195	1.195	295,088	Yes	222,946
BFD-25	0.000	1.310	1.195	1.195	275,753	No	222,946

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:	**FW73-1-BFPHDR to FWH26ABC**				***Sorted By:Flow Order***		
BFD-25P	0.000	1.325	1.195	1.195	459,495	Yes	222,946
BFD-26	0.000	1.312	1.195	1.195	280,527	Yes	222,946
BFD-26P US	0.000	1.276	1.195	1.195	222,928	Yes	222,946
BFD-27	0.000	1.035	1.195	1.195	-174,625	No	222,946
BFD-27P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-28	0.000	1.035	1.195	1.195	-174,625	No	222,946
BFD-28P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-29	0.000	1.441	1.195	1.195	588,446	Yes	222,946
BFD-29P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-32	0.000	1.373	1.195	1.195	424,427	Yes	222,946
BFD-32P	0.000	1.108	1.195	1.195	-151,430	No	222,946
BFD-32T	0.000	1.293	1.195	1.195	288,435	No	222,946
BFD-32T (D/S)	0.000	1.291	1.195	1.195	282,547	No	222,946
===>Grouped by Line:	**FW73-2-BFPHDR to FWH26ABC**				***Sorted By:Flow Order***		
BFD-32P-1	0.000	1.139	1.195	1.195	-133,552	No	222,946
BFD-32T-C	0.000	1.247	1.195	1.195	84,186	No	222,946
BFD-32T-C (BR/SE)	0.000	0.861	0.717	0.717	344,168	No	222,946
BFD-32T-C (D/S)	0.000	1.258	1.195	1.195	126,272	No	222,946
===>Grouped by Line:	**FW73-3-BFPHDR to FWH26C**				***Sorted By:Flow Order***		
BFD-40P US	0.000	0.870	0.717	0.717	637,595	Yes	222,946
BFD-40	0.000	1.017	0.832	0.832	417,556	Yes	222,946
BFD-41P	0.000	0.906	0.717	0.717	632,243	Yes	222,946
BFD-VALVE-BFD-3-2	0.000	0.617	0.889	0.889	-197,545	No	222,946
BFD-41P-1	0.000	0.797	0.717	0.717	302,672	No	222,946
BFD-41	0.000	0.700	0.832	0.832	-148,525	No	222,946
BFD-42P	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-42	0.000	0.973	0.832	0.832	356,164	Yes	222,946
BFD-42N	0.000	0.887	0.832	0.832	114,096	Yes	222,946
===>Grouped by Line:	**FW73-4-BFPHDR to FWH26ABC**				***Sorted By:Flow Order***		
BFD-32P-2	0.000	1.163	1.195	1.195	-110,841	No	222,946
BFD-32T-B	0.000	1.331	1.195	1.195	272,954	Yes	222,946
BFD-32T-B (BR/SE)	0.000	0.874	0.717	0.717	374,142	Yes	222,946
BFD-32T-B (D/S)	0.000	1.349	1.195	1.195	489,541	Yes	222,946
===>Grouped by Line:	**FW73-5-BFPHDR to FWH26B**				***Sorted By:Flow Order***		
BFD-37P	0.000	0.810	0.717	0.717	386,563	No	222,946
BFD-37	0.000	0.700	0.832	0.832	-148,525	No	222,946
BFD-38P	0.000	0.777	0.717	0.717	202,002	No	222,946

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: **FW73-5-BFPHDR to FWH26B**					***Sorted By:Flow Order***		
BFD-VALVE-BFD-3-1	0.000	0.617	0.889	0.889	-197,545	No	222,946
BFD-38P-1	0.000	0.797	0.717	0.717	302,672	No	222,946
BFD-38	0.000	0.961	0.832	0.832	290,727	Yes	222,946
BFD-39P	0.000	0.861	0.717	0.717	480,590	Yes	222,946
BFD-39	0.000	0.940	0.832	0.832	271,976	Yes	222,946
BFD-39N	0.000	0.870	0.832	0.832	78,694	Yes	222,946
===>Grouped by Line: **FW73-6-BFPHDR to FWH26A**					***Sorted By:Flow Order***		
BFD-33R	0.000	1.154	1.195	1.195	-120,070	No	222,946
BFD-33R (D/S)	0.000	0.732	0.717	0.717	37,992	No	222,946
BFD-33P-1 DS	0.000	0.851	0.717	0.717	447,189	Yes	222,946
BFD-33	0.000	0.931	0.832	0.832	223,024	Yes	222,946
BFD-33P US	0.000	0.867	0.717	0.717	500,630	Yes	222,946
BFD-33P DS	0.000	0.884	0.717	0.717	557,808	Yes	222,946
BFD-34	0.000	0.904	0.832	0.832	163,120	Yes	222,946
BFD-34P US	0.000	0.891	0.717	0.717	581,188	Yes	222,946
BFD-34P DS	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-VALVE-BFD-3	0.000	0.617	0.889	0.889	-197,545	No	222,946
BFD-34P-1	0.000	0.797	0.717	0.717	302,672	No	222,946
BFD-35	0.000	0.700	0.832	0.832	-148,525	No	222,946
BFD-35P	0.000	0.777	0.717	0.717	202,002	No	222,946
BFD-36	0.000	0.726	0.832	0.832	-139,504	No	222,946
BFD-36N	0.000	0.681	0.832	0.832	-154,106	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:27:13AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***FW74-1-FWH26A to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-55N	31	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-4	22	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-55	4	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-56	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-57	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-58	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-55P	54	3.467	1.330	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59R	18	3.033	1.163	429.6	17.377	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-57P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-58P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-56P-1	58	2.384	0.914	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59R (D/S)	18	1.545	0.602	429.6	5.984	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-2-FWH26B to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-51N	31	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-4-1	22	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-51	4	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-52	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-53	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-54	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-51P	54	3.467	1.330	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-52P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-53P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-54P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-52P-1	58	2.384	0.914	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-3-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-54T (BR/SE)	12	3.683	1.413	429.6	17.377	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-54T (D/S)	12	3.349	1.285	429.6	11.986	0.0	30.000	6.598	0.000	'90.02'	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:	***FW74-3-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-54T	12	2.111	0.822	429.6	5.984	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-54P-1	62	1.634	0.627	429.6	11.986	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-4-FWH26C to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-47N	31	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-4-2	22	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-47	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-48	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-49	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-47P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-48P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-49P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50P US	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50P DS	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-48P-1	58	2.384	0.914	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-5-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-72T	13	5.122	1.964	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-72T (BR/SE)	13	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72T (D/S)	13	4.361	1.673	429.6	13.478	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-50T (D/S)	12	4.200	1.611	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-60	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-30	4	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-31	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-61	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-62	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-63	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-64	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-65	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-50T (BR/SE)	12	3.683	1.413	429.6	17.377	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50T	12	3.349	1.285	429.6	11.986	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-30P US	54	3.278	1.257	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-30P DS	54	3.278	1.257	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-46T (D/S)	15	3.073	1.179	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-46T	15	3.073	1.179	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-31P US	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-61P	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-62P US	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-62P DS	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	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:	***FW74-5-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-63P US	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-63P DS	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-64P	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-65P-1	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-50P-1	62	2.049	0.786	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-46P	65	2.049	0.786	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW75-1-DISHDR to SG21***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72R (D/S)	7	4.745	1.820	429.6	27.724	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-417	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-71R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-99N	30	3.586	1.376	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-71	4	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-70	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-68	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-67	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-66	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-96	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-97	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-98	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-99	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72R	7	3.230	1.239	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-69	1	3.046	1.168	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-66P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-71R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P-1 US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P-1 DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-70P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-70P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-69P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-69P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-67P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-67P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-96P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-97P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW75-1-DISHDR to SG21***								***Sorted By: Average Wear Rate***		
BFD-98P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-68P US	51	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-68P DS	51	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P US	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P DS	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-98P-1	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW76-1-DISHDR to SG22***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6-1	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7-1	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5-1	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-427	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-78	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-76	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-74	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-73	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-91	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92-2	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-93	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95	3	3.138	1.204	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95N	30	3.132	1.201	429.6	10.047	0.0	20.000	6.598	0.000	'90.02'	HBD
BFD-75	1	3.046	1.168	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92-1	1	2.959	1.135	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-94	1	2.959	1.135	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-73P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95R	18	2.511	0.963	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95R (D/S)	18	2.349	0.901	429.6	10.047	0.0	20.000	6.598	0.000	'90.02'	HBD
BFD-78P-1 US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-76P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-75P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-73P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-91P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P-2	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-93P US	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW76-1-DISHDR to SG22***								***Sorted By: Average Wear Rate***		
BFD-93P DS	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95P	53	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78P-2	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77P	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-74P	51	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P-1	51	1.973	0.757	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78P	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P-3	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW76-2-DISHDR to SG22***								***Sorted By: Average Wear Rate***		
BFD-78T (BR/SE)	13	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78T	13	4.361	1.673	429.6	13.478	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-78T (D/S)	13	3.477	1.333	429.6	8.985	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW77-1-DISHDR to SG24***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6-3	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7-3	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5-3	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-447	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-83R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-106N	30	3.586	1.376	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-83	4	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-82	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-80	4	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-79	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-104	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105-1	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-106	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-81	1	3.046	1.168	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-82P US	54	2.954	1.133	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-82P DS	54	2.954	1.133	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-80P	54	2.954	1.133	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-104P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105P-1	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-106P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-83R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84P-1	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-81P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	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:	***FW77-1-DISHDR to SG24***								***Sorted By: Average Wear Rate***		
BFD-105P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84P-2	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84P	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105P-2	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW77-2-DISHDR to SG24***								***Sorted By: Average Wear Rate***		
BFD-84T (BR/SE)	13	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84T	13	3.477	1.333	429.6	8.985	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-84T (D/S)	13	2.012	0.784	429.6	4.493	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW78-1-DISHDR to SG23***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6-2	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7-2	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5-2	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-437	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-103N	30	3.586	1.376	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-88	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-87	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-86	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-85	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-100	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-101	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-102	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-103	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89T (BR/SE)	12	3.138	1.204	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-100P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89P-1	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-88P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-87P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-87P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-86P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-86P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-101P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-102P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-102P-1	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-103P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW78-1-DISHDR to SG23***								***Sorted By: Average Wear Rate***		
BFD-89P-2	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3P	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89P	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89T	12	1.650	0.643	429.6	4.493	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-102P-2	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:13AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***FW74-1-FWH26A to DISHDR***									***Sorted By: Flow Order***	
BFD-55N	31	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-55	4	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-55P	54	3.467	1.330	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-56	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-4	22	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-56P-1	58	2.384	0.914	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-57	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-57P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-58	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-58P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59R	18	3.033	1.163	429.6	17.377	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-59R (D/S)	18	1.545	0.602	429.6	5.984	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-2-FWH26B to DISHDR***									***Sorted By: Flow Order***	
BFD-51N	31	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-51	4	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-51P	54	3.467	1.330	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-52	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-52P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-4-1	22	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-52P-1	58	2.384	0.914	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-53	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-53P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-54	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-54P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-3-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-54T	12	2.111	0.822	429.6	5.984	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-54T (BR/SE)	12	3.683	1.413	429.6	17.377	0.0	18.000	6.598	0.000	'90.02'	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:	***FW74-3-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-54T (D/S)	12	3.349	1.285	429.6	11.986	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-54P-1	62	1.634	0.627	429.6	11.986	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-4-FWH26C to DISHDR***									***Sorted By: Flow Order***	
BFD-47N	31	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-47	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-47P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-48	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-48P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-4-2	22	5.417	2.078	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-48P-1	58	2.384	0.914	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-49	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-49P	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50	2	4.009	1.537	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50P US	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50P DS	52	2.709	1.039	429.6	17.382	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW74-5-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-50T	12	3.349	1.285	429.6	11.986	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-50T (BR/SE)	12	3.683	1.413	429.6	17.377	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-50T (D/S)	12	4.200	1.611	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-50P-1	62	2.049	0.786	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-46T	15	3.073	1.179	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-46T (D/S)	15	3.073	1.179	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-46P	65	2.049	0.786	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-60	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-30	4	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-30P US	54	3.278	1.257	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-30P DS	54	3.278	1.257	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-31	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-31P US	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-61	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-61P	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-62	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-62P US	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-62P DS	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-63	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-63P US	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-63P DS	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-64	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	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:	***FW74-5-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-64P	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-65	2	3.790	1.454	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-65P-1	52	2.561	0.982	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-72T	13	5.122	1.964	429.6	17.970	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-72T (BR/SE)	13	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72T (D/S)	13	4.361	1.673	429.6	13.478	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW75-1-DISHDR to SG21***									***Sorted By: Flow Order***	
BFD-72P US	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P DS	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P-1 US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72P-1 DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72R	7	3.230	1.239	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-72R (D/S)	7	4.745	1.820	429.6	27.724	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-417	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-71R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-71R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-71	4	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-70P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-70P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-70	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-69P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-69P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-69	1	3.046	1.168	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-68P US	51	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-68P DS	51	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-68	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-67P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-67P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-6	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-67	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-66	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-66P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-96	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-96P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-97	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW75-1-DISHDR to SG21***									***Sorted By: Flow Order***	
BFD-97P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-98	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-98P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-98P-1	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-99	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-99N	30	3.586	1.376	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW76-1-DISHDR to SG22***									***Sorted By: Flow Order***	
BFD-78P	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78P-1 US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5-1	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78P-2	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-427	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-77R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77P	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-77	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-76P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-76	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-75P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-75	1	3.046	1.168	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-74P	51	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-74	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-73P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-6-1	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7-1	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-73	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-73P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-91	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-91P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92-1	1	2.959	1.135	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P-1	51	1.973	0.757	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92-2	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P-2	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-92P-3	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-93	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW76-1-DISHDR to SG22***									***Sorted By: Flow Order***	
BFD-93P US	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-93P DS	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-94	1	2.959	1.135	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95	3	3.138	1.204	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95P	53	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95R	18	2.511	0.963	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-95R (D/S)	18	2.349	0.901	429.6	10.047	0.0	20.000	6.598	0.000	'90.02'	HBD
BFD-95N	30	3.132	1.201	429.6	10.047	0.0	20.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW76-2-DISHDR to SG22***									***Sorted By: Flow Order***	
BFD-78T (BR/SE)	13	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-78T	13	4.361	1.673	429.6	13.478	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-78T (D/S)	13	3.477	1.333	429.6	8.985	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW77-1-DISHDR to SG24***									***Sorted By: Flow Order***	
BFD-84P	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84P-1	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5-3	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84P-2	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-447	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-83R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-83R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-83	4	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-82P US	54	2.954	1.133	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-82P DS	54	2.954	1.133	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-82	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-81P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-81	1	3.046	1.168	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-80	4	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-80P	54	2.954	1.133	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-6-3	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7-3	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-79	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-104P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-104	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105-1	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-105P-1	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW77-1-DISHDR to SG24***									***Sorted By: Flow Order***	
BFD-105P-2	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-106	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-106P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-106N	30	3.586	1.376	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW77-2-DISHDR to SG24***									***Sorted By: Flow Order***	
BFD-84T (BR/SE)	13	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-84T	13	3.477	1.333	429.6	8.985	0.0	30.000	6.598	0.000	'90.02'	HBD
BFD-84T (D/S)	13	2.012	0.784	429.6	4.493	0.0	30.000	6.598	0.000	'90.02'	HBD
===>Grouped by Line:	***FW78-1-DISHDR to SG23***									***Sorted By: Flow Order***	
BFD-89T (BR/SE)	12	3.138	1.204	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89P	64	1.846	0.708	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89P-1	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-5-2	22	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89P-2	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-FCV-437	24	4.615	1.770	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3R	18	4.151	1.592	429.6	27.714	0.0	12.750	6.598	0.000	'90.02'	HBD
BFD-3R (D/S)	18	2.769	1.062	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3P	58	2.031	0.779	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-3	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-88P	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-88	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-87P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-87P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-87	2	3.415	1.310	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-86P US	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-86P DS	52	2.307	0.885	429.6	13.049	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-6-2	25	5.218	2.001	429.6	15.861	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-VALVE-BFD-7-2	22	5.217	2.001	429.6	15.859	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-86	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-85	4	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-100P	54	2.869	1.100	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-100	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-101P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-101	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-102P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-102	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-102P-1	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	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:	***FW78-1-DISHDR to SG23***									***Sorted By: Flow Order***	
BFD-102P-2	9	1.143	0.445	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-103	2	3.317	1.272	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-103P	52	2.242	0.860	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-103N	30	3.586	1.376	429.6	12.461	0.0	18.000	6.598	0.000	'90.02'	HBD
BFD-89T	12	1.650	0.643	429.6	4.493	0.0	30.000	6.598	0.000	'90.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:13AM

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **FW74-1-FWH26A to DISHDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-4	0.000	0.800	0.889	0.889	-165,181	No	222,946
BFD-55N	0.000	0.800	0.832	0.832	-97,704	No	222,946
BFD-58	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-59	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-59R (D/S)	0.000	1.221	1.195	1.195	374,480	No	222,946
BFD-56	0.000	0.977	0.832	0.832	823,491	Yes	222,946
BFD-57	0.000	0.992	0.832	0.832	908,957	Yes	222,946
BFD-59R	0.000	0.860	0.717	0.717	1,075,579	No	222,946
BFD-55P	0.000	0.881	0.717	0.717	1,077,856	Yes	222,946
BFD-58P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-59P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-57P	0.000	0.880	0.717	0.717	1,374,630	Yes	222,946
BFD-56P-1	0.000	0.887	0.717	0.717	1,625,340	Yes	222,946
BFD-55	0.000	1.233	0.832	0.832	2,287,337	No	222,946
===>Grouped by Line: **FW74-2-FWH26B to DISHDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-4-1	0.000	0.800	0.889	0.889	-165,181	No	222,946
BFD-51N	0.000	0.800	0.832	0.832	-97,704	No	222,946
BFD-54	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-53	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-51P	0.000	0.850	0.717	0.717	874,832	No	222,946
BFD-52	0.000	1.031	0.832	0.832	1,132,879	Yes	222,946
BFD-54P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-52P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-53P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-52P-1	0.000	0.863	0.717	0.717	1,400,749	Yes	222,946
BFD-51	0.000	1.254	0.832	0.832	2,403,472	No	222,946
===>Grouped by Line: **FW74-3-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-54P-1	0.000	1.218	1.195	1.195	328,057	No	222,946
BFD-54T (BR/SE)	0.000	0.866	0.717	0.717	926,013	Yes	222,946

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: **FW74-3-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-54T (D/S)	0.000	1.339	1.195	1.195	980,440	Yes	222,946
BFD-54T	0.000	1.338	1.195	1.195	1,526,425	Yes	222,946
===>Grouped by Line: **FW74-4-FWH26C to DISHDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-4-2	0.000	0.800	0.889	0.889	-165,181	No	222,946
BFD-47N	0.000	0.800	0.832	0.832	-97,704	No	222,946
BFD-49	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-50	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-48	0.000	1.012	0.832	0.832	1,023,566	Yes	222,946
BFD-50P DS	0.000	0.856	0.717	0.717	1,171,093	Yes	222,946
BFD-48P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-49P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-50P US	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-47P	0.000	0.885	0.717	0.717	1,420,638	Yes	222,946
BFD-48P-1	0.000	0.877	0.717	0.717	1,536,708	No	222,946
BFD-47	0.000	1.109	0.832	0.832	1,576,245	No	222,946
===>Grouped by Line: **FW74-5-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-62	0.000	1.164	1.195	1.195	-113,055	No	222,946
BFD-65	0.000	1.164	1.195	1.195	-113,055	No	222,946
BFD-62P US	0.000	1.195	1.195	1.195	-1,188	No	222,946
BFD-63P DS	0.000	1.195	1.195	1.195	-1,188	No	222,946
BFD-65P-1	0.000	1.195	1.195	1.195	-1,188	No	222,946
BFD-50P-1	0.000	1.208	1.195	1.195	143,839	No	222,946
BFD-46P	0.000	1.208	1.195	1.195	143,839	No	222,946
BFD-30	0.000	1.265	1.195	1.195	423,285	Yes	222,946
BFD-63	0.000	1.294	1.195	1.195	598,039	Yes	222,946
BFD-50T (D/S)	0.000	1.306	1.195	1.195	602,292	No	222,946
BFD-46T (D/S)	0.000	1.282	1.195	1.195	649,513	No	222,946
BFD-72T (BR/SE)	0.000	0.861	0.717	0.717	714,521	Yes	222,946
BFD-50T	0.000	1.308	1.195	1.195	772,372	No	222,946
BFD-62P DS	0.000	1.287	1.195	1.195	824,267	Yes	222,946
BFD-30P US	0.000	1.314	1.195	1.195	826,004	Yes	222,946
BFD-30P DS	0.000	1.331	1.195	1.195	944,453	Yes	222,946
BFD-46T	0.000	1.327	1.195	1.195	983,957	No	222,946
BFD-63P US	0.000	1.309	1.195	1.195	1,020,473	Yes	222,946
BFD-61P	0.000	1.313	1.195	1.195	1,048,566	Yes	222,946
BFD-64P	0.000	1.322	1.195	1.195	1,130,634	Yes	222,946
BFD-60	0.000	1.391	1.195	1.195	1,178,461	Yes	222,946
BFD-72T	0.000	1.468	1.195	1.195	1,217,815	Yes	222,946
BFD-31P US	0.000	1.342	1.195	1.195	1,315,496	Yes	222,946

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: FW74-5-FWH26 to DISHDR					Sorted By:Remaining Life		
BFD-64	0.000	1.418	1.195	1.195	1,345,028	Yes	222,946
BFD-61	0.000	1.424	1.195	1.195	1,379,143	Yes	222,946
BFD-72T (D/S)	0.000	1.469	1.195	1.195	1,437,814	Yes	222,946
BFD-31	0.000	1.451	1.195	1.195	1,545,317	Yes	222,946
BFD-50T (BR/SE)	0.000	0.969	0.717	0.717	1,561,920	No	222,946
===>Grouped by Line: FW75-1-DISHDR to SG21					Sorted By:Remaining Life		
BFD-VALVE-BFD-6	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-VALVE-BFD-5	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-VALVE-FCV-417	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-67	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-66	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-96	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-97	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-71R (D/S)	0.000	0.873	0.832	0.832	336,746	Yes	222,946
BFD-72R	0.000	0.888	0.832	0.832	398,133	Yes	222,946
BFD-99	0.000	0.604	0.544	0.544	410,302	Yes	222,946
BFD-71	0.000	0.904	0.832	0.832	479,056	Yes	222,946
BFD-69	0.000	0.918	0.832	0.832	645,339	Yes	222,946
BFD-99N	0.000	0.652	0.544	0.544	682,880	Yes	222,946
BFD-68	0.000	0.952	0.832	0.832	803,359	Yes	222,946
BFD-70	0.000	0.955	0.832	0.832	823,423	Yes	222,946
BFD-98	0.000	0.666	0.544	0.544	833,563	No	222,946
BFD-72R (D/S)	0.000	0.790	0.589	0.589	967,611	Yes	222,946
BFD-66P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-71R	0.000	0.795	0.589	0.589	1,133,290	Yes	222,946
BFD-72	0.000	1.010	0.832	0.832	1,191,266	Yes	222,946
BFD-70P DS	0.000	0.867	0.717	0.717	1,485,337	Yes	222,946
BFD-96P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-97P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-98P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-70P US	0.000	0.879	0.717	0.717	1,598,849	Yes	222,946
BFD-72P-1 DS	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-67P DS	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-67P US	0.000	0.886	0.717	0.717	1,673,405	Yes	222,946
BFD-72P-1 US	0.000	0.895	0.717	0.717	1,762,490	Yes	222,946
BFD-69P DS	0.000	0.904	0.717	0.717	1,848,012	Yes	222,946
BFD-69P US	0.000	0.909	0.717	0.717	1,901,066	Yes	222,946
BFD-68P US	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-68P DS	0.000	0.898	0.717	0.717	2,033,380	Yes	222,946

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: **FW75-1-DISHDR to SG21**					***Sorted By:Remaining Life***		
BFD-72P US	0.000	0.889	0.717	0.717	2,127,489	Yes	222,946
BFD-72P DS	0.000	0.897	0.717	0.717	2,230,252	Yes	222,946
BFD-98P-1	0.000	0.704	0.544	0.544	3,137,750	No	222,946
===>Grouped by Line: **FW76-1-DISHDR to SG22**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-6-1	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7-1	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-VALVE-BFD-5-1	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-VALVE-FCV-427	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-78	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-74	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-75	0.000	0.860	0.832	0.832	213,200	No	222,946
BFD-95N	0.000	0.732	0.703	0.703	213,620	No	222,946
BFD-73	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-91	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-92	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-92-2	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-93	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-77R (D/S)	0.000	0.869	0.832	0.832	308,148	Yes	222,946
BFD-92-1	0.000	0.675	0.633	0.633	324,232	No	222,946
BFD-95R (D/S)	0.000	0.752	0.703	0.703	478,592	No	222,946
BFD-95R	0.000	0.686	0.633	0.633	485,933	No	222,946
BFD-77R	0.000	0.708	0.589	0.589	650,672	No	222,946
BFD-77	0.000	0.948	0.832	0.832	775,084	Yes	222,946
BFD-76	0.000	0.970	0.832	0.832	920,197	Yes	222,946
BFD-73P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-95	0.000	0.825	0.633	0.633	1,400,692	Yes	222,946
BFD-91P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-92P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-92P-2	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-93P US	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-95P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-93P DS	0.000	0.699	0.544	0.544	1,575,363	No	222,946
BFD-78P-1 US	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-73P	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-76P US	0.000	0.882	0.717	0.717	1,628,544	Yes	222,946
BFD-94	0.000	0.865	0.633	0.633	1,791,206	No	222,946
BFD-92P-1	0.000	0.700	0.544	0.544	1,798,238	No	222,946
BFD-78P-2	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-74P	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-77P	0.000	0.888	0.717	0.717	1,919,681	Yes	222,946

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: **FW76-1-DISHDR to SG22**					***Sorted By:Remaining Life***		
BFD-75P	0.000	0.921	0.717	0.717	2,020,044	Yes	222,946
BFD-78P	0.000	0.891	0.717	0.717	2,153,451	No	222,946
BFD-92P-3	0.000	0.721	0.544	0.544	3,470,053	No	222,946
===>Grouped by Line: **FW76-2-DISHDR to SG22**					***Sorted By:Remaining Life***		
BFD-78T (D/S)	0.000	1.292	1.195	1.195	637,547	No	222,946
BFD-78T	0.000	1.323	1.195	1.195	673,176	No	222,946
BFD-78T (BR/SE)	0.000	0.884	0.717	0.717	828,352	No	222,946
===>Grouped by Line: **FW77-1-DISHDR to SG24**					***Sorted By:Remaining Life***		
BFD-106	0.000	0.578	0.633	0.633	-165,370	Yes	222,946
BFD-VALVE-BFD-6-3	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7-3	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-VALVE-BFD-5-3	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-VALVE-FCV-447	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-84	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-82	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-106N	0.000	0.659	0.633	0.633	165,764	No	222,946
BFD-104	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-105-1	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-79	0.000	0.678	0.633	0.633	312,554	Yes	222,946
BFD-83R (D/S)	0.000	0.891	0.832	0.832	482,963	No	222,946
BFD-83R	0.000	0.717	0.589	0.589	701,848	No	222,946
BFD-83	0.000	0.956	0.832	0.832	828,589	Yes	222,946
BFD-80	0.000	0.957	0.832	0.832	835,912	Yes	222,946
BFD-105	0.000	0.672	0.544	0.544	880,734	Yes	222,946
BFD-81	0.000	0.958	0.832	0.832	946,327	Yes	222,946
BFD-104P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-105P-1	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-106P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-80P	0.000	0.857	0.717	0.717	1,085,165	Yes	222,946
BFD-82P DS	0.000	0.863	0.717	0.717	1,127,921	No	222,946
BFD-82P US	0.000	0.885	0.717	0.717	1,298,129	Yes	222,946
BFD-105P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-84P-1	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-81P	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-84P-2	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-84P	0.000	0.891	0.717	0.717	2,153,451	No	222,946
BFD-105P-2	0.000	0.721	0.544	0.544	3,470,053	No	222,946
===>Grouped by Line: **FW77-2-DISHDR to SG24**					***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: **FW77-2-DISHDR to SG24**					***Sorted By:Remaining Life***		
BFD-84T (BR/SE)	0.000	0.891	0.717	0.717	862,996	Yes	222,946
BFD-84T	0.000	1.354	1.195	1.195	1,044,860	Yes	222,946
BFD-84T (D/S)	0.000	1.351	1.195	1.195	1,742,046	Yes	222,946
===>Grouped by Line: **FW78-1-DISHDR to SG23**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-6-2	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7-2	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-VALVE-BFD-5-2	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-VALVE-FCV-437	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-88	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-86	0.000	0.651	0.633	0.633	127,861	Yes	222,946
BFD-103N	0.000	0.659	0.633	0.633	165,764	No	222,946
BFD-85	0.000	0.663	0.633	0.633	210,479	Yes	222,946
BFD-100	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-102	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-103	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-101	0.000	0.677	0.633	0.633	305,669	Yes	222,946
BFD-89T	0.000	1.218	1.195	1.195	314,156	No	222,946
BFD-3R (D/S)	0.000	0.886	0.832	0.832	448,375	Yes	222,946
BFD-3R	0.000	0.698	0.589	0.589	595,644	No	222,946
BFD-87	0.000	0.938	0.832	0.832	708,204	Yes	222,946
BFD-89T (BR/SE)	0.000	0.858	0.717	0.717	1,027,379	No	222,946
BFD-3	0.000	0.988	0.832	0.832	1,042,606	Yes	222,946
BFD-100P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-89	0.000	0.993	0.832	0.832	1,074,292	Yes	222,946
BFD-87P DS	0.000	0.867	0.717	0.717	1,480,069	Yes	222,946
BFD-89P-1	0.000	0.868	0.717	0.717	1,492,225	Yes	222,946
BFD-101P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-102P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-102P-1	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-103P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-88P	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-86P DS	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-87P US	0.000	0.894	0.717	0.717	1,747,324	Yes	222,946
BFD-86P US	0.000	0.904	0.717	0.717	1,846,307	Yes	222,946
BFD-89P-2	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-3P	0.000	0.888	0.717	0.717	1,919,681	Yes	222,946
BFD-89P	0.000	0.888	0.717	0.717	2,110,937	Yes	222,946
BFD-102P-2	0.000	0.721	0.544	0.544	3,470,053	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:13AM

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **FW74-1-FWH26A to DISHDR**					***Sorted By:Flow Order***		
BFD-55N	0.000	0.800	0.832	0.832	-97,704	No	222,946
BFD-55	0.000	1.233	0.832	0.832	2,287,337	No	222,946
BFD-55P	0.000	0.881	0.717	0.717	1,077,856	Yes	222,946
BFD-56	0.000	0.977	0.832	0.832	823,491	Yes	222,946
BFD-VALVE-BFD-4	0.000	0.800	0.889	0.889	-165,181	No	222,946
BFD-56P-1	0.000	0.887	0.717	0.717	1,625,340	Yes	222,946
BFD-57	0.000	0.992	0.832	0.832	908,957	Yes	222,946
BFD-57P	0.000	0.880	0.717	0.717	1,374,630	Yes	222,946
BFD-58	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-58P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-59	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-59P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-59R	0.000	0.860	0.717	0.717	1,075,579	No	222,946
BFD-59R (D/S)	0.000	1.221	1.195	1.195	374,480	No	222,946
===>Grouped by Line: **FW74-2-FWH26B to DISHDR**					***Sorted By:Flow Order***		
BFD-51N	0.000	0.800	0.832	0.832	-97,704	No	222,946
BFD-51	0.000	1.254	0.832	0.832	2,403,472	No	222,946
BFD-51P	0.000	0.850	0.717	0.717	874,832	No	222,946
BFD-52	0.000	1.031	0.832	0.832	1,132,879	Yes	222,946
BFD-52P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-VALVE-BFD-4-1	0.000	0.800	0.889	0.889	-165,181	No	222,946
BFD-52P-1	0.000	0.863	0.717	0.717	1,400,749	Yes	222,946
BFD-53	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-53P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-54	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-54P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
===>Grouped by Line: **FW74-3-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-54T	0.000	1.338	1.195	1.195	1,526,425	Yes	222,946
BFD-54T (BR/SE)	0.000	0.866	0.717	0.717	926,013	Yes	222,946

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: **FW74-3-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-54T (D/S)	0.000	1.339	1.195	1.195	980,440	Yes	222,946
BFD-54P-1	0.000	1.218	1.195	1.195	328,057	No	222,946
===>Grouped by Line: **FW74-4-FWH26C to DISHDR**					***Sorted By:Flow Order***		
BFD-47N	0.000	0.800	0.832	0.832	-97,704	No	222,946
BFD-47	0.000	1.109	0.832	0.832	1,576,245	No	222,946
BFD-47P	0.000	0.885	0.717	0.717	1,420,638	Yes	222,946
BFD-48	0.000	1.012	0.832	0.832	1,023,566	Yes	222,946
BFD-48P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-VALVE-BFD-4-2	0.000	0.800	0.889	0.889	-165,181	No	222,946
BFD-48P-1	0.000	0.877	0.717	0.717	1,536,708	No	222,946
BFD-49	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-49P	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-50	0.000	0.836	0.832	0.832	22,383	No	222,946
BFD-50P US	0.000	0.869	0.717	0.717	1,282,547	No	222,946
BFD-50P DS	0.000	0.856	0.717	0.717	1,171,093	Yes	222,946
===>Grouped by Line: **FW74-5-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-50T	0.000	1.308	1.195	1.195	772,372	No	222,946
BFD-50T (BR/SE)	0.000	0.969	0.717	0.717	1,561,920	No	222,946
BFD-50T (D/S)	0.000	1.306	1.195	1.195	602,292	No	222,946
BFD-50P-1	0.000	1.208	1.195	1.195	143,839	No	222,946
BFD-46T	0.000	1.327	1.195	1.195	983,957	No	222,946
BFD-46T (D/S)	0.000	1.282	1.195	1.195	649,513	No	222,946
BFD-46P	0.000	1.208	1.195	1.195	143,839	No	222,946
BFD-60	0.000	1.391	1.195	1.195	1,178,461	Yes	222,946
BFD-30	0.000	1.265	1.195	1.195	423,285	Yes	222,946
BFD-30P US	0.000	1.314	1.195	1.195	826,004	Yes	222,946
BFD-30P DS	0.000	1.331	1.195	1.195	944,453	Yes	222,946
BFD-31	0.000	1.451	1.195	1.195	1,545,317	Yes	222,946
BFD-31P US	0.000	1.342	1.195	1.195	1,315,496	Yes	222,946
BFD-61	0.000	1.424	1.195	1.195	1,379,143	Yes	222,946
BFD-61P	0.000	1.313	1.195	1.195	1,048,566	Yes	222,946
BFD-62	0.000	1.164	1.195	1.195	-113,055	No	222,946
BFD-62P US	0.000	1.195	1.195	1.195	-1,188	No	222,946
BFD-62P DS	0.000	1.287	1.195	1.195	824,267	Yes	222,946
BFD-63	0.000	1.294	1.195	1.195	598,039	Yes	222,946
BFD-63P US	0.000	1.309	1.195	1.195	1,020,473	Yes	222,946
BFD-63P DS	0.000	1.195	1.195	1.195	-1,188	No	222,946
BFD-64	0.000	1.418	1.195	1.195	1,345,028	Yes	222,946
BFD-64P	0.000	1.322	1.195	1.195	1,130,634	Yes	222,946

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: **FW74-5-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-65	0.000	1.164	1.195	1.195	-113,055	No	222,946
BFD-65P-1	0.000	1.195	1.195	1.195	-1,188	No	222,946
BFD-72T	0.000	1.468	1.195	1.195	1,217,815	Yes	222,946
BFD-72T (BR/SE)	0.000	0.861	0.717	0.717	714,521	Yes	222,946
BFD-72T (D/S)	0.000	1.469	1.195	1.195	1,437,814	Yes	222,946
===>Grouped by Line: **FW75-1-DISHDR to SG21**					***Sorted By:Flow Order***		
BFD-72P US	0.000	0.889	0.717	0.717	2,127,489	Yes	222,946
BFD-72P DS	0.000	0.897	0.717	0.717	2,230,252	Yes	222,946
BFD-72	0.000	1.010	0.832	0.832	1,191,266	Yes	222,946
BFD-72P-1 US	0.000	0.895	0.717	0.717	1,762,490	Yes	222,946
BFD-72P-1 DS	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-VALVE-BFD-5	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-72R	0.000	0.888	0.832	0.832	398,133	Yes	222,946
BFD-72R (D/S)	0.000	0.790	0.589	0.589	967,611	Yes	222,946
BFD-VALVE-FCV-417	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-71R	0.000	0.795	0.589	0.589	1,133,290	Yes	222,946
BFD-71R (D/S)	0.000	0.873	0.832	0.832	336,746	Yes	222,946
BFD-71	0.000	0.904	0.832	0.832	479,056	Yes	222,946
BFD-70P US	0.000	0.879	0.717	0.717	1,598,849	Yes	222,946
BFD-70P DS	0.000	0.867	0.717	0.717	1,485,337	Yes	222,946
BFD-70	0.000	0.955	0.832	0.832	823,423	Yes	222,946
BFD-69P US	0.000	0.909	0.717	0.717	1,901,066	Yes	222,946
BFD-69P DS	0.000	0.904	0.717	0.717	1,848,012	Yes	222,946
BFD-69	0.000	0.918	0.832	0.832	645,339	Yes	222,946
BFD-68P US	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-68P DS	0.000	0.898	0.717	0.717	2,033,380	Yes	222,946
BFD-68	0.000	0.952	0.832	0.832	803,359	Yes	222,946
BFD-67P US	0.000	0.886	0.717	0.717	1,673,405	Yes	222,946
BFD-67P DS	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-VALVE-BFD-6	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-67	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-66	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-66P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-96	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-96P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-97	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-97P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-98	0.000	0.666	0.544	0.544	833,563	No	222,946
BFD-98P	0.000	0.693	0.544	0.544	1,512,694	No	222,946

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: **FW75-1-DISHDR to SG21**					***Sorted By:Flow Order***		
BFD-98P-1	0.000	0.704	0.544	0.544	3,137,750	No	222,946
BFD-99	0.000	0.604	0.544	0.544	410,302	Yes	222,946
BFD-99N	0.000	0.652	0.544	0.544	682,880	Yes	222,946
===>Grouped by Line: **FW76-1-DISHDR to SG22**					***Sorted By:Flow Order***		
BFD-78P	0.000	0.891	0.717	0.717	2,153,451	No	222,946
BFD-78	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-78P-1 US	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-VALVE-BFD-5-1	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-78P-2	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-VALVE-FCV-427	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-77R	0.000	0.708	0.589	0.589	650,672	No	222,946
BFD-77R (D/S)	0.000	0.869	0.832	0.832	308,148	Yes	222,946
BFD-77P	0.000	0.888	0.717	0.717	1,919,681	Yes	222,946
BFD-77	0.000	0.948	0.832	0.832	775,084	Yes	222,946
BFD-76P US	0.000	0.882	0.717	0.717	1,628,544	Yes	222,946
BFD-76	0.000	0.970	0.832	0.832	920,197	Yes	222,946
BFD-75P	0.000	0.921	0.717	0.717	2,020,044	Yes	222,946
BFD-75	0.000	0.860	0.832	0.832	213,200	No	222,946
BFD-74P	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-74	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-73P	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-VALVE-BFD-6-1	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7-1	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-73	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-73P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-91	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-91P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-92	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-92P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-92-1	0.000	0.675	0.633	0.633	324,232	No	222,946
BFD-92P-1	0.000	0.700	0.544	0.544	1,798,238	No	222,946
BFD-92-2	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-92P-2	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-92P-3	0.000	0.721	0.544	0.544	3,470,053	No	222,946
BFD-93	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-93P US	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-93P DS	0.000	0.699	0.544	0.544	1,575,363	No	222,946
BFD-94	0.000	0.865	0.633	0.633	1,791,206	No	222,946
BFD-95	0.000	0.825	0.633	0.633	1,400,692	Yes	222,946
BFD-95P	0.000	0.693	0.544	0.544	1,512,694	No	222,946

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: FW76-1-DISHDR to SG22					Sorted By:Flow Order		
BFD-95R	0.000	0.686	0.633	0.633	485,933	No	222,946
BFD-95R (D/S)	0.000	0.752	0.703	0.703	478,592	No	222,946
BFD-95N	0.000	0.732	0.703	0.703	213,620	No	222,946
===>Grouped by Line: FW76-2-DISHDR to SG22					Sorted By:Flow Order		
BFD-78T (BR/SE)	0.000	0.884	0.717	0.717	828,352	No	222,946
BFD-78T	0.000	1.323	1.195	1.195	673,176	No	222,946
BFD-78T (D/S)	0.000	1.292	1.195	1.195	637,547	No	222,946
===>Grouped by Line: FW77-1-DISHDR to SG24					Sorted By:Flow Order		
BFD-84P	0.000	0.891	0.717	0.717	2,153,451	No	222,946
BFD-84	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-84P-1	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-VALVE-BFD-5-3	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-84P-2	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-VALVE-FCV-447	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-83R	0.000	0.717	0.589	0.589	701,848	No	222,946
BFD-83R (D/S)	0.000	0.891	0.832	0.832	482,963	No	222,946
BFD-83	0.000	0.956	0.832	0.832	828,589	Yes	222,946
BFD-82P US	0.000	0.885	0.717	0.717	1,298,129	Yes	222,946
BFD-82P DS	0.000	0.863	0.717	0.717	1,127,921	No	222,946
BFD-82	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-81P	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-81	0.000	0.958	0.832	0.832	946,327	Yes	222,946
BFD-80	0.000	0.957	0.832	0.832	835,912	Yes	222,946
BFD-80P	0.000	0.857	0.717	0.717	1,085,165	Yes	222,946
BFD-VALVE-BFD-6-3	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7-3	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-79	0.000	0.678	0.633	0.633	312,554	Yes	222,946
BFD-104P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-104	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-105P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-105	0.000	0.672	0.544	0.544	880,734	Yes	222,946
BFD-105-1	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-105P-1	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-105P-2	0.000	0.721	0.544	0.544	3,470,053	No	222,946
BFD-106	0.000	0.578	0.633	0.633	-165,370	Yes	222,946
BFD-106P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-106N	0.000	0.659	0.633	0.633	165,764	No	222,946
===>Grouped by Line: FW77-2-DISHDR to SG24					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: **FW77-2-DISHDR to SG24**					***Sorted By:Flow Order***		
BFD-84T (BR/SE)	0.000	0.891	0.717	0.717	862,996	Yes	222,946
BFD-84T	0.000	1.354	1.195	1.195	1,044,860	Yes	222,946
BFD-84T (D/S)	0.000	1.351	1.195	1.195	1,742,046	Yes	222,946
===>Grouped by Line: **FW78-1-DISHDR to SG23**					***Sorted By:Flow Order***		
BFD-89T (BR/SE)	0.000	0.858	0.717	0.717	1,027,379	No	222,946
BFD-89P	0.000	0.888	0.717	0.717	2,110,937	Yes	222,946
BFD-89	0.000	0.993	0.832	0.832	1,074,292	Yes	222,946
BFD-89P-1	0.000	0.868	0.717	0.717	1,492,225	Yes	222,946
BFD-VALVE-BFD-5-2	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-89P-2	0.000	0.886	0.717	0.717	1,904,838	No	222,946
BFD-VALVE-FCV-437	0.000	0.821	0.889	0.889	-155,141	No	222,946
BFD-3R	0.000	0.698	0.589	0.589	595,644	No	222,946
BFD-3R (D/S)	0.000	0.886	0.832	0.832	448,375	Yes	222,946
BFD-3P	0.000	0.888	0.717	0.717	1,919,681	Yes	222,946
BFD-3	0.000	0.988	0.832	0.832	1,042,606	Yes	222,946
BFD-88P	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-88	0.000	0.851	0.832	0.832	127,308	No	222,946
BFD-87P US	0.000	0.894	0.717	0.717	1,747,324	Yes	222,946
BFD-87P DS	0.000	0.867	0.717	0.717	1,480,069	Yes	222,946
BFD-87	0.000	0.938	0.832	0.832	708,204	Yes	222,946
BFD-86P US	0.000	0.904	0.717	0.717	1,846,307	Yes	222,946
BFD-86P DS	0.000	0.879	0.717	0.717	1,606,502	No	222,946
BFD-VALVE-BFD-6-2	0.000	0.805	0.889	0.889	-162,973	No	222,946
BFD-VALVE-BFD-7-2	0.000	0.805	0.889	0.889	-162,968	No	222,946
BFD-86	0.000	0.651	0.633	0.633	127,861	Yes	222,946
BFD-85	0.000	0.663	0.633	0.633	210,479	Yes	222,946
BFD-100P	0.000	0.677	0.544	0.544	1,054,634	No	222,946
BFD-100	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-101P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-101	0.000	0.677	0.633	0.633	305,669	Yes	222,946
BFD-102P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-102	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-102P-1	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-102P-2	0.000	0.721	0.544	0.544	3,470,053	No	222,946
BFD-103	0.000	0.666	0.633	0.633	226,337	No	222,946
BFD-103P	0.000	0.693	0.544	0.544	1,512,694	No	222,946
BFD-103N	0.000	0.659	0.633	0.633	165,764	No	222,946
BFD-89T	0.000	1.218	1.195	1.195	314,156	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:27:23AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD242A-1-FWH23A CV to FWH22A***								***Sorted By: Average Wear Rate***		
242-VALVE-LCV-1118	24	7.140	3.453	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
242-VALVE-3EX-9	22	4.292	2.096	212.1	4.386	0.0	8.625	7.015	0.000	'11.97'	ARD
242-8R	18	4.107	1.986	212.1	7.964	0.0	6.625	7.015	0.000	'11.97'	ARD
242-10T (D/S)	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-10T	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-8R (D/S)	18	2.588	1.264	212.1	4.410	0.0	8.625	7.015	0.000	'11.97'	ARD
242-12N	18	2.335	1.140	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-9P	58	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-11P	62	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-12N (D/S)	18	1.624	0.793	212.1	2.672	0.0	10.750	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD243A-1-FWH23B CV to FWH22B***								***Sorted By: Average Wear Rate***		
243-VALVE-LCV-1119	24	7.140	3.453	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
243-VALVE-3EX-9-1	22	4.292	2.096	212.1	4.386	0.0	8.625	7.015	0.000	'11.97'	ARD
243-9R	18	4.223	2.042	212.1	8.325	0.0	6.625	7.015	0.000	'11.97'	ARD
243-11T (D/S)	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-11T	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-9R (D/S)	18	2.591	1.265	212.1	4.416	0.0	8.625	7.015	0.000	'11.97'	ARD
243-13N	18	2.335	1.140	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-10P	58	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-12P	62	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-13N (D/S)	18	1.624	0.793	212.1	2.672	0.0	10.750	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD244A-1-FWH23C CV to FWH22C***								***Sorted By: Average Wear Rate***		
244-VALVE-LCV-1119	24	7.140	3.453	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
244-VALVE-3EX-9-2	22	4.292	2.096	212.1	4.386	0.0	8.625	7.015	0.000	'11.97'	ARD
244-9R	18	4.064	1.965	212.1	7.832	0.0	6.625	7.015	0.000	'11.97'	ARD
244-11T (D/S)	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-11T	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-13N	30	3.336	1.629	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-9R (D/S)	18	2.566	1.253	212.1	4.370	0.0	8.625	7.015	0.000	'11.97'	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:	***HD244A-1-FWH23C CV to FWH22C***								***Sorted By: Average Wear Rate***		
244-10P	58	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-12P	62	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:23AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD242A-1-FWH23A CV to FWH22A***									***Sorted By: Flow Order***	
242-10T (D/S)	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-11P	62	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-12N	18	2.335	1.140	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-12N (D/S)	18	1.624	0.793	212.1	2.672	0.0	10.750	7.015	0.000	'11.97'	ARD
242-VALVE-LCV-1118	24	7.140	3.453	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
242-8R	18	4.107	1.986	212.1	7.964	0.0	6.625	7.015	0.000	'11.97'	ARD
242-8R (D/S)	18	2.588	1.264	212.1	4.410	0.0	8.625	7.015	0.000	'11.97'	ARD
242-VALVE-3EX-9	22	4.292	2.096	212.1	4.386	0.0	8.625	7.015	0.000	'11.97'	ARD
242-9P	58	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-10T	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD243A-1-FWH23B CV to FWH22B***									***Sorted By: Flow Order***	
243-11T (D/S)	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-12P	62	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-13N	18	2.335	1.140	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-13N (D/S)	18	1.624	0.793	212.1	2.672	0.0	10.750	7.015	0.000	'11.97'	ARD
243-VALVE-LCV-1119	24	7.140	3.453	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
243-9R	18	4.223	2.042	212.1	8.325	0.0	6.625	7.015	0.000	'11.97'	ARD
243-9R (D/S)	18	2.591	1.265	212.1	4.416	0.0	8.625	7.015	0.000	'11.97'	ARD
243-VALVE-3EX-9-1	22	4.292	2.096	212.1	4.386	0.0	8.625	7.015	0.000	'11.97'	ARD
243-10P	58	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-11T	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD244A-1-FWH23C CV to FWH22C***									***Sorted By: Flow Order***	
244-11T (D/S)	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-12P	62	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-13N	30	3.336	1.629	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-VALVE-LCV-1119	24	7.140	3.453	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
244-9R	18	4.064	1.965	212.1	7.832	0.0	6.625	7.015	0.000	'11.97'	ARD
244-9R (D/S)	18	2.566	1.253	212.1	4.370	0.0	8.625	7.015	0.000	'11.97'	ARD
244-VALVE-3EX-9-2	22	4.292	2.096	212.1	4.386	0.0	8.625	7.015	0.000	'11.97'	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:	***HD244A-1-FWH23C CV to FWH22C***									***Sorted By: Flow Order***	
244-10P	58	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-11T	12	3.419	1.670	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:23AM

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD242A-1-FWH23A CV to FWH22A**					***Sorted By:Remaining Life***		
242-VALVE-LCV-1118	0.000	0.098	0.012	0.012	219,359	No	222,946
242-VALVE-3EX-9	0.000	0.141	0.015	0.015	524,159	No	222,946
242-10T	0.000	0.163	0.014	0.014	779,811	No	222,946
242-10T (D/S)	0.000	0.163	0.014	0.014	779,811	No	222,946
242-8R	0.344	0.277	0.011	0.011	1,175,113	No	222,946
242-12N	0.000	0.191	0.017	0.017	1,334,926	No	222,946
242-8R (D/S)	0.323	0.228	0.014	0.014	1,483,854	No	222,946
242-9P	0.000	0.219	0.017	0.017	1,980,075	Yes	222,946
242-11P	0.000	0.208	0.017	0.017	2,051,532	No	222,946
242-12N (D/S)	0.000	0.209	0.021	0.021	2,073,553	No	222,946
===>Grouped by Line: **HD243A-1-FWH23B CV to FWH22B**					***Sorted By:Remaining Life***		
243-VALVE-LCV-1119	0.000	0.098	0.012	0.012	219,359	No	222,946
243-VALVE-3EX-9-1	0.000	0.141	0.015	0.015	524,159	No	222,946
243-11T	0.000	0.163	0.014	0.014	779,811	No	222,946
243-11T (D/S)	0.000	0.163	0.014	0.014	779,811	No	222,946
243-9R	0.409	0.317	0.011	0.011	1,311,789	Yes	222,946
243-13N	0.000	0.191	0.017	0.017	1,334,926	No	222,946
243-9R (D/S)	0.326	0.264	0.014	0.014	1,730,884	Yes	222,946
243-10P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
243-12P	0.000	0.208	0.017	0.017	2,051,532	No	222,946
243-13N (D/S)	0.000	0.209	0.021	0.021	2,073,553	No	222,946
===>Grouped by Line: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Remaining Life***		
244-VALVE-LCV-1119	0.000	0.098	0.012	0.012	219,359	No	222,946
244-VALVE-3EX-9-2	0.000	0.141	0.015	0.015	524,159	No	222,946
244-13N	0.000	0.165	0.017	0.017	797,471	No	222,946
244-9R	0.319	0.264	0.011	0.011	1,126,186	No	222,946
244-9R (D/S)	0.305	0.244	0.014	0.014	1,608,984	Yes	222,946
244-12P	0.000	0.208	0.017	0.017	2,051,532	No	222,946
244-10P	0.000	0.231	0.017	0.017	2,094,007	Yes	222,946

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: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Remaining Life***		
244-11T (D/S)	0.000	0.430	0.014	0.014	2,183,146	Yes	222,946
244-11T	0.000	0.544	0.014	0.014	2,781,293	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:23AM

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD242A-1-FWH23A CV to FWH22A**					***Sorted By:Flow Order***		
242-10T (D/S)	0.000	0.163	0.014	0.014	779,811	No	222,946
242-11P	0.000	0.208	0.017	0.017	2,051,532	No	222,946
242-12N	0.000	0.191	0.017	0.017	1,334,926	No	222,946
242-12N (D/S)	0.000	0.209	0.021	0.021	2,073,553	No	222,946
242-VALVE-LCV-1118	0.000	0.098	0.012	0.012	219,359	No	222,946
242-8R	0.344	0.277	0.011	0.011	1,175,113	No	222,946
242-8R (D/S)	0.323	0.228	0.014	0.014	1,483,854	No	222,946
242-VALVE-3EX-9	0.000	0.141	0.015	0.015	524,159	No	222,946
242-9P	0.000	0.219	0.017	0.017	1,980,075	Yes	222,946
242-10T	0.000	0.163	0.014	0.014	779,811	No	222,946
===>Grouped by Line: **HD243A-1-FWH23B CV to FWH22B**					***Sorted By:Flow Order***		
243-11T (D/S)	0.000	0.163	0.014	0.014	779,811	No	222,946
243-12P	0.000	0.208	0.017	0.017	2,051,532	No	222,946
243-13N	0.000	0.191	0.017	0.017	1,334,926	No	222,946
243-13N (D/S)	0.000	0.209	0.021	0.021	2,073,553	No	222,946
243-VALVE-LCV-1119	0.000	0.098	0.012	0.012	219,359	No	222,946
243-9R	0.409	0.317	0.011	0.011	1,311,789	Yes	222,946
243-9R (D/S)	0.326	0.264	0.014	0.014	1,730,884	Yes	222,946
243-VALVE-3EX-9-1	0.000	0.141	0.015	0.015	524,159	No	222,946
243-10P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
243-11T	0.000	0.163	0.014	0.014	779,811	No	222,946
===>Grouped by Line: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Flow Order***		
244-11T (D/S)	0.000	0.430	0.014	0.014	2,183,146	Yes	222,946
244-12P	0.000	0.208	0.017	0.017	2,051,532	No	222,946
244-13N	0.000	0.165	0.017	0.017	797,471	No	222,946
244-VALVE-LCV-1119	0.000	0.098	0.012	0.012	219,359	No	222,946
244-9R	0.319	0.264	0.011	0.011	1,126,186	No	222,946
244-9R (D/S)	0.305	0.244	0.014	0.014	1,608,984	Yes	222,946
244-VALVE-3EX-9-2	0.000	0.141	0.015	0.015	524,159	No	222,946

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: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Flow Order***		
244-10P	0.000	0.231	0.017	0.017	2,094,007	Yes	222,946
244-11T	0.000	0.544	0.014	0.014	2,781,293	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:27:53AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD24A-1-FWH23A to CV***								***Sorted By: Average Wear Rate***		
242-7R (D/S)	7	4.570	2.210	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
3EXD-1N	31	4.170	2.036	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20	2	3.156	1.541	212.1	4.357	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-5	2	3.136	1.531	212.1	4.327	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-1	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-21	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-22	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-3	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-4	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-6	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-5E	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-7E	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-7	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-8	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-9	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-10	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-11	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-12	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-13	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-7R	7	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-2E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-4E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-6P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-14 (D/S)	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-14	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-1P	61	2.252	1.099	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20P-1 US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	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:	***HD24A-1-FWH23A to CV***								***Sorted By: Average Wear Rate***		
3EXD-20P-1 DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2P-1 US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-21P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2P-1 DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-3P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-22P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-1P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-4P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-5P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-6P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-6P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-7P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-8P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-9P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-10P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-11P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-12P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-13P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-3P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20P	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD25A-1-FWH23B to CV***								***Sorted By: Average Wear Rate***		
243-8R (D/S)	7	4.570	2.210	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
3EXD-23N	31	4.170	2.036	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-24	4	3.171	1.548	212.1	4.379	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-33	2	3.146	1.536	212.1	4.342	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-30	2	3.139	1.533	212.1	4.331	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-23	2	3.126	1.526	212.1	4.312	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-40	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-41	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-25	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-42	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-26	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-28	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-6E	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-29	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-8E	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-31	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-32	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	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:	***HD25A-1-FWH23B to CV***								***Sorted By: Average Wear Rate***		
3EXD-27	3	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-8R	7	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-2E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-4E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-24P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-26P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-7P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-34 (D/S)	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-34	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-23P	61	2.252	1.099	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-40P-1	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-41P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-25P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-42P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-1P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-27P	53	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-28P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-29P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-30P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-31P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-32P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-33P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-33P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-3P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-5P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-40P	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD26A-1-FWH23C to CV***								***Sorted By: Average Wear Rate***		
244-8R (D/S)	7	4.570	2.210	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
3EXD-43N	31	4.170	2.036	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-45	4	3.194	1.560	212.1	4.414	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-59	2	3.156	1.541	212.1	4.357	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-43	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-44	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-60	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-46	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-47	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-48	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD

===>Grouped by Line: HD26A-1-FWH23C to CV ***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
3EXD-49	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-6E	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-50	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-8E	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-8R	7	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-2E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-4E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-45P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-7P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-51 (D/S)	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-51	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-43P	61	2.252	1.099	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-43P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58P-1	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-44P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-59P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-59P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-46P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-60P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-1P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-47P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-48P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-49P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-50P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-50P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-3P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-5P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58P US	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58P DS	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:53AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD24A-1-FWH23A to CV***									***Sorted By: Flow Order***	
3EXD-1N	31	4.170	2.036	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-1P	61	2.252	1.099	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-1	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2P-1 US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-2P-1 DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-3	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-3P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-4	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-4P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-5	2	3.136	1.531	212.1	4.327	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-5P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-6	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-6P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-6P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-7	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-7P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-8	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-8P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-9	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-9P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-10	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-10P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-11	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-11P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-12	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-12P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-13	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	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:	***HD24A-1-FWH23A to CV***									***Sorted By: Flow Order***	
3EXD-13P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-14	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-14 (D/S)	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20P	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20	2	3.156	1.541	212.1	4.357	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20P-1 US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-20P-1 DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-21	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-21P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-22	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-22P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-1P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-2E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-3P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-4E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-5E	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-6P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-7E	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-7R	7	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
242-7R (D/S)	7	4.570	2.210	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD25A-1-FWH23B to CV***									***Sorted By: Flow Order***	
3EXD-23N	31	4.170	2.036	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-23P	61	2.252	1.099	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-23	2	3.126	1.526	212.1	4.312	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-24	4	3.171	1.548	212.1	4.379	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-24P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-25	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-25P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-26	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-26P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-27	3	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-27P	53	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-28	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-28P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-29	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-29P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-30	2	3.139	1.533	212.1	4.331	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-30P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	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:	***HD25A-1-FWH23B to CV***									***Sorted By: Flow Order***	
3EXD-31	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-31P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-32	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-32P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-33	2	3.146	1.536	212.1	4.342	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-33P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-33P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-34	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-34 (D/S)	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-40P	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-40	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-40P-1	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-41	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-41P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-42	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-42P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-1P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-2E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-3P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-4E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-5P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-6E	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-7P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-8E	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-8R	7	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
243-8R (D/S)	7	4.570	2.210	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD26A-1-FWH23C to CV***									***Sorted By: Flow Order***	
3EXD-43N	31	4.170	2.036	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-43P	61	2.252	1.099	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-43	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-43P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-44	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-44P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-45	4	3.194	1.560	212.1	4.414	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-45P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-46	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-46P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-47	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	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:	***HD26A-1-FWH23C to CV***									***Sorted By: Flow Order***	
3EXD-47P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-48	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-48P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-49	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-49P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-50	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-50P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-50P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-51	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-51 (D/S)	15	2.502	1.222	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58P US	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58P DS	65	1.668	0.814	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-58P-1	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-59	2	3.156	1.541	212.1	4.357	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-59P US	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-59P DS	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-60	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
3EXD-60P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-1P	52	2.085	1.018	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-2E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-3P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-4E	1	2.752	1.344	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-5P	51	1.835	0.896	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-6E	4	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-7P	54	2.669	1.303	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-8E	2	3.086	1.507	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-8R	7	2.919	1.425	212.1	4.252	0.0	8.625	7.015	0.000	'11.97'	ARD
244-8R (D/S)	7	4.570	2.210	212.1	7.632	0.0	6.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:53AM

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD24A-1-FWH23A to CV**					***Sorted By:Remaining Life***		
3EXD-1N	0.000	0.144	0.014	0.014	557,259	No	222,946
242-7R (D/S)	0.000	0.164	0.011	0.011	605,173	No	222,946
3EXD-21	0.000	0.133	0.014	0.014	689,032	No	222,946
3EXD-1	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-22	0.000	0.171	0.014	0.014	913,475	No	222,946
242-5E	0.000	0.171	0.014	0.014	913,475	No	222,946
242-7E	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-9	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-10	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-11	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-12	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-13	0.000	0.171	0.014	0.014	913,475	No	222,946
242-7R	0.000	0.176	0.014	0.014	991,765	No	222,946
3EXD-20	0.299	0.202	0.014	0.014	1,067,650	Yes	222,946
3EXD-2	0.000	0.200	0.014	0.014	1,078,578	Yes	222,946
242-2E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
242-4E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
3EXD-5	0.285	0.208	0.014	0.014	1,110,053	Yes	222,946
242-6P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
3EXD-14	0.000	0.186	0.014	0.014	1,233,157	No	222,946
3EXD-14 (D/S)	0.000	0.186	0.014	0.014	1,233,157	No	222,946
3EXD-3	0.000	0.232	0.014	0.014	1,264,630	No	222,946
3EXD-7	0.000	0.233	0.014	0.014	1,273,375	Yes	222,946
3EXD-4	0.000	0.246	0.014	0.014	1,346,028	No	222,946
3EXD-8	0.000	0.249	0.014	0.014	1,366,401	Yes	222,946
3EXD-6	0.000	0.253	0.014	0.014	1,389,707	Yes	222,946
3EXD-1P	0.000	0.193	0.017	0.017	1,401,278	No	222,946
3EXD-6P US	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-22P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
242-1P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-9P	0.000	0.197	0.017	0.017	1,549,908	No	222,946

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: **HD24A-1-FWH23A to CV**					***Sorted By:Remaining Life***		
3EXD-10P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-11P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-12P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-13P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-20P-1 US	0.000	0.206	0.017	0.017	1,624,776	Yes	222,946
3EXD-5P	0.000	0.207	0.017	0.017	1,633,380	Yes	222,946
3EXD-2P	0.000	0.210	0.017	0.017	1,659,195	Yes	222,946
3EXD-4P	0.000	0.210	0.017	0.017	1,659,195	Yes	222,946
3EXD-3P	0.000	0.211	0.017	0.017	1,667,800	Yes	222,946
3EXD-20P-1 DS	0.000	0.214	0.017	0.017	1,693,615	Yes	222,946
3EXD-2P-1 US	0.000	0.217	0.017	0.017	1,719,430	Yes	222,946
3EXD-21P	0.000	0.218	0.017	0.017	1,728,035	Yes	222,946
3EXD-8P	0.000	0.225	0.017	0.017	1,788,269	Yes	222,946
242-3P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
3EXD-6P DS	0.000	0.231	0.017	0.017	1,841,666	Yes	222,946
3EXD-7P	0.000	0.234	0.017	0.017	1,867,480	Yes	222,946
3EXD-2P-1 DS	0.000	0.242	0.017	0.017	1,934,552	No	222,946
3EXD-20P	0.000	0.213	0.017	0.017	2,107,039	Yes	222,946
===>Grouped by Line: **HD25A-1-FWH23B to CV**					***Sorted By:Remaining Life***		
3EXD-23N	0.000	0.144	0.014	0.014	557,259	No	222,946
243-8R (D/S)	0.000	0.164	0.011	0.011	605,173	No	222,946
3EXD-25	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-26	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-28	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-31	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-32	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-40	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-41	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-42	0.000	0.171	0.014	0.014	913,475	No	222,946
243-6E	0.000	0.171	0.014	0.014	913,475	No	222,946
243-8E	0.000	0.171	0.014	0.014	913,475	No	222,946
243-8R	0.000	0.176	0.014	0.014	991,765	No	222,946
243-2E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
243-4E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
3EXD-33	0.292	0.204	0.014	0.014	1,083,090	Yes	222,946
3EXD-24P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
243-7P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
3EXD-23	0.278	0.216	0.014	0.014	1,160,130	Yes	222,946
3EXD-27	0.000	0.203	0.014	0.014	1,162,516	Yes	222,946
3EXD-30	0.287	0.224	0.014	0.014	1,200,323	Yes	222,946

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: **HD25A-1-FWH23B to CV**					***Sorted By:Remaining Life***		
3EXD-24	0.309	0.233	0.014	0.014	1,237,295	Yes	222,946
3EXD-26P	0.000	0.206	0.017	0.017	1,271,365	Yes	222,946
3EXD-29	0.000	0.245	0.014	0.014	1,340,214	No	222,946
3EXD-23P	0.000	0.209	0.017	0.017	1,531,281	Yes	222,946
3EXD-25P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-31P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-40P-1	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-41P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-42P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
243-1P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-29P	0.000	0.214	0.017	0.017	1,693,615	Yes	222,946
3EXD-30P	0.000	0.215	0.017	0.017	1,702,220	Yes	222,946
3EXD-33P US	0.000	0.218	0.017	0.017	1,728,035	Yes	222,946
3EXD-32P	0.000	0.221	0.017	0.017	1,753,849	Yes	222,946
3EXD-33P DS	0.000	0.226	0.017	0.017	1,796,816	Yes	222,946
243-3P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
243-5P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
3EXD-28P	0.000	0.230	0.017	0.017	1,831,293	Yes	222,946
3EXD-27P	0.000	0.245	0.017	0.017	1,960,367	No	222,946
3EXD-40P	0.000	0.230	0.017	0.017	2,291,987	Yes	222,946
3EXD-34	0.000	0.496	0.014	0.014	3,454,955	Yes	222,946
3EXD-34 (D/S)	0.000	0.508	0.014	0.014	3,541,004	Yes	222,946
===>Grouped by Line: **HD26A-1-FWH23C to CV**					***Sorted By:Remaining Life***		
3EXD-43N	0.000	0.144	0.014	0.014	557,259	No	222,946
244-8R (D/S)	0.000	0.164	0.011	0.011	605,173	No	222,946
3EXD-43	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-44	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-46	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-47	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-48	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-49	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-50	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-58	0.000	0.171	0.014	0.014	913,475	No	222,946
244-6E	0.000	0.171	0.014	0.014	913,475	No	222,946
244-8E	0.000	0.171	0.014	0.014	913,475	No	222,946
244-8R	0.000	0.176	0.014	0.014	991,765	No	222,946
244-2E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
244-4E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
3EXD-45P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
244-7P	0.000	0.182	0.017	0.017	1,110,987	No	222,946

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: **HD26A-1-FWH23C to CV**					***Sorted By:Remaining Life***		
3EXD-59	0.299	0.225	0.014	0.014	1,198,390	Yes	222,946
3EXD-45	0.325	0.229	0.014	0.014	1,204,349	Yes	222,946
3EXD-60	0.000	0.222	0.014	0.014	1,206,489	No	222,946
3EXD-43P	0.000	0.193	0.017	0.017	1,401,278	No	222,946
3EXD-43P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-46P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-47P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-48P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-49P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-50P US	0.000	0.197	0.017	0.017	1,549,908	No	222,946
244-1P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-44P	0.000	0.201	0.017	0.017	1,581,751	Yes	222,946
3EXD-60P	0.000	0.220	0.017	0.017	1,745,244	Yes	222,946
3EXD-58P-1	0.000	0.226	0.017	0.017	1,796,874	Yes	222,946
3EXD-59P DS	0.000	0.228	0.017	0.017	1,814,084	Yes	222,946
244-3P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
244-5P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
3EXD-59P US	0.000	0.230	0.017	0.017	1,831,293	Yes	222,946
3EXD-50P DS	0.000	0.245	0.017	0.017	1,963,737	No	222,946
3EXD-58P DS	0.000	0.208	0.017	0.017	2,051,532	No	222,946
3EXD-51	0.000	0.317	0.014	0.014	2,169,018	No	222,946
3EXD-58P US	0.000	0.233	0.017	0.017	2,327,683	Yes	222,946
3EXD-51 (D/S)	0.000	0.404	0.014	0.014	2,792,873	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:27:53AM

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD24A-1-FWH23A to CV**					***Sorted By:Flow Order***		
3EXD-1N	0.000	0.144	0.014	0.014	557,259	No	222,946
3EXD-1P	0.000	0.193	0.017	0.017	1,401,278	No	222,946
3EXD-1	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-2P	0.000	0.210	0.017	0.017	1,659,195	Yes	222,946
3EXD-2	0.000	0.200	0.014	0.014	1,078,578	Yes	222,946
3EXD-2P-1 US	0.000	0.217	0.017	0.017	1,719,430	Yes	222,946
3EXD-2P-1 DS	0.000	0.242	0.017	0.017	1,934,552	No	222,946
3EXD-3	0.000	0.232	0.014	0.014	1,264,630	No	222,946
3EXD-3P	0.000	0.211	0.017	0.017	1,667,800	Yes	222,946
3EXD-4	0.000	0.246	0.014	0.014	1,346,028	No	222,946
3EXD-4P	0.000	0.210	0.017	0.017	1,659,195	Yes	222,946
3EXD-5	0.285	0.208	0.014	0.014	1,110,053	Yes	222,946
3EXD-5P	0.000	0.207	0.017	0.017	1,633,380	Yes	222,946
3EXD-6	0.000	0.253	0.014	0.014	1,389,707	Yes	222,946
3EXD-6P US	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-6P DS	0.000	0.231	0.017	0.017	1,841,666	Yes	222,946
3EXD-7	0.000	0.233	0.014	0.014	1,273,375	Yes	222,946
3EXD-7P	0.000	0.234	0.017	0.017	1,867,480	Yes	222,946
3EXD-8	0.000	0.249	0.014	0.014	1,366,401	Yes	222,946
3EXD-8P	0.000	0.225	0.017	0.017	1,788,269	Yes	222,946
3EXD-9	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-9P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-10	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-10P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-11	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-11P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-12	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-12P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-13	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-13P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-14	0.000	0.186	0.014	0.014	1,233,157	No	222,946

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: **HD24A-1-FWH23A to CV**					***Sorted By:Flow Order***		
3EXD-14 (D/S)	0.000	0.186	0.014	0.014	1,233,157	No	222,946
3EXD-20P	0.000	0.213	0.017	0.017	2,107,039	Yes	222,946
3EXD-20	0.299	0.202	0.014	0.014	1,067,650	Yes	222,946
3EXD-20P-1 US	0.000	0.206	0.017	0.017	1,624,776	Yes	222,946
3EXD-20P-1 DS	0.000	0.214	0.017	0.017	1,693,615	Yes	222,946
3EXD-21	0.000	0.133	0.014	0.014	689,032	No	222,946
3EXD-21P	0.000	0.218	0.017	0.017	1,728,035	Yes	222,946
3EXD-22	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-22P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
242-1P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
242-2E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
242-3P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
242-4E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
242-5E	0.000	0.171	0.014	0.014	913,475	No	222,946
242-6P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
242-7E	0.000	0.171	0.014	0.014	913,475	No	222,946
242-7R	0.000	0.176	0.014	0.014	991,765	No	222,946
242-7R (D/S)	0.000	0.164	0.011	0.011	605,173	No	222,946
===>Grouped by Line: **HD25A-1-FWH23B to CV**					***Sorted By:Flow Order***		
3EXD-23N	0.000	0.144	0.014	0.014	557,259	No	222,946
3EXD-23P	0.000	0.209	0.017	0.017	1,531,281	Yes	222,946
3EXD-23	0.278	0.216	0.014	0.014	1,160,130	Yes	222,946
3EXD-24	0.309	0.233	0.014	0.014	1,237,295	Yes	222,946
3EXD-24P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
3EXD-25	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-25P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-26	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-26P	0.000	0.206	0.017	0.017	1,271,365	Yes	222,946
3EXD-27	0.000	0.203	0.014	0.014	1,162,516	Yes	222,946
3EXD-27P	0.000	0.245	0.017	0.017	1,960,367	No	222,946
3EXD-28	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-28P	0.000	0.230	0.017	0.017	1,831,293	Yes	222,946
3EXD-29	0.000	0.245	0.014	0.014	1,340,214	No	222,946
3EXD-29P	0.000	0.214	0.017	0.017	1,693,615	Yes	222,946
3EXD-30	0.287	0.224	0.014	0.014	1,200,323	Yes	222,946
3EXD-30P	0.000	0.215	0.017	0.017	1,702,220	Yes	222,946
3EXD-31	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-31P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-32	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-32P	0.000	0.221	0.017	0.017	1,753,849	Yes	222,946

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: **HD25A-1-FWH23B to CV**					***Sorted By:Flow Order***		
3EXD-33	0.292	0.204	0.014	0.014	1,083,090	Yes	222,946
3EXD-33P US	0.000	0.218	0.017	0.017	1,728,035	Yes	222,946
3EXD-33P DS	0.000	0.226	0.017	0.017	1,796,816	Yes	222,946
3EXD-34	0.000	0.496	0.014	0.014	3,454,955	Yes	222,946
3EXD-34 (D/S)	0.000	0.508	0.014	0.014	3,541,004	Yes	222,946
3EXD-40P	0.000	0.230	0.017	0.017	2,291,987	Yes	222,946
3EXD-40	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-40P-1	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-41	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-41P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-42	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-42P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
243-1P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
243-2E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
243-3P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
243-4E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
243-5P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
243-6E	0.000	0.171	0.014	0.014	913,475	No	222,946
243-7P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
243-8E	0.000	0.171	0.014	0.014	913,475	No	222,946
243-8R	0.000	0.176	0.014	0.014	991,765	No	222,946
243-8R (D/S)	0.000	0.164	0.011	0.011	605,173	No	222,946
===>Grouped by Line: **HD26A-1-FWH23C to CV**					***Sorted By:Flow Order***		
3EXD-43N	0.000	0.144	0.014	0.014	557,259	No	222,946
3EXD-43P	0.000	0.193	0.017	0.017	1,401,278	No	222,946
3EXD-43	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-43P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-44	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-44P	0.000	0.201	0.017	0.017	1,581,751	Yes	222,946
3EXD-45	0.325	0.229	0.014	0.014	1,204,349	Yes	222,946
3EXD-45P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
3EXD-46	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-46P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-47	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-47P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-48	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-48P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-49	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-49P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-50	0.000	0.171	0.014	0.014	913,475	No	222,946

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: **HD26A-1-FWH23C to CV**					***Sorted By:Flow Order***		
3EXD-50P US	0.000	0.197	0.017	0.017	1,549,908	No	222,946
3EXD-50P DS	0.000	0.245	0.017	0.017	1,963,737	No	222,946
3EXD-51	0.000	0.317	0.014	0.014	2,169,018	No	222,946
3EXD-51 (D/S)	0.000	0.404	0.014	0.014	2,792,873	No	222,946
3EXD-58P US	0.000	0.233	0.017	0.017	2,327,683	Yes	222,946
3EXD-58P DS	0.000	0.208	0.017	0.017	2,051,532	No	222,946
3EXD-58	0.000	0.171	0.014	0.014	913,475	No	222,946
3EXD-58P-1	0.000	0.226	0.017	0.017	1,796,874	Yes	222,946
3EXD-59	0.299	0.225	0.014	0.014	1,198,390	Yes	222,946
3EXD-59P US	0.000	0.230	0.017	0.017	1,831,293	Yes	222,946
3EXD-59P DS	0.000	0.228	0.017	0.017	1,814,084	Yes	222,946
3EXD-60	0.000	0.222	0.014	0.014	1,206,489	No	222,946
3EXD-60P	0.000	0.220	0.017	0.017	1,745,244	Yes	222,946
244-1P	0.000	0.197	0.017	0.017	1,549,908	No	222,946
244-2E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
244-3P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
244-4E	0.000	0.180	0.014	0.014	1,079,544	No	222,946
244-5P	0.000	0.203	0.017	0.017	1,823,521	No	222,946
244-6E	0.000	0.171	0.014	0.014	913,475	No	222,946
244-7P	0.000	0.182	0.017	0.017	1,110,987	No	222,946
244-8E	0.000	0.171	0.014	0.014	913,475	No	222,946
244-8R	0.000	0.176	0.014	0.014	991,765	No	222,946
244-8R (D/S)	0.000	0.164	0.011	0.011	605,173	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:28:03AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD21A-2-FWH24A CV to FWH23A***								***Sorted By: Average Wear Rate***		
4EXD-VALVE- LCV-1115	24	16.862	8.133	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-4	12	5.241	2.557	263.5	4.100	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-4 (D/S)	12	5.157	2.516	263.5	4.030	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1N	30	4.611	2.249	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1	4	4.350	2.122	263.5	3.747	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1-1	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1P	54	3.689	1.799	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-4P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-5	18	0.005	0.004	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-5 (D/S)	18	0.002	0.002	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD22A-2-FWH24B CV to FWH23B***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-LCV-1116	24	16.862	8.133	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-37	12	5.241	2.557	263.5	4.100	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-37 (D/S)	12	5.095	2.485	263.5	3.977	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-38	18	4.686	4.554	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-2N	30	4.611	2.249	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2	4	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2-1	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2P	54	3.689	1.799	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-37P US	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-38 (D/S)	18	1.727	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD23A-2-FWH24C CV to FWH23C***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-LCV-1117	24	16.862	8.133	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-59	18	9.442	4.554	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-58 (D/S)	12	5.359	2.614	263.5	4.199	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-58	12	5.255	2.563	263.5	4.112	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3N	30	4.611	2.249	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3	4	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3-1	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	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:	***HD23A-2-FWH24C CV to FWH23C***								***Sorted By: Average Wear Rate***		
4EXD-3P	54	3.689	1.799	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-59 (D/S)	18	3.458	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-58P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:03AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD21A-2-FWH24A CV to FWH23A***									***Sorted By: Flow Order***	
4EXD-4 (D/S)	12	5.157	2.516	263.5	4.030	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-4P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1-1	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1	4	4.350	2.122	263.5	3.747	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1P	54	3.689	1.799	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-1N	30	4.611	2.249	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-VALVE- LCV-1115	24	16.862	8.133	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-5	18	0.005	0.004	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-5 (D/S)	18	0.002	0.002	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-4	12	5.241	2.557	263.5	4.100	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD22A-2-FWH24B CV to FWH23B***									***Sorted By: Flow Order***	
4EXD-37 (D/S)	12	5.095	2.485	263.5	3.977	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2-1	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-37P US	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2	4	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2P	54	3.689	1.799	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-2N	30	4.611	2.249	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-VALVE-LCV-1116	24	16.862	8.133	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-38	18	4.686	4.554	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-38 (D/S)	18	1.727	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-37	12	5.241	2.557	263.5	4.100	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD23A-2-FWH24C CV to FWH23C***									***Sorted By: Flow Order***	
4EXD-58 (D/S)	12	5.359	2.614	263.5	4.199	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-58P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3-1	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3	4	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3P	54	3.689	1.799	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-3N	30	4.611	2.249	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-VALVE-LCV-1117	24	16.862	8.133	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	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:	***HD23A-2-FWH24C CV to FWH23C***									***Sorted By: Flow Order***	
4EXD-59	18	9.442	4.554	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-59 (D/S)	18	3.458	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-58	12	5.255	2.563	263.5	4.112	0.0	6.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:03AM

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD21A-2-FWH24A CV to FWH23A**					***Sorted By:Remaining Life***		
4EXD-VALVE- LCV-1115	0.000	-0.213	0.012	0.012	-141,389	No	222,946
4EXD-1N	0.000	0.163	0.022	0.022	547,691	No	222,946
4EXD-1	0.312	0.210	0.022	0.022	774,056	Yes	222,946
4EXD-1-1	0.000	0.192	0.022	0.022	801,766	Yes	222,946
4EXD-4	0.444	0.293	0.022	0.022	927,739	Yes	222,946
4EXD-1P	0.000	0.221	0.026	0.026	951,766	Yes	222,946
4EXD-4 (D/S)	0.419	0.327	0.022	0.022	1,062,186	Yes	222,946
4EXD-4P	0.000	0.218	0.026	0.026	1,500,462	No	222,946
4EXD-5 (D/S)	0.000	0.280	0.026	0.026	100,000,000	No	86,338
4EXD-5	0.000	0.216	0.014	0.014	100,000,000	No	86,338
===>Grouped by Line: **HD22A-2-FWH24B CV to FWH23B**					***Sorted By:Remaining Life***		
4EXD-VALVE-LCV-1116	0.000	-0.213	0.012	0.012	-141,389	No	222,946
4EXD-38	0.000	0.276	0.012	0.012	507,644	Yes	73,373
4EXD-2N	0.000	0.163	0.022	0.022	547,691	No	222,946
4EXD-2	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-2-1	0.000	0.183	0.022	0.022	760,814	No	222,946
4EXD-2P	0.000	0.186	0.026	0.026	780,500	No	222,946
4EXD-37 (D/S)	0.400	0.304	0.022	0.022	994,848	Yes	222,946
4EXD-37	0.444	0.320	0.022	0.022	1,020,251	Yes	222,946
4EXD-38 (D/S)	0.000	0.248	0.022	0.022	1,175,148	Yes	73,373
4EXD-37P US	0.000	0.220	0.026	0.026	1,516,040	Yes	222,946
===>Grouped by Line: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Remaining Life***		
4EXD-VALVE-LCV-1117	0.000	-0.213	0.012	0.012	-141,389	No	222,946
4EXD-59	0.000	0.120	0.012	0.012	208,652	No	222,946
4EXD-3N	0.000	0.163	0.022	0.022	547,691	No	222,946
4EXD-3	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-3-1	0.000	0.183	0.022	0.022	760,814	No	222,946
4EXD-3P	0.000	0.186	0.026	0.026	780,500	No	222,946
4EXD-58	0.448	0.262	0.022	0.022	819,308	Yes	222,946

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: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Remaining Life***		
4EXD-58 (D/S)	0.478	0.299	0.022	0.022	928,033	Yes	222,946
4EXD-59 (D/S)	0.000	0.229	0.022	0.022	1,074,083	No	222,946
4EXD-58P	0.000	0.221	0.026	0.026	1,523,018	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:03AM

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD21A-2-FWH24A CV to FWH23A**					***Sorted By:Flow Order***		
4EXD-4 (D/S)	0.419	0.327	0.022	0.022	1,062,186	Yes	222,946
4EXD-4P	0.000	0.218	0.026	0.026	1,500,462	No	222,946
4EXD-1-1	0.000	0.192	0.022	0.022	801,766	Yes	222,946
4EXD-1	0.312	0.210	0.022	0.022	774,056	Yes	222,946
4EXD-1P	0.000	0.221	0.026	0.026	951,766	Yes	222,946
4EXD-1N	0.000	0.163	0.022	0.022	547,691	No	222,946
4EXD-VALVE- LCV-1115	0.000	-0.213	0.012	0.012	-141,389	No	222,946
4EXD-5	0.000	0.216	0.014	0.014	100,000,000	No	86,338
4EXD-5 (D/S)	0.000	0.280	0.026	0.026	100,000,000	No	86,338
4EXD-4	0.444	0.293	0.022	0.022	927,739	Yes	222,946
===>Grouped by Line: **HD22A-2-FWH24B CV to FWH23B**					***Sorted By:Flow Order***		
4EXD-37 (D/S)	0.400	0.304	0.022	0.022	994,848	Yes	222,946
4EXD-2-1	0.000	0.183	0.022	0.022	760,814	No	222,946
4EXD-37P US	0.000	0.220	0.026	0.026	1,516,040	Yes	222,946
4EXD-2	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-2P	0.000	0.186	0.026	0.026	780,500	No	222,946
4EXD-2N	0.000	0.163	0.022	0.022	547,691	No	222,946
4EXD-VALVE-LCV-1116	0.000	-0.213	0.012	0.012	-141,389	No	222,946
4EXD-38	0.000	0.276	0.012	0.012	507,644	Yes	73,373
4EXD-38 (D/S)	0.000	0.248	0.022	0.022	1,175,148	Yes	73,373
4EXD-37	0.444	0.320	0.022	0.022	1,020,251	Yes	222,946
===>Grouped by Line: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Flow Order***		
4EXD-58 (D/S)	0.478	0.299	0.022	0.022	928,033	Yes	222,946
4EXD-58P	0.000	0.221	0.026	0.026	1,523,018	No	222,946
4EXD-3-1	0.000	0.183	0.022	0.022	760,814	No	222,946
4EXD-3	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-3P	0.000	0.186	0.026	0.026	780,500	No	222,946
4EXD-3N	0.000	0.163	0.022	0.022	547,691	No	222,946
4EXD-VALVE-LCV-1117	0.000	-0.213	0.012	0.012	-141,389	No	222,946

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: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Flow Order***		
4EXD-59	0.000	0.120	0.012	0.012	208,652	No	222,946
4EXD-59 (D/S)	0.000	0.229	0.022	0.022	1,074,083	No	222,946
4EXD-58	0.448	0.262	0.022	0.022	819,308	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:28:21AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD21A-1-FWH24A to CV***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-4EX-8	22	12.077	5.825	263.5	8.434	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-6 (D/S)	7	10.791	5.205	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-6P	57	8.431	4.066	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-6	7	8.386	4.045	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-7 (D/S)	16	7.427	3.582	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-13N	31	5.764	2.812	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-11	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-10	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-9	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-8	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-12	3	4.035	1.968	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13T (D/S)	15	3.458	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13T	15	3.458	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13P	61	3.112	1.518	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-11P	53	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-10P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-9P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-8P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-7P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-7	16	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13P-1	65	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD22A-1-FWH24B to CV***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-4EX-8-1	22	12.077	5.825	263.5	8.434	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-39 (D/S)	7	10.791	5.205	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-39P	57	8.431	4.066	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-39	7	8.386	4.045	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-40 (D/S)	16	7.427	3.582	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-48N	31	5.764	2.812	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	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:	***HD22A-1-FWH24B to CV***								***Sorted By: Average Wear Rate***		
4EXD-47 (D/S)	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-47	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-46	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-45	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-43	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-42	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-41	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-44	3	4.035	1.968	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-48	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-48P	61	3.112	1.518	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-45P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-44P	53	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-42P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-41P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40P US	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40P DS	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40	16	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-47P	51	2.536	1.237	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-46P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD23A-1-FWH24C to CV***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-4EX-8-2	22	12.077	5.825	263.5	8.434	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-60 (D/S)	7	10.791	5.205	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-60P	57	8.431	4.066	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-60	7	8.386	4.045	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-61 (D/S)	16	7.427	3.582	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-71N	31	5.764	2.812	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-69 (D/S)	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-69	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-67	2	4.339	2.117	263.5	3.737	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-68	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-71	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-70	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-66	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-65	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-64	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-63	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-62	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-71P	61	3.112	1.518	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	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:	***HD23A-1-FWH24C to CV***								***Sorted By: Average Wear Rate***		
4EXD-67P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-70P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-66P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-65P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-64P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-63P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-62P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-61P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-61	16	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-69P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:21AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD21A-1-FWH24A to CV***									***Sorted By: Flow Order***	
4EXD-13N	31	5.764	2.812	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13P	61	3.112	1.518	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13T	15	3.458	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13T (D/S)	15	3.458	1.687	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13P-1	65	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-13	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-12	3	4.035	1.968	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-11P	53	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-11	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-10P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-10	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-9P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-9	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-8P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-8	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-7P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-7	16	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-7 (D/S)	16	7.427	3.582	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-VALVE-4EX-8	22	12.077	5.825	263.5	8.434	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-6	7	8.386	4.045	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-6 (D/S)	7	10.791	5.205	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-6P	57	8.431	4.066	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD22A-1-FWH24B to CV***									***Sorted By: Flow Order***	
4EXD-48N	31	5.764	2.812	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-48P	61	3.112	1.518	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-48	1	3.804	1.856	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-47P	51	2.536	1.237	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-47	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-47 (D/S)	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	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:	***HD22A-1-FWH24B to CV***									***Sorted By: Flow Order***	
4EXD-46P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-46	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-45P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-45	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-44	3	4.035	1.968	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-44P	53	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-43	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-42P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-42	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-41P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-41	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40P US	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40P DS	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40	16	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-40 (D/S)	16	7.427	3.582	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-VALVE-4EX-8-1	22	12.077	5.825	263.5	8.434	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-39	7	8.386	4.045	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-39 (D/S)	7	10.791	5.205	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-39P	57	8.431	4.066	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
===>Grouped by Line:	***HD23A-1-FWH24C to CV***									***Sorted By: Flow Order***	
4EXD-71N	31	5.764	2.812	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-71P	61	3.112	1.518	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-71	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-70P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-70	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-69	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-69 (D/S)	12	4.726	2.305	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-69P	62	2.305	1.125	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-68	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-67P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-67	2	4.339	2.117	263.5	3.737	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-66P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-66	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-65P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-65	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-64P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-64	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-63P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	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:	***HD23A-1-FWH24C to CV***									***Sorted By: Flow Order***	
4EXD-63	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-62P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-62	2	4.265	2.081	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-61P	52	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-61	16	2.882	1.406	263.5	3.669	0.0	6.625	7.015	0.000	'11.97'	ARD
4EXD-61 (D/S)	16	7.427	3.582	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-VALVE-4EX-8-2	22	12.077	5.825	263.5	8.434	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-60	7	8.386	4.045	263.5	8.326	0.0	4.500	7.015	0.000	'11.97'	ARD
4EXD-60 (D/S)	7	10.791	5.205	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD
4EXD-60P	57	8.431	4.066	263.5	14.337	0.0	3.500	7.015	0.000	'11.97'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:21AM

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD21A-1-FWH24A to CV**					***Sorted By:Remaining Life***		
4EXD-VALVE-4EX-8	0.000	-0.070	0.016	0.016	-99,326	No	222,946
4EXD-13N	0.000	0.133	0.022	0.022	346,747	No	222,946
4EXD-6	0.000	0.213	0.015	0.015	428,774	No	222,946
4EXD-6 (D/S)	0.000	0.268	0.012	0.012	431,774	No	222,946
4EXD-7 (D/S)	0.000	0.193	0.015	0.015	435,080	No	222,946
4EXD-6P	0.000	0.285	0.012	0.012	587,925	No	222,946
4EXD-9	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-10	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-11	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-12	0.000	0.193	0.022	0.022	759,285	Yes	222,946
4EXD-13	0.000	0.208	0.022	0.022	784,554	Yes	222,946
4EXD-8	0.000	0.210	0.022	0.022	789,482	Yes	222,946
4EXD-13T	0.000	0.192	0.022	0.022	882,598	No	222,946
4EXD-13T (D/S)	0.000	0.192	0.022	0.022	882,598	No	222,946
4EXD-13P	0.000	0.201	0.026	0.026	1,009,672	No	222,946
4EXD-9P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-10P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-7P	0.000	0.220	0.026	0.026	1,212,559	Yes	222,946
4EXD-8P	0.000	0.220	0.026	0.026	1,212,559	Yes	222,946
4EXD-11P	0.000	0.232	0.026	0.026	1,284,091	Yes	222,946
4EXD-7	0.000	0.240	0.022	0.022	1,360,703	No	222,946
4EXD-13P-1	0.000	0.235	0.026	0.026	1,633,365	Yes	222,946
===>Grouped by Line: **HD22A-1-FWH24B to CV**					***Sorted By:Remaining Life***		
4EXD-VALVE-4EX-8-1	0.000	-0.070	0.016	0.016	-99,326	No	222,946
4EXD-39 (D/S)	0.000	0.209	0.012	0.012	332,401	No	222,946
4EXD-48N	0.000	0.133	0.022	0.022	346,747	No	222,946
4EXD-39	0.000	0.184	0.015	0.015	366,426	No	222,946
4EXD-39P	0.000	0.229	0.014	0.014	464,144	No	222,946
4EXD-47	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-47 (D/S)	0.000	0.160	0.022	0.022	523,185	No	222,946

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: **HD22A-1-FWH24B to CV**					***Sorted By:Remaining Life***		
4EXD-40 (D/S)	0.000	0.254	0.015	0.015	583,606	No	222,946
4EXD-46	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-45	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-43	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-44	0.000	0.177	0.022	0.022	691,223	No	222,946
4EXD-42	0.000	0.193	0.022	0.022	721,397	Yes	222,946
4EXD-48	0.000	0.183	0.022	0.022	760,814	No	222,946
4EXD-41	0.000	0.241	0.022	0.022	920,005	No	222,946
4EXD-48P	0.000	0.201	0.026	0.026	1,009,672	No	222,946
4EXD-44P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-42P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-40P US	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-45P	0.000	0.226	0.026	0.026	1,246,703	Yes	222,946
4EXD-40P DS	0.000	0.231	0.026	0.026	1,277,860	No	222,946
4EXD-41P	0.000	0.232	0.026	0.026	1,287,336	Yes	222,946
4EXD-47P	0.000	0.237	0.026	0.026	1,497,264	Yes	222,946
4EXD-46P	0.000	0.221	0.026	0.026	1,523,018	No	222,946
4EXD-40	0.000	0.272	0.022	0.022	1,557,026	No	222,946
===>Grouped by Line: **HD23A-1-FWH24C to CV**					***Sorted By:Remaining Life***		
4EXD-VALVE-4EX-8-2	0.000	-0.070	0.016	0.016	-99,326	No	222,946
4EXD-60P	0.000	0.001	0.014	0.014	-26,273	No	222,946
4EXD-60	0.000	0.160	0.015	0.015	313,492	No	222,946
4EXD-71N	0.000	0.133	0.022	0.022	346,747	No	222,946
4EXD-60 (D/S)	0.000	0.262	0.012	0.012	421,677	No	222,946
4EXD-69	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-69 (D/S)	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-61 (D/S)	0.000	0.250	0.015	0.015	573,825	Yes	222,946
4EXD-68	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-66	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-65	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-64	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-62	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-63	0.000	0.197	0.022	0.022	738,239	Yes	222,946
4EXD-71	0.000	0.203	0.022	0.022	763,501	Yes	222,946
4EXD-67	0.308	0.220	0.022	0.022	817,795	Yes	222,946
4EXD-70	0.000	0.234	0.022	0.022	894,025	No	222,946
4EXD-67P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-66P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-65P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-64P	0.000	0.207	0.026	0.026	1,127,009	No	222,946

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: **HD23A-1-FWH24C to CV**					***Sorted By:Remaining Life***		
4EXD-63P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-62P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-61P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-71P	0.000	0.230	0.026	0.026	1,175,987	Yes	222,946
4EXD-70P	0.000	0.254	0.026	0.026	1,421,345	Yes	222,946
4EXD-69P	0.000	0.221	0.026	0.026	1,523,018	No	222,946
4EXD-61	0.000	0.284	0.022	0.022	1,631,803	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:21AM

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD21A-1-FWH24A to CV**					***Sorted By:Flow Order***		
4EXD-13N	0.000	0.133	0.022	0.022	346,747	No	222,946
4EXD-13P	0.000	0.201	0.026	0.026	1,009,672	No	222,946
4EXD-13T	0.000	0.192	0.022	0.022	882,598	No	222,946
4EXD-13T (D/S)	0.000	0.192	0.022	0.022	882,598	No	222,946
4EXD-13P-1	0.000	0.235	0.026	0.026	1,633,365	Yes	222,946
4EXD-13	0.000	0.208	0.022	0.022	784,554	Yes	222,946
4EXD-12	0.000	0.193	0.022	0.022	759,285	Yes	222,946
4EXD-11P	0.000	0.232	0.026	0.026	1,284,091	Yes	222,946
4EXD-11	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-10P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-10	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-9P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-9	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-8P	0.000	0.220	0.026	0.026	1,212,559	Yes	222,946
4EXD-8	0.000	0.210	0.022	0.022	789,482	Yes	222,946
4EXD-7P	0.000	0.220	0.026	0.026	1,212,559	Yes	222,946
4EXD-7	0.000	0.240	0.022	0.022	1,360,703	No	222,946
4EXD-7 (D/S)	0.000	0.193	0.015	0.015	435,080	No	222,946
4EXD-VALVE-4EX-8	0.000	-0.070	0.016	0.016	-99,326	No	222,946
4EXD-6	0.000	0.213	0.015	0.015	428,774	No	222,946
4EXD-6 (D/S)	0.000	0.268	0.012	0.012	431,774	No	222,946
4EXD-6P	0.000	0.285	0.012	0.012	587,925	No	222,946
===>Grouped by Line: **HD22A-1-FWH24B to CV**					***Sorted By:Flow Order***		
4EXD-48N	0.000	0.133	0.022	0.022	346,747	No	222,946
4EXD-48P	0.000	0.201	0.026	0.026	1,009,672	No	222,946
4EXD-48	0.000	0.183	0.022	0.022	760,814	No	222,946
4EXD-47P	0.000	0.237	0.026	0.026	1,497,264	Yes	222,946
4EXD-47	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-47 (D/S)	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-46P	0.000	0.221	0.026	0.026	1,523,018	No	222,946

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: **HD22A-1-FWH24B to CV**					***Sorted By:Flow Order***		
4EXD-46	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-45P	0.000	0.226	0.026	0.026	1,246,703	Yes	222,946
4EXD-45	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-44	0.000	0.177	0.022	0.022	691,223	No	222,946
4EXD-44P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-43	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-42P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-42	0.000	0.193	0.022	0.022	721,397	Yes	222,946
4EXD-41P	0.000	0.232	0.026	0.026	1,287,336	Yes	222,946
4EXD-41	0.000	0.241	0.022	0.022	920,005	No	222,946
4EXD-40P US	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-40P DS	0.000	0.231	0.026	0.026	1,277,860	No	222,946
4EXD-40	0.000	0.272	0.022	0.022	1,557,026	No	222,946
4EXD-40 (D/S)	0.000	0.254	0.015	0.015	583,606	No	222,946
4EXD-VALVE-4EX-8-1	0.000	-0.070	0.016	0.016	-99,326	No	222,946
4EXD-39	0.000	0.184	0.015	0.015	366,426	No	222,946
4EXD-39 (D/S)	0.000	0.209	0.012	0.012	332,401	No	222,946
4EXD-39P	0.000	0.229	0.014	0.014	464,144	No	222,946
===>Grouped by Line: **HD23A-1-FWH24C to CV**					***Sorted By:Flow Order***		
4EXD-71N	0.000	0.133	0.022	0.022	346,747	No	222,946
4EXD-71P	0.000	0.230	0.026	0.026	1,175,987	Yes	222,946
4EXD-71	0.000	0.203	0.022	0.022	763,501	Yes	222,946
4EXD-70P	0.000	0.254	0.026	0.026	1,421,345	Yes	222,946
4EXD-70	0.000	0.234	0.022	0.022	894,025	No	222,946
4EXD-69	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-69 (D/S)	0.000	0.160	0.022	0.022	523,185	No	222,946
4EXD-69P	0.000	0.221	0.026	0.026	1,523,018	No	222,946
4EXD-68	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-67P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-67	0.308	0.220	0.022	0.022	817,795	Yes	222,946
4EXD-66P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-66	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-65P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-65	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-64P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-64	0.000	0.171	0.022	0.022	629,155	No	222,946
4EXD-63P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-63	0.000	0.197	0.022	0.022	738,239	Yes	222,946
4EXD-62P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-62	0.000	0.171	0.022	0.022	629,155	No	222,946

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: **HD23A-1-FWH24C to CV**					***Sorted By:Flow Order***		
4EXD-61P	0.000	0.207	0.026	0.026	1,127,009	No	222,946
4EXD-61	0.000	0.284	0.022	0.022	1,631,803	No	222,946
4EXD-61 (D/S)	0.000	0.250	0.015	0.015	573,825	Yes	222,946
4EXD-VALVE-4EX-8-2	0.000	-0.070	0.016	0.016	-99,326	No	222,946
4EXD-60	0.000	0.160	0.015	0.015	313,492	No	222,946
4EXD-60 (D/S)	0.000	0.262	0.012	0.012	421,677	No	222,946
4EXD-60P	0.000	0.001	0.014	0.014	-26,273	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:28:35AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD9-1-FWH25A to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-VALVE-5EX-8	22	4.244	1.774	386.3	3.438	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-21N	31	4.053	1.695	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20N	30	3.243	1.356	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-15	4	3.066	1.282	386.3	3.350	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20	2	3.059	1.279	386.3	3.342	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-17	2	3.049	1.275	386.3	3.330	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-21	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-16	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-18	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-19	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-16P	54	2.594	1.084	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-21P	61	2.189	0.915	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-15P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-17P US	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-17P DS	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-18P	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-19P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20P	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20P DS	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
===>Grouped by Line:	***HD9-2-FWH25B to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-VALVE-5EX-8-1	22	4.244	1.774	386.3	3.438	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-9N	31	4.053	1.695	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14N	30	3.243	1.356	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-10	2	3.065	1.281	386.3	3.349	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-9	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-11	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-12	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-13	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	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:	***HD9-2-FWH25B to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-9P	61	2.189	0.915	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-10P DS	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-11P US	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-12P	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-13P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14P	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14P DS	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
===>Grouped by Line:	***HD9-3-FWH25C to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-VALVE-5EX-8-2	22	4.244	1.774	386.3	3.438	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-1N	31	4.053	1.695	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-8N	30	3.243	1.356	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-3	2	3.050	1.275	386.3	3.332	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-5	2	3.049	1.275	386.3	3.330	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-4	2	3.038	1.270	386.3	3.317	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-6	2	3.038	1.270	386.3	3.317	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-7	4	3.032	1.268	386.3	3.311	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-1	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-2	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-8	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-8P	54	2.594	1.084	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-1P	61	2.189	0.915	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-2P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-3P US	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-3P DS	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-4P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-5P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-6P	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:35AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD9-1-FWH25A to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-21N	31	4.053	1.695	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-21P	61	2.189	0.915	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-21	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-15P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-15	4	3.066	1.282	386.3	3.350	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-16P	54	2.594	1.084	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-16	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-17P US	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-17P DS	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-17	2	3.049	1.275	386.3	3.330	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-18P	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-18	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-19P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-19	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20P	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20P DS	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20	2	3.059	1.279	386.3	3.342	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-VALVE-5EX-8	22	4.244	1.774	386.3	3.438	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-20N	30	3.243	1.356	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
===>Grouped by Line:	***HD9-2-FWH25B to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-9N	31	4.053	1.695	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-9P	61	2.189	0.915	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-9	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-10P DS	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-10	2	3.065	1.281	386.3	3.349	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-11P US	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-11	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-12P	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-12	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	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:	***HD9-2-FWH25B to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-13P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-13	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14P	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14P DS	52	2.027	0.847	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-VALVE-5EX-8-1	22	4.244	1.774	386.3	3.438	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-14N	30	3.243	1.356	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
===>Grouped by Line:	***HD9-3-FWH25C to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-1N	31	4.053	1.695	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-1P	61	2.189	0.915	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-3	2	3.050	1.275	386.3	3.332	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-2P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-4	2	3.038	1.270	386.3	3.317	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-3P US	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-3P DS	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-5	2	3.049	1.275	386.3	3.330	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-4P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-1	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-5P	52	2.027	0.847	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-2	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-6P	52	2.027	0.847	386.3	3.315	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-6	2	3.038	1.270	386.3	3.317	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-7	4	3.032	1.268	386.3	3.311	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-8P	54	2.594	1.084	386.3	3.298	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-8	2	3.000	1.254	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-VALVE-5EX-8-2	22	4.244	1.774	386.3	3.438	0.0	10.750	6.784	0.000	'53.98'	ARD
5EXD-8N	30	3.243	1.356	386.3	3.272	0.0	10.750	6.784	0.000	'53.98'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:35AM

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD9-1-FWH25A to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-VALVE-5EX-8	0.000	0.142	0.095	0.095	230,530	No	222,946
5EXD-21N	0.000	0.147	0.089	0.089	299,057	No	222,946
5EXD-20N	0.000	0.167	0.089	0.089	507,145	No	222,946
5EXD-18	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-21	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-20P	0.000	0.169	0.104	0.104	667,521	Yes	222,946
5EXD-21P	0.000	0.194	0.104	0.104	862,809	No	222,946
5EXD-19	0.000	0.217	0.089	0.089	895,849	Yes	222,946
5EXD-16	0.000	0.218	0.089	0.089	902,835	Yes	222,946
5EXD-20	0.304	0.228	0.089	0.089	949,932	Yes	222,946
5EXD-16P	0.000	0.224	0.104	0.104	971,551	Yes	222,946
5EXD-19P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-15	0.310	0.235	0.089	0.089	995,920	Yes	222,946
5EXD-17	0.295	0.240	0.089	0.089	1,039,616	Yes	222,946
5EXD-20P DS	0.000	0.218	0.104	0.104	1,179,361	No	222,946
5EXD-17P US	0.000	0.219	0.104	0.104	1,189,700	Yes	222,946
5EXD-17P DS	0.000	0.224	0.104	0.104	1,241,396	Yes	222,946
5EXD-15P	0.000	0.226	0.104	0.104	1,254,854	Yes	222,946
5EXD-18P	0.000	0.232	0.104	0.104	1,323,711	Yes	222,946
===>Grouped by Line: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-VALVE-5EX-8-1	0.000	0.142	0.095	0.095	230,530	No	222,946
5EXD-9N	0.000	0.147	0.089	0.089	299,057	No	222,946
5EXD-14N	0.000	0.167	0.089	0.089	507,145	No	222,946
5EXD-9	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-11	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-12	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-14P	0.000	0.163	0.104	0.104	610,128	Yes	222,946
5EXD-9P	0.000	0.194	0.104	0.104	862,809	No	222,946
5EXD-13	0.000	0.213	0.089	0.089	867,905	Yes	222,946
5EXD-14	0.000	0.213	0.089	0.089	867,905	No	222,946

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: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-14P DS	0.000	0.189	0.104	0.104	879,526	No	222,946
5EXD-12P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-13P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-10	0.309	0.266	0.089	0.089	1,208,264	Yes	222,946
5EXD-11P US	0.000	0.232	0.104	0.104	1,316,889	Yes	222,946
5EXD-10P DS	0.000	0.233	0.104	0.104	1,327,228	Yes	222,946
===>Grouped by Line: **HD9-3-FWH25C to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-VALVE-5EX-8-2	0.000	0.142	0.095	0.095	230,530	No	222,946
5EXD-1N	0.000	0.147	0.089	0.089	299,057	No	222,946
5EXD-8N	0.000	0.167	0.089	0.089	507,145	No	222,946
5EXD-1	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-8	0.000	0.200	0.089	0.089	777,088	Yes	222,946
5EXD-2	0.000	0.211	0.089	0.089	853,449	Yes	222,946
5EXD-3	0.296	0.216	0.089	0.089	871,067	Yes	222,946
5EXD-8P	0.000	0.222	0.104	0.104	952,140	Yes	222,946
5EXD-3P DS	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-6P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-7	0.280	0.231	0.089	0.089	981,452	Yes	222,946
5EXD-4	0.285	0.232	0.089	0.089	985,553	Yes	222,946
5EXD-6	0.285	0.233	0.089	0.089	993,280	Yes	222,946
5EXD-5	0.295	0.236	0.089	0.089	1,012,127	Yes	222,946
5EXD-5P	0.000	0.222	0.104	0.104	1,220,792	Yes	222,946
5EXD-1P	0.000	0.232	0.104	0.104	1,221,228	No	222,946
5EXD-4P	0.000	0.234	0.104	0.104	1,344,389	Yes	222,946
5EXD-2P	0.000	0.234	0.104	0.104	1,344,862	Yes	222,946
5EXD-3P US	0.000	0.245	0.104	0.104	1,455,181	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:35AM

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD9-1-FWH25A to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-21N	0.000	0.147	0.089	0.089	299,057	No	222,946
5EXD-21P	0.000	0.194	0.104	0.104	862,809	No	222,946
5EXD-21	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-15P	0.000	0.226	0.104	0.104	1,254,854	Yes	222,946
5EXD-15	0.310	0.235	0.089	0.089	995,920	Yes	222,946
5EXD-16P	0.000	0.224	0.104	0.104	971,551	Yes	222,946
5EXD-16	0.000	0.218	0.089	0.089	902,835	Yes	222,946
5EXD-17P US	0.000	0.219	0.104	0.104	1,189,700	Yes	222,946
5EXD-17P DS	0.000	0.224	0.104	0.104	1,241,396	Yes	222,946
5EXD-17	0.295	0.240	0.089	0.089	1,039,616	Yes	222,946
5EXD-18P	0.000	0.232	0.104	0.104	1,323,711	Yes	222,946
5EXD-18	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-19P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-19	0.000	0.217	0.089	0.089	895,849	Yes	222,946
5EXD-20P	0.000	0.169	0.104	0.104	667,521	Yes	222,946
5EXD-20P DS	0.000	0.218	0.104	0.104	1,179,361	No	222,946
5EXD-20	0.304	0.228	0.089	0.089	949,932	Yes	222,946
5EXD-VALVE-5EX-8	0.000	0.142	0.095	0.095	230,530	No	222,946
5EXD-20N	0.000	0.167	0.089	0.089	507,145	No	222,946
===>Grouped by Line: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-9N	0.000	0.147	0.089	0.089	299,057	No	222,946
5EXD-9P	0.000	0.194	0.104	0.104	862,809	No	222,946
5EXD-9	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-10P DS	0.000	0.233	0.104	0.104	1,327,228	Yes	222,946
5EXD-10	0.309	0.266	0.089	0.089	1,208,264	Yes	222,946
5EXD-11P US	0.000	0.232	0.104	0.104	1,316,889	Yes	222,946
5EXD-11	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-12P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-12	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-13P	0.000	0.198	0.104	0.104	974,497	No	222,946

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: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-13	0.000	0.213	0.089	0.089	867,905	Yes	222,946
5EXD-14P	0.000	0.163	0.104	0.104	610,128	Yes	222,946
5EXD-14P DS	0.000	0.189	0.104	0.104	879,526	No	222,946
5EXD-14	0.000	0.213	0.089	0.089	867,905	No	222,946
5EXD-VALVE-5EX-8-1	0.000	0.142	0.095	0.095	230,530	No	222,946
5EXD-14N	0.000	0.167	0.089	0.089	507,145	No	222,946
===>Grouped by Line: **HD9-3-FWH25C to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-1N	0.000	0.147	0.089	0.089	299,057	No	222,946
5EXD-1P	0.000	0.232	0.104	0.104	1,221,228	No	222,946
5EXD-3	0.296	0.216	0.089	0.089	871,067	Yes	222,946
5EXD-2P	0.000	0.234	0.104	0.104	1,344,862	Yes	222,946
5EXD-4	0.285	0.232	0.089	0.089	985,553	Yes	222,946
5EXD-3P US	0.000	0.245	0.104	0.104	1,455,181	Yes	222,946
5EXD-3P DS	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-5	0.295	0.236	0.089	0.089	1,012,127	Yes	222,946
5EXD-4P	0.000	0.234	0.104	0.104	1,344,389	Yes	222,946
5EXD-1	0.000	0.174	0.089	0.089	591,505	No	222,946
5EXD-5P	0.000	0.222	0.104	0.104	1,220,792	Yes	222,946
5EXD-2	0.000	0.211	0.089	0.089	853,449	Yes	222,946
5EXD-6P	0.000	0.198	0.104	0.104	974,497	No	222,946
5EXD-6	0.285	0.233	0.089	0.089	993,280	Yes	222,946
5EXD-7	0.280	0.231	0.089	0.089	981,452	Yes	222,946
5EXD-8P	0.000	0.222	0.104	0.104	952,140	Yes	222,946
5EXD-8	0.000	0.200	0.089	0.089	777,088	Yes	222,946
5EXD-VALVE-5EX-8-2	0.000	0.142	0.095	0.095	230,530	No	222,946
5EXD-8N	0.000	0.167	0.089	0.089	507,145	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:28:39AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD12-4-FWH26A CV to HTR DR TK***								***Sorted By: Average Wear Rate***		
6EX1D-N2	30	5.183	2.038	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX1D-VALVE-LCV-1101	24	0.107	0.042	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX1D-R2	18	0.014	0.005	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX1D-R2 (D/S)	18	0.007	0.003	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX1D-P2	68	0.006	0.002	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-5-FWH26B CV to HTR DR TK***								***Sorted By: Average Wear Rate***		
6EX2D-N2	30	5.183	2.038	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX2D-VALVE-LCV-1102	24	0.107	0.042	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX2D-R2	18	0.014	0.005	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX2D-R2 (D/S)	18	0.007	0.003	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX2D-P2	68	0.006	0.002	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-6-FWH26C CV to HTR DR TK***								***Sorted By: Average Wear Rate***		
6EX3D-N2	30	5.183	2.038	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX3D-VALVE-LCV-1103	24	0.107	0.042	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX3D-R2	18	0.014	0.005	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX3D-R2 (D/S)	18	0.007	0.003	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX3D-P2	68	0.006	0.002	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:39AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD12-4-FWH26A CV to HTR DR TK***									***Sorted By: Flow Order***	
6EX1D-VALVE-LCV-1101	24	0.107	0.042	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX1D-R2	18	0.014	0.005	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX1D-R2 (D/S)	18	0.007	0.003	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX1D-P2	68	0.006	0.002	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX1D-N2	30	5.183	2.038	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-5-FWH26B CV to HTR DR TK***									***Sorted By: Flow Order***	
6EX2D-VALVE-LCV-1102	24	0.107	0.042	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX2D-R2	18	0.014	0.005	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX2D-R2 (D/S)	18	0.007	0.003	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX2D-P2	68	0.006	0.002	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX2D-N2	30	5.183	2.038	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-6-FWH26C CV to HTR DR TK***									***Sorted By: Flow Order***	
6EX3D-VALVE-LCV-1103	24	0.107	0.042	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX3D-R2	18	0.014	0.005	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EX3D-R2 (D/S)	18	0.007	0.003	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX3D-P2	68	0.006	0.002	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD
6EX3D-N2	30	5.183	2.038	389.7	5.364	0.0	10.750	6.770	0.000	'53.98'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:39AM

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD12-4-FWH26A CV to HTR DR TK**					***Sorted By:Remaining Life***		
6EX1D-N2	0.000	0.233	0.159	0.159	316,994	No	222,946
6EX1D-VALVE-LCV-1101	0.000	0.277	0.105	0.105	35,712,548	No	222,946
6EX1D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX1D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX1D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
===>Grouped by Line: **HD12-5-FWH26B CV to HTR DR TK**					***Sorted By:Remaining Life***		
6EX2D-N2	0.000	0.362	0.159	0.159	869,202	Yes	222,946
6EX2D-VALVE-LCV-1102	0.000	0.277	0.105	0.105	35,712,548	No	222,946
6EX2D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX2D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX2D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
===>Grouped by Line: **HD12-6-FWH26C CV to HTR DR TK**					***Sorted By:Remaining Life***		
6EX3D-N2	0.000	0.233	0.159	0.159	316,994	No	222,946
6EX3D-VALVE-LCV-1103	0.000	0.277	0.105	0.105	35,712,548	No	222,946
6EX3D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX3D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX3D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:39AM

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD12-4-FWH26A CV to HTR DR TK**					***Sorted By:Flow Order***		
6EX1D-VALVE-LCV-1101	0.000	0.277	0.105	0.105	35,712,548	No	222,946
6EX1D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX1D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX1D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX1D-N2	0.000	0.233	0.159	0.159	316,994	No	222,946
===>Grouped by Line: **HD12-5-FWH26B CV to HTR DR TK**					***Sorted By:Flow Order***		
6EX2D-VALVE-LCV-1102	0.000	0.277	0.105	0.105	35,712,548	No	222,946
6EX2D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX2D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX2D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX2D-N2	0.000	0.362	0.159	0.159	869,202	Yes	222,946
===>Grouped by Line: **HD12-6-FWH26C CV to HTR DR TK**					***Sorted By:Flow Order***		
6EX3D-VALVE-LCV-1103	0.000	0.277	0.105	0.105	35,712,548	No	222,946
6EX3D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX3D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX3D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX3D-N2	0.000	0.233	0.159	0.159	316,994	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:28:48AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD12-1-FWH26A to CV***								***Sorted By: Average Wear Rate***		
6EXD-9N	31	10.167	4.000	389.7	9.519	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1-1R (D/S)	17	4.904	1.930	389.7	15.157	0.0	6.625	6.770	0.000	'53.98'	ARD
6EXD-1	2	4.848	1.906	389.7	5.429	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-8	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-7	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-6	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-9P US	61	3.425	1.347	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1-1R	17	3.294	1.295	389.7	5.462	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-8P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-7P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-6P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-2-FWH26B to CV***								***Sorted By: Average Wear Rate***		
6EXD-13N	31	6.342	2.494	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2	2	4.870	1.915	389.7	5.455	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2-1R (D/S)	17	4.837	1.903	389.7	14.827	0.0	6.625	6.770	0.000	'53.98'	ARD
6EXD-12	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-11	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-13P	61	3.425	1.347	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2-1R	17	3.288	1.293	389.7	5.451	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-12P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-11P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-3-FWH26C to CV***								***Sorted By: Average Wear Rate***		
6EXD-18N	31	6.342	2.494	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3-1R (D/S)	17	4.799	1.888	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD
6EXD-18	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-17	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-16	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	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:	***HD12-3-FWH26C to CV***								***Sorted By: Average Wear Rate***		
6EXD-15	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-18P	61	3.425	1.347	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-17P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-16P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-15P-1	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-15P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3-1R	17	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:48AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD12-1-FWH26A to CV***									***Sorted By: Flow Order***	
6EXD-9N	31	10.167	4.000	389.7	9.519	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-9P US	61	3.425	1.347	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-8	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-8P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-7	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-7P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-6	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-6P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1	2	4.848	1.906	389.7	5.429	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1-1R	17	3.294	1.295	389.7	5.462	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-1-1R (D/S)	17	4.904	1.930	389.7	15.157	0.0	6.625	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-2-FWH26B to CV***									***Sorted By: Flow Order***	
6EXD-13N	31	6.342	2.494	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-13P	61	3.425	1.347	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-12	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-12P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-11	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-11P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2	2	4.870	1.915	389.7	5.455	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2-1R	17	3.288	1.293	389.7	5.451	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-2-1R (D/S)	17	4.837	1.903	389.7	14.827	0.0	6.625	6.770	0.000	'53.98'	ARD
===>Grouped by Line:	***HD12-3-FWH26C to CV***									***Sorted By: Flow Order***	
6EXD-18N	31	6.342	2.494	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-18P	61	3.425	1.347	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-18	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-17P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-17	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	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:	***HD12-3-FWH26C to CV***									***Sorted By: Flow Order***	
6EXD-16P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-16	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-15P-1	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-15	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-15P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3	2	4.693	1.845	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3P	52	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3-1R	17	3.171	1.247	389.7	5.242	0.0	10.750	6.770	0.000	'53.98'	ARD
6EXD-3-1R (D/S)	17	4.799	1.888	389.7	14.641	0.0	6.625	6.770	0.000	'53.98'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:48AM

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD12-1-FWH26A to CV**					***Sorted By:Remaining Life***		
6EXD-7	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-8	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-1P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-7P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-8P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-1	0.395	0.290	0.159	0.159	598,816	Yes	222,946
6EXD-9P US	0.000	0.268	0.159	0.159	704,555	Yes	222,946
6EXD-1-1R (D/S)	0.332	0.261	0.098	0.098	737,182	Yes	222,946
6EXD-6P	0.000	0.276	0.159	0.159	819,569	Yes	222,946
6EXD-6	0.000	0.369	0.159	0.159	995,803	Yes	222,946
6EXD-1-1R	0.410	0.345	0.159	0.159	1,255,492	Yes	222,946
6EXD-9N	1.614	1.512	0.159	0.159	2,963,021	No	222,946
===>Grouped by Line: **HD12-2-FWH26B to CV**					***Sorted By:Remaining Life***		
6EXD-13N	0.000	0.146	0.159	0.159	-46,712	No	222,946
6EXD-11	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-12	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-13P	0.000	0.220	0.159	0.159	393,635	No	222,946
6EXD-11P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-2P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-12P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-2	0.407	0.271	0.159	0.159	511,074	Yes	222,946
6EXD-2-1R (D/S)	0.299	0.227	0.098	0.098	591,936	Yes	222,946
6EXD-2-1R	0.405	0.343	0.159	0.159	1,246,441	Yes	222,946
===>Grouped by Line: **HD12-3-FWH26C to CV**					***Sorted By:Remaining Life***		
6EXD-18N	0.000	0.146	0.159	0.159	-46,712	No	222,946
6EXD-18	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-17	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-16	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-3	0.000	0.188	0.159	0.159	134,002	No	222,946

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: **HD12-3-FWH26C to CV**					***Sorted By:Remaining Life***		
6EXD-3-1R (D/S)	0.000	0.158	0.098	0.098	276,850	No	222,946
6EXD-15	0.000	0.232	0.159	0.159	346,514	Yes	222,946
6EXD-18P	0.000	0.220	0.159	0.159	393,635	No	222,946
6EXD-17P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-16P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-3P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-3-1R	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-15P	0.000	0.258	0.159	0.159	694,963	Yes	222,946
6EXD-15P-1	0.000	0.268	0.159	0.159	765,225	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:48AM

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD12-1-FWH26A to CV**					***Sorted By:Flow Order***		
6EXD-9N	1.614	1.512	0.159	0.159	2,963,021	No	222,946
6EXD-9P US	0.000	0.268	0.159	0.159	704,555	Yes	222,946
6EXD-8	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-8P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-7	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-7P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-6	0.000	0.369	0.159	0.159	995,803	Yes	222,946
6EXD-6P	0.000	0.276	0.159	0.159	819,569	Yes	222,946
6EXD-1	0.395	0.290	0.159	0.159	598,816	Yes	222,946
6EXD-1P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-1-1R	0.410	0.345	0.159	0.159	1,255,492	Yes	222,946
6EXD-1-1R (D/S)	0.332	0.261	0.098	0.098	737,182	Yes	222,946
===>Grouped by Line: **HD12-2-FWH26B to CV**					***Sorted By:Flow Order***		
6EXD-13N	0.000	0.146	0.159	0.159	-46,712	No	222,946
6EXD-13P	0.000	0.220	0.159	0.159	393,635	No	222,946
6EXD-12	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-12P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-11	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-11P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-2	0.407	0.271	0.159	0.159	511,074	Yes	222,946
6EXD-2P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-2-1R	0.405	0.343	0.159	0.159	1,246,441	Yes	222,946
6EXD-2-1R (D/S)	0.299	0.227	0.098	0.098	591,936	Yes	222,946
===>Grouped by Line: **HD12-3-FWH26C to CV**					***Sorted By:Flow Order***		
6EXD-18N	0.000	0.146	0.159	0.159	-46,712	No	222,946
6EXD-18P	0.000	0.220	0.159	0.159	393,635	No	222,946
6EXD-18	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-17P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-17	0.000	0.188	0.159	0.159	134,002	No	222,946

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: **HD12-3-FWH26C to CV**					***Sorted By:Flow Order***		
6EXD-16P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-16	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-15P-1	0.000	0.268	0.159	0.159	765,225	Yes	222,946
6EXD-15	0.000	0.232	0.159	0.159	346,514	Yes	222,946
6EXD-15P	0.000	0.258	0.159	0.159	694,963	Yes	222,946
6EXD-3	0.000	0.188	0.159	0.159	134,002	No	222,946
6EXD-3P	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-3-1R	0.000	0.226	0.159	0.159	470,487	No	222,946
6EXD-3-1R (D/S)	0.000	0.158	0.098	0.098	276,850	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:28:54AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 21A Drain to Cond 23***								***Sorted By: Average Wear Rate***		
1HD-208-1N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-LCV1124	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-1R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-1EX-1-5	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-2N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-1R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-1P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 21B Drain to Cond 22***								***Sorted By: Average Wear Rate***		
1HD-208-4N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-LCV1125	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-4R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-1EX-1-3	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-5N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-4R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-4P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 21C Drain to Cond 21***								***Sorted By: Average Wear Rate***		
1HD-208-6N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-LCV1126	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-6R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-1EX-1-1	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-7N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-6R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-6P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:54AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 21A Drain to Cond 23***									***Sorted By: Flow Order***	
1HD-208-1N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-LCV1124	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-1R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-1R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-Valve-1EX-1-5	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-1P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-2N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 21B Drain to Cond 22***									***Sorted By: Flow Order***	
1HD-208-4N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-LCV1125	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-4R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-4R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-Valve-1EX-1-3	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-4P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-5N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 21C Drain to Cond 21***									***Sorted By: Flow Order***	
1HD-208-6N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-Valve-LCV1126	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-6R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	'11.97'	HBD
1HD-208-6R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-Valve-1EX-1-1	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-6P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD
1HD-208-7N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	'11.97'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:54AM

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 21A Drain to Cond 23**					***Sorted By:Remaining Life***		
1HD-208-Valve-LCV1124	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-1N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-1R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-Valve-1EX-1-5	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-2N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
1HD-208-1R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-1P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
===>Grouped by Line: **HD-FWH 21B Drain to Cond 22**					***Sorted By:Remaining Life***		
1HD-208-Valve-LCV1125	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-4N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-4R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-Valve-1EX-1-3	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-5N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
1HD-208-4R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-4P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
===>Grouped by Line: **HD-FWH 21C Drain to Cond 21**					***Sorted By:Remaining Life***		
1HD-208-Valve-LCV1126	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-6N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-6R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-Valve-1EX-1-1	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-7N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
1HD-208-6R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-6P	0.000	0.229	0.021	0.021	4,621,033	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:28:54AM

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 21A Drain to Cond 23**					***Sorted By:Flow Order***		
1HD-208-1N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-Valve-LCV1124	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-1R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-1R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-Valve-1EX-1-5	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-1P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
1HD-208-2N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
===>Grouped by Line: **HD-FWH 21B Drain to Cond 22**					***Sorted By:Flow Order***		
1HD-208-4N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-Valve-LCV1125	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-4R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-4R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-Valve-1EX-1-3	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-4P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
1HD-208-5N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
===>Grouped by Line: **HD-FWH 21C Drain to Cond 21**					***Sorted By:Flow Order***		
1HD-208-6N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-Valve-LCV1126	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-6R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-6R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-Valve-1EX-1-1	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-6P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
1HD-208-7N	0.000	0.211	0.021	0.021	2,328,428	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:29:00AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 22A Drain to FWH 21A***								***Sorted By: Average Wear Rate***		
2EX-A-1N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 22B Drain to FWH 21B***								***Sorted By: Average Wear Rate***		
2EX-234-1N	31	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-Valve-2EX-1-1	22	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-Valve-LCV1122	25	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-31E	2	3.089	1.511	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-36R	18	2.337	1.143	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-Valve-2EX-7-1	22	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-5T	13	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-33P	58	1.836	0.898	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-3E	3	1.361	0.666	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-36R (D/S)	18	1.167	0.571	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-5T (BR/SE)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-5T (D/S)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-4P	53	0.972	0.476	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-6N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-9N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-3P	58	0.856	0.419	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-8E	2	0.795	0.389	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-9P	52	0.537	0.263	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-6P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-7P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 22C Drain to FWH 21C***								***Sorted By: Average Wear Rate***		
2EX-C-45N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:00AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 22A Drain to FWH 21A***									***Sorted By: Flow Order***	
2EX-A-1N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 22B Drain to FWH 21B***									***Sorted By: Flow Order***	
2EX-234-1N	31	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-31E	2	3.089	1.511	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-Valve-2EX-1-1	22	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-33P	58	1.836	0.898	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-Valve-LCV1122	25	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-36R	18	2.337	1.143	169.4	6.351	0.0	8.625	7.015	0.000	'11.97'	HBD
2EX-234-36R (D/S)	18	1.167	0.571	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-Valve-2EX-7-1	22	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-3P	58	0.856	0.419	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-3E	3	1.361	0.666	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-4P	53	0.972	0.476	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-5T	13	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-5T (BR/SE)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-6P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-6N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-5T (D/S)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-7P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-8E	2	0.795	0.389	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-9P	52	0.537	0.263	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
2EX-234-9N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	'11.97'	HBD
===>Grouped by Line:	***HD-FWH 22C Drain to FWH 21C***									***Sorted By: Flow Order***	
2EX-C-45N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	'11.97'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:00AM

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 22A Drain to FWH 21A**					***Sorted By:Remaining Life***		
2EX-A-1N	0.000	0.201	0.021	0.021	1,650,718	No	222,946
===>Grouped by Line: **HD-FWH 22B Drain to FWH 21B**					***Sorted By:Remaining Life***		
2EX-234-Valve-LCV1122	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-Valve-2EX-1-1	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-1N	0.000	0.144	0.014	0.014	555,233	No	222,946
2EX-234-31E	0.000	0.171	0.014	0.014	910,429	No	222,946
2EX-234-36R	0.000	0.191	0.014	0.014	1,349,546	No	222,946
2EX-234-Valve-2EX-7-1	0.000	0.201	0.023	0.023	1,636,781	No	222,946
2EX-234-5T	0.000	0.201	0.021	0.021	1,650,718	No	222,946
2EX-234-33P	0.000	0.203	0.014	0.014	1,841,888	No	222,946
2EX-234-3E	0.000	0.215	0.021	0.021	2,553,472	No	222,946
2EX-234-36R (D/S)	0.000	0.220	0.021	0.021	3,055,003	No	222,946
2EX-234-5T (D/S)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-5T (BR/SE)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-4P	0.000	0.225	0.021	0.021	3,757,145	No	222,946
2EX-234-9N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
2EX-234-6N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
2EX-234-3P	0.000	0.228	0.021	0.021	4,331,626	No	222,946
2EX-234-8E	0.000	0.230	0.021	0.021	4,697,534	No	222,946
2EX-234-9P	0.000	0.236	0.021	0.021	7,171,092	No	222,946
2EX-234-7P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
2EX-234-6P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
===>Grouped by Line: **HD-FWH 22C Drain to FWH 21C**					***Sorted By:Remaining Life***		
2EX-C-45N	0.000	0.201	0.021	0.021	1,650,718	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:00AM

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 22A Drain to FWH 21A**					***Sorted By:Flow Order***		
2EX-A-1N	0.000	0.201	0.021	0.021	1,650,718	No	222,946
===>Grouped by Line: **HD-FWH 22B Drain to FWH 21B**					***Sorted By:Flow Order***		
2EX-234-1N	0.000	0.144	0.014	0.014	555,233	No	222,946
2EX-234-31E	0.000	0.171	0.014	0.014	910,429	No	222,946
2EX-234-Valve-2EX-1-1	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-33P	0.000	0.203	0.014	0.014	1,841,888	No	222,946
2EX-234-Valve-LCV1122	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-36R	0.000	0.191	0.014	0.014	1,349,546	No	222,946
2EX-234-36R (D/S)	0.000	0.220	0.021	0.021	3,055,003	No	222,946
2EX-234-Valve-2EX-7-1	0.000	0.201	0.023	0.023	1,636,781	No	222,946
2EX-234-3P	0.000	0.228	0.021	0.021	4,331,626	No	222,946
2EX-234-3E	0.000	0.215	0.021	0.021	2,553,472	No	222,946
2EX-234-4P	0.000	0.225	0.021	0.021	3,757,145	No	222,946
2EX-234-5T	0.000	0.201	0.021	0.021	1,650,718	No	222,946
2EX-234-5T (BR/SE)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-6P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
2EX-234-6N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
2EX-234-5T (D/S)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-7P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
2EX-234-8E	0.000	0.230	0.021	0.021	4,697,534	No	222,946
2EX-234-9P	0.000	0.236	0.021	0.021	7,171,092	No	222,946
2EX-234-9N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
===>Grouped by Line: **HD-FWH 22C Drain to FWH 21C**					***Sorted By:Flow Order***		
2EX-C-45N	0.000	0.201	0.021	0.021	1,650,718	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:29:12AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD20-1-HDP21 to BFP SUCTION***								***Sorted By: Average Wear Rate***		
HD-VALVE-LCV-1127	24	29.426	9.602	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-8N	31	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-1	25	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-2	22	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-7	18	16.479	5.377	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-3	2	13.386	4.368	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-8P	58	13.316	4.345	365.0	29.301	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-7 (D/S)	18	10.853	3.542	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-3P	52	9.044	2.951	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-3P-1	52	9.044	2.951	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-5P US	9	4.599	1.546	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-5P DS	9	4.599	1.546	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
===>Grouped by Line:	***HD20-2-HDP22 to BFP SUCTION***								***Sorted By: Average Wear Rate***		
HD-VALVE-LCV-1127A	24	29.426	9.602	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-10N	31	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-1-1	25	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-2-1	22	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-9	18	16.479	5.377	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-4	2	13.386	4.368	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-10P	58	12.947	4.225	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-6 (D/S)	12	11.202	3.655	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-6	12	11.202	3.655	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-9 (D/S)	18	10.853	3.542	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-4A	52	9.044	2.951	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-4P	58	7.959	2.597	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-5AP US	62	5.464	1.783	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-5AP DS	62	5.464	1.783	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-6P DS	9	4.599	1.546	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
===>Grouped by Line:	***HD20-3-HDP DIS T to BFP SUC***								***Sorted By: Average Wear Rate***		

===>Grouped by Line: HD20-3-HDP DIS T to BFP SUC ***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
HD-5 (D/S)	12	16.503	5.385	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-11	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-1	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-2	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-13	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-14	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-15	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-16	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-12	1	13.283	4.335	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-5 (BR/SE)	12	12.300	4.014	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-17 (D/S)	15	12.076	3.940	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-17	15	12.076	3.940	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-5	12	11.202	3.655	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-1P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-2P US	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-12P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-14P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-15P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-15P-1 DS	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-16P US	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-13P	51	8.855	2.890	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-17P	65	8.050	2.627	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-11P DS	62	8.050	2.627	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:12AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD20-1-HDP21 to BFP SUCTION***									***Sorted By: Flow Order***	
HD-8N	31	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-1	25	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-8P	58	13.316	4.345	365.0	29.301	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-VALVE-LCV-1127	24	29.426	9.602	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-7	18	16.479	5.377	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-7 (D/S)	18	10.853	3.542	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-2	22	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-3P	52	9.044	2.951	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-3	2	13.386	4.368	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-3P-1	52	9.044	2.951	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-5P US	9	4.599	1.546	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-5P DS	9	4.599	1.546	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
===>Grouped by Line:	***HD20-2-HDP22 to BFP SUCTION***									***Sorted By: Flow Order***	
HD-10N	31	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-1-1	25	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-10P	58	12.947	4.225	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-VALVE-LCV-1127A	24	29.426	9.602	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-9	18	16.479	5.377	365.0	28.023	0.0	8.625	6.813	0.000	'68.82'	HBD
HD-9 (D/S)	18	10.853	3.542	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-VALVE-HD-2-1	22	18.089	5.903	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-4P	58	7.959	2.597	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-4	2	13.386	4.368	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-4A	52	9.044	2.951	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-6P DS	9	4.599	1.546	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-6	12	11.202	3.655	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-6 (D/S)	12	11.202	3.655	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-5AP US	62	5.464	1.783	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-5AP DS	62	5.464	1.783	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
===>Grouped by Line:	***HD20-3-HDP DIS T to BFP SUC***									***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:	***HD20-3-HDP DIS T to BFP SUC***									***Sorted By: Flow Order***	
HD-5 (BR/SE)	12	12.300	4.014	365.0	12.928	0.0	12.750	6.813	0.000	'68.82'	HBD
HD-5	12	11.202	3.655	365.0	8.274	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-5 (D/S)	12	16.503	5.385	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-11P DS	62	8.050	2.627	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-11	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-2P US	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-2	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-12P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-12	1	13.283	4.335	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-13P	51	8.855	2.890	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-13	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-14P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-14	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-15P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-15	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-15P-1 DS	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-16	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-16P US	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-17	15	12.076	3.940	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-17 (D/S)	15	12.076	3.940	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-17P	65	8.050	2.627	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-1	2	14.893	4.860	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD
HD-1P	52	10.063	3.284	365.0	16.547	0.0	16.000	6.813	0.000	'68.82'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:12AM

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD20-1-HDP21 to BFP SUCTION**					***Sorted By:Remaining Life***		
HD-VALVE-LCV-1127	0.000	-0.427	0.220	0.220	-201,206	No	222,946
HD-VALVE-HD-1	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-VALVE-HD-2	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-8N	0.000	0.040	0.304	0.304	-154,922	No	222,946
HD-3	0.000	0.159	0.304	0.304	-131,022	No	222,946
HD-3P-1	0.000	0.270	0.304	0.304	-86,898	No	222,946
HD-7	0.000	0.235	0.206	0.206	48,075	No	222,946
HD-8P	0.410	0.313	0.177	0.177	275,087	No	222,946
HD-7 (D/S)	0.000	0.425	0.304	0.304	299,254	No	222,946
HD-3P	0.000	0.475	0.304	0.304	506,206	Yes	222,946
HD-5P DS	0.000	0.434	0.304	0.304	732,085	Yes	222,946
HD-5P US	0.000	0.440	0.304	0.304	768,779	Yes	222,946
===>Grouped by Line: **HD20-2-HDP22 to BFP SUCTION**					***Sorted By:Remaining Life***		
HD-VALVE-LCV-1127A	0.000	-0.427	0.220	0.220	-201,206	No	222,946
HD-VALVE-HD-1-1	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-VALVE-HD-2-1	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-4	0.000	0.159	0.304	0.304	-131,022	No	222,946
HD-4P	0.000	0.297	0.304	0.304	-23,231	No	222,946
HD-9	0.000	0.253	0.206	0.206	76,448	Yes	222,946
HD-10P	0.000	0.259	0.206	0.206	109,650	No	222,946
HD-10N	0.000	0.445	0.304	0.304	208,164	No	222,946
HD-9 (D/S)	0.000	0.499	0.304	0.304	480,868	Yes	222,946
HD-6 (D/S)	0.000	0.585	0.382	0.382	487,335	No	222,946
HD-6	0.000	0.592	0.382	0.382	504,110	No	222,946
HD-4A	0.000	0.491	0.304	0.304	552,801	Yes	222,946
HD-5AP US	0.000	0.517	0.382	0.382	663,367	No	222,946
HD-5AP DS	0.000	0.517	0.382	0.382	663,367	No	222,946
HD-6P DS	0.000	0.487	0.304	0.304	1,033,202	Yes	222,946
===>Grouped by Line: **HD20-3-HDP DIS T to BFP SUC**					***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: **HD20-3-HDP DIS T to BFP SUC**					***Sorted By:Remaining Life***		
HD-2	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-13	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-14	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-15	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-12	0.000	0.318	0.382	0.382	-93,183	No	222,946
HD-17	0.000	0.349	0.382	0.382	-67,879	No	222,946
HD-17 (D/S)	0.000	0.349	0.382	0.382	-67,879	No	222,946
HD-16	0.000	0.407	0.382	0.382	45,810	Yes	222,946
HD-12P	0.000	0.400	0.382	0.382	48,006	No	222,946
HD-14P	0.000	0.400	0.382	0.382	48,006	No	222,946
HD-15P	0.000	0.400	0.382	0.382	48,006	No	222,946
HD-13P	0.000	0.431	0.382	0.382	147,717	No	222,946
HD-17P	0.000	0.451	0.382	0.382	230,809	No	222,946
HD-5 (BR/SE)	0.000	0.419	0.304	0.304	251,044	No	222,946
HD-5 (D/S)	0.000	0.542	0.382	0.382	260,821	No	222,946
HD-1	0.000	0.559	0.382	0.382	319,397	Yes	222,946
HD-11	0.000	0.560	0.382	0.382	321,040	Yes	222,946
HD-15P-1 DS	0.000	0.535	0.382	0.382	407,693	Yes	222,946
HD-5	0.000	0.560	0.382	0.382	427,758	No	222,946
HD-16P US	0.000	0.546	0.382	0.382	437,038	No	222,946
HD-1P	0.000	0.564	0.382	0.382	484,881	Yes	222,946
HD-2P US	0.000	0.576	0.382	0.382	519,041	Yes	222,946
HD-11P DS	0.000	0.614	0.382	0.382	772,538	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:12AM

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD20-1-HDP21 to BFP SUCTION**					***Sorted By:Flow Order***		
HD-8N	0.000	0.040	0.304	0.304	-154,922	No	222,946
HD-VALVE-HD-1	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-8P	0.410	0.313	0.177	0.177	275,087	No	222,946
HD-VALVE-LCV-1127	0.000	-0.427	0.220	0.220	-201,206	No	222,946
HD-7	0.000	0.235	0.206	0.206	48,075	No	222,946
HD-7 (D/S)	0.000	0.425	0.304	0.304	299,254	No	222,946
HD-VALVE-HD-2	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-3P	0.000	0.475	0.304	0.304	506,206	Yes	222,946
HD-3	0.000	0.159	0.304	0.304	-131,022	No	222,946
HD-3P-1	0.000	0.270	0.304	0.304	-86,898	No	222,946
HD-5P US	0.000	0.440	0.304	0.304	768,779	Yes	222,946
HD-5P DS	0.000	0.434	0.304	0.304	732,085	Yes	222,946
===>Grouped by Line: **HD20-2-HDP22 to BFP SUCTION**					***Sorted By:Flow Order***		
HD-10N	0.000	0.445	0.304	0.304	208,164	No	222,946
HD-VALVE-HD-1-1	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-10P	0.000	0.259	0.206	0.206	109,650	No	222,946
HD-VALVE-LCV-1127A	0.000	-0.427	0.220	0.220	-201,206	No	222,946
HD-9	0.000	0.253	0.206	0.206	76,448	Yes	222,946
HD-9 (D/S)	0.000	0.499	0.304	0.304	480,868	Yes	222,946
HD-VALVE-HD-2-1	0.000	0.040	0.326	0.326	-162,324	No	222,946
HD-4P	0.000	0.297	0.304	0.304	-23,231	No	222,946
HD-4	0.000	0.159	0.304	0.304	-131,022	No	222,946
HD-4A	0.000	0.491	0.304	0.304	552,801	Yes	222,946
HD-6P DS	0.000	0.487	0.304	0.304	1,033,202	Yes	222,946
HD-6	0.000	0.592	0.382	0.382	504,110	No	222,946
HD-6 (D/S)	0.000	0.585	0.382	0.382	487,335	No	222,946
HD-5AP US	0.000	0.517	0.382	0.382	663,367	No	222,946
HD-5AP DS	0.000	0.517	0.382	0.382	663,367	No	222,946
===>Grouped by Line: **HD20-3-HDP DIS T to BFP SUC**					***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: **HD20-3-HDP DIS T to BFP SUC**					***Sorted By:Flow Order***		
HD-5 (BR/SE)	0.000	0.419	0.304	0.304	251,044	No	222,946
HD-5	0.000	0.560	0.382	0.382	427,758	No	222,946
HD-5 (D/S)	0.000	0.542	0.382	0.382	260,821	No	222,946
HD-11P DS	0.000	0.614	0.382	0.382	772,538	Yes	222,946
HD-11	0.000	0.560	0.382	0.382	321,040	Yes	222,946
HD-2P US	0.000	0.576	0.382	0.382	519,041	Yes	222,946
HD-2	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-12P	0.000	0.400	0.382	0.382	48,006	No	222,946
HD-12	0.000	0.318	0.382	0.382	-93,183	No	222,946
HD-13P	0.000	0.431	0.382	0.382	147,717	No	222,946
HD-13	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-14P	0.000	0.400	0.382	0.382	48,006	No	222,946
HD-14	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-15P	0.000	0.400	0.382	0.382	48,006	No	222,946
HD-15	0.000	0.277	0.382	0.382	-107,212	No	222,946
HD-15P-1 DS	0.000	0.535	0.382	0.382	407,693	Yes	222,946
HD-16	0.000	0.407	0.382	0.382	45,810	Yes	222,946
HD-16P US	0.000	0.546	0.382	0.382	437,038	No	222,946
HD-17	0.000	0.349	0.382	0.382	-67,879	No	222,946
HD-17 (D/S)	0.000	0.349	0.382	0.382	-67,879	No	222,946
HD-17P	0.000	0.451	0.382	0.382	230,809	No	222,946
HD-1	0.000	0.559	0.382	0.382	319,397	Yes	222,946
HD-1P	0.000	0.564	0.382	0.382	484,881	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:29:17AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD19-1-HDT to HDP 21 SUCT***								***Sorted By: Average Wear Rate***		
5EX-VALVE-5EX-16	22	10.098	3.394	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-23N	30	8.078	2.715	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-22	3	7.230	2.430	365.0	6.057	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-21 (D/S)	16	6.443	2.166	365.0	6.097	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-21N	31	5.875	1.975	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-22P	53	5.154	1.732	365.0	6.045	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-23P-1	58	4.443	1.493	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-21P	61	3.172	1.066	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-21	16	2.966	0.997	365.0	3.337	0.0	24.000	6.813	0.000	'68.82'	HBD
===>Grouped by Line:	***HD19-2-HDT to HDP 22 SUCT***								***Sorted By: Average Wear Rate***		
5EX-VALVE-5EX-16-1	22	10.098	3.394	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-28N	30	8.078	2.715	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-26 (D/S)	16	6.411	2.155	365.0	6.064	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-26N	31	5.875	1.975	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-28P-1	58	4.443	1.493	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-27P	66	4.115	1.383	365.0	6.032	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-26P	61	3.172	1.066	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-26	16	2.960	0.995	365.0	3.329	0.0	24.000	6.813	0.000	'68.82'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:17AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***HD19-1-HDT to HDP 21 SUCT***									***Sorted By: Flow Order***	
5EX-21N	31	5.875	1.975	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-21P	61	3.172	1.066	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-21	16	2.966	0.997	365.0	3.337	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-21 (D/S)	16	6.443	2.166	365.0	6.097	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-22	3	7.230	2.430	365.0	6.057	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-22P	53	5.154	1.732	365.0	6.045	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-VALVE-5EX-16	22	10.098	3.394	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-23P-1	58	4.443	1.493	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-23N	30	8.078	2.715	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
===>Grouped by Line:	***HD19-2-HDT to HDP 22 SUCT***									***Sorted By: Flow Order***	
5EX-26N	31	5.875	1.975	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-26P	61	3.172	1.066	365.0	3.302	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-26	16	2.960	0.995	365.0	3.329	0.0	24.000	6.813	0.000	'68.82'	HBD
5EX-26 (D/S)	16	6.411	2.155	365.0	6.064	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-27P	66	4.115	1.383	365.0	6.032	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-VALVE-5EX-16-1	22	10.098	3.394	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-28P-1	58	4.443	1.493	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD
5EX-28N	30	8.078	2.715	365.0	5.912	0.0	18.000	6.813	0.000	'68.82'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:17AM

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD19-1-HDT to HDP 21 SUCT**					***Sorted By:Remaining Life***		
5EX-VALVE-5EX-16	0.000	0.055	0.129	0.129	-108,815	No	222,946
5EX-23N	0.000	0.106	0.121	0.121	-44,082	No	222,946
5EX-21N	0.000	0.225	0.161	0.161	287,261	No	222,946
5EX-23P-1	0.000	0.199	0.141	0.141	338,946	No	222,946
5EX-22	0.417	0.301	0.121	0.121	649,128	Yes	222,946
5EX-21P	0.000	0.294	0.188	0.188	871,470	No	222,946
5EX-21 (D/S)	0.445	0.357	0.121	0.121	955,618	Yes	222,946
5EX-22P	0.408	0.338	0.141	0.141	996,571	Yes	222,946
5EX-21	0.436	0.380	0.161	0.161	1,922,750	Yes	222,946
===>Grouped by Line: **HD19-2-HDT to HDP 22 SUCT**					***Sorted By:Remaining Life***		
5EX-VALVE-5EX-16-1	0.000	0.055	0.129	0.129	-108,815	No	222,946
5EX-28N	0.000	0.106	0.121	0.121	-44,082	No	222,946
5EX-26N	0.000	0.225	0.161	0.161	287,261	No	222,946
5EX-26 (D/S)	0.422	0.289	0.121	0.121	684,805	No	222,946
5EX-28P-1	0.000	0.269	0.141	0.141	747,512	Yes	222,946
5EX-26P	0.000	0.330	0.188	0.188	1,166,843	No	222,946
5EX-27P	0.399	0.326	0.141	0.141	1,170,925	Yes	222,946
5EX-26	0.423	0.373	0.161	0.161	1,865,495	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:17AM

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **HD19-1-HDT to HDP 21 SUCT**					***Sorted By:Flow Order***		
5EX-21N	0.000	0.225	0.161	0.161	287,261	No	222,946
5EX-21P	0.000	0.294	0.188	0.188	871,470	No	222,946
5EX-21	0.436	0.380	0.161	0.161	1,922,750	Yes	222,946
5EX-21 (D/S)	0.445	0.357	0.121	0.121	955,618	Yes	222,946
5EX-22	0.417	0.301	0.121	0.121	649,128	Yes	222,946
5EX-22P	0.408	0.338	0.141	0.141	996,571	Yes	222,946
5EX-VALVE-5EX-16	0.000	0.055	0.129	0.129	-108,815	No	222,946
5EX-23P-1	0.000	0.199	0.141	0.141	338,946	No	222,946
5EX-23N	0.000	0.106	0.121	0.121	-44,082	No	222,946
===>Grouped by Line: **HD19-2-HDT to HDP 22 SUCT**					***Sorted By:Flow Order***		
5EX-26N	0.000	0.225	0.161	0.161	287,261	No	222,946
5EX-26P	0.000	0.330	0.188	0.188	1,166,843	No	222,946
5EX-26	0.423	0.373	0.161	0.161	1,865,495	Yes	222,946
5EX-26 (D/S)	0.422	0.289	0.121	0.121	684,805	No	222,946
5EX-27P	0.399	0.326	0.141	0.141	1,170,925	Yes	222,946
5EX-VALVE-5EX-16-1	0.000	0.055	0.129	0.129	-108,815	No	222,946
5EX-28P-1	0.000	0.269	0.141	0.141	747,512	Yes	222,946
5EX-28N	0.000	0.106	0.121	0.121	-44,082	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:29:19AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 MPS A***								***Sorted By: Average Wear Rate***		
TEMP01	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS B***								***Sorted By: Average Wear Rate***		
TEMP02	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS C***								***Sorted By: Average Wear Rate***		
TEMP03	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS D***								***Sorted By: Average Wear Rate***		
TEMP04	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:19AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 MPS A***								***Sorted By: Flow Order***		
TEMP01	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS B***								***Sorted By: Flow Order***		
TEMP02	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS C***								***Sorted By: Flow Order***		
TEMP03	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS D***								***Sorted By: Flow Order***		
TEMP04	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	'298.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:19AM

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 MPS A**					***Sorted By:Remaining Life***		
TEMP01	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS B**					***Sorted By:Remaining Life***		
TEMP02	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS C**					***Sorted By:Remaining Life***		
TEMP03	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS D**					***Sorted By:Remaining Life***		
TEMP04	0.000	-0.410	0.265	0.265	-197,943	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:29:19AM

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 MPS A**					***Sorted By:Flow Order***		
TEMP01	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS B**					***Sorted By:Flow Order***		
TEMP02	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS C**					***Sorted By:Flow Order***		
TEMP03	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS D**					***Sorted By:Flow Order***		
TEMP04	0.000	-0.410	0.265	0.265	-197,943	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:30:51AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD33A-1-MSDT 21A to HDT***								***Sorted By: Average Wear Rate***		
1A-VALVE-5EX-29-1	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-15N	30	6.617	1.287	384.5	3.991	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-12N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-2	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-3	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-4	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-2P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-11 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-10P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-3P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-4P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-5P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-6P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-7P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-8P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-9P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-11P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-12 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-12	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	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:	***MSD33A-1-MSDT 21A to HDT***								***Sorted By: Average Wear Rate***		
1A-12P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-11	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-12P-1	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD34A-1-MSDT 22A to HDT***								***Sorted By: Average Wear Rate***		
2A-VALVE-5EX-29-2	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-3N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-12	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-6	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-5P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-2P-1	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-7P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-8P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-9P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-10P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-12P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-2P	58	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-6P	51	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-4P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-3 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3P-1	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD35A-1-MSDT 23A to HDT***								***Sorted By: Average Wear Rate***		
3A-VALVE-5EX-29-3	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	***MSD35A-1-MSDT 23A to HDT***								***Sorted By: Average Wear Rate***		
3A-16N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-3	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-17	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-18	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-19	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-20	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-21	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-3P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-1 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-17P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-18P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-19P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-20P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-21P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-16 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-16	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-16P US	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-1	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-1P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD36A-1-MSDT 21B to HDT***								***Sorted By: Average Wear Rate***		
1B-VALVE-5EX-29-4	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-3N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-2	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-9	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	***MSD36A-1-MSDT 21B to HDT***								***Sorted By: Average Wear Rate***		
1B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-14	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-5R (D/S)	7	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-5P	57	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-6P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-7P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-7P-1	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-8P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-9P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-3	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-4	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-5R	7	0.001	0.001	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-5 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-5	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-3P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-4P	52	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD37A-1-MSDT 22B to HDT***								***Sorted By: Average Wear Rate***		
2B-VALVE-5EX-29-5	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-1N	31	4.494	0.874	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-3	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-4	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-5	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	***MSD37A-1-MSDT 22B to HDT***								***Sorted By: Average Wear Rate***		
2B-9	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-3P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-2 (D/S)	16	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-5P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-7P US	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-7P DS	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-8P US	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-8P DS	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-4P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-9P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-9P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-11P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-1 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-1	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-1P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-2	16	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-2P	64	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD38A-1-MSDT 23B to HDT***								***Sorted By: Average Wear Rate***		
3B-VALVE-5EX-29-6	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-3N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-7	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-10	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD

===>Grouped by Line: MSD38A-1-MSDT 23B to HDT ***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
3B-11	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-12	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-14	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-2P-1	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-6P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-8P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-9P DS	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-15P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-7P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-5	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-3 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-3	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-5P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-3P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-4P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:30:51AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD33A-1-MSDT 21A to HDT***									***Sorted By: Flow Order***	
1A-12N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-12P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-12	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-12 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-12P-1	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-11	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1A-11 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-11P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-10P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-VALVE-5EX-29-1	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-2	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-2P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-3	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-3P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-4	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-4P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-5P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-6P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-7P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-8P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-9P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	***MSD33A-1-MSDT 21A to HDT***									***Sorted By: Flow Order***	
1A-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1A-15N	30	6.617	1.287	384.5	3.991	0.0	6.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD34A-1-MSDT 22A to HDT***									***Sorted By: Flow Order***	
2A-3N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3P-1	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-3P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2A-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-4P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-5P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-VALVE-5EX-29-2	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-2P	58	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-2P-1	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-6	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-6P	51	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-7P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-8P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-9P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-10P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-12	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-12P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2A-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD35A-1-MSDT 23A to HDT***									***Sorted By: Flow Order***	
3A-16N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-16P US	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	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:	MSD35A-1-MSDT 23A to HDT									Sorted By: Flow Order	
3A-16	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-16 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-1P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-1	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3A-1 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-VALVE-5EX-29-3	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-3	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-3P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-17	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-17P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-18	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-18P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-19	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-19P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-20	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-20P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-21	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-21P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3A-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	MSD36A-1-MSDT 21B to HDT									Sorted By: Flow Order	
1B-3N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-3P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-3	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-4P	52	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-4	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-5	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-5 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-5R	7	0.001	0.001	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
1B-5R (D/S)	7	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-5P	57	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-VALVE-5EX-29-4	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	***MSD36A-1-MSDT 21B to HDT***									***Sorted By: Flow Order***	
1B-2	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-6P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-7P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-7P-1	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-8P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-9	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-9P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-14	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
1B-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD37A-1-MSDT 22B to HDT***									***Sorted By: Flow Order***	
2B-1N	31	4.494	0.874	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-1P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-1	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-1 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-2P	64	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-2	16	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
2B-2 (D/S)	16	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-3	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-3P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-4	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-VALVE-5EX-29-5	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	***MSD37A-1-MSDT 22B to HDT***									***Sorted By: Flow Order***	
2B-4P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-5	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-5P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-7P US	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-7P DS	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-8P US	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-8P DS	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-9	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-9P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-9P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-11P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
2B-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD38A-1-MSDT 23B to HDT***									***Sorted By: Flow Order***	
3B-3N	31	4.494	0.874	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-3P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-3	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-3 (D/S)	15	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-4P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	'107.96'	ARD
3B-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-5	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-5P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	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:	MSD38A-1-MSDT 23B to HDT									Sorted By: Flow Order	
3B-VALVE-5EX-29-6	25	7.488	1.456	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-2P-1	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-6P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-7	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-7P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-8P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-9P DS	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-10	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-11	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-12	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-14	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-13P	52	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-15P	52	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD
3B-15N	30	5.990	1.165	384.5	3.585	0.0	6.625	6.953	0.000	'107.96'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:30:51AM

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD33A-1-MSDT 21A to HDT**					***Sorted By:Remaining Life***		
1A-VALVE-5EX-29-1	0.000	0.089	0.048	0.048	252,172	No	222,946
1A-12N	0.000	0.208	0.058	0.058	1,502,605	No	222,946
1A-15N	0.438	0.340	0.044	0.044	2,014,763	Yes	222,946
1A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-11P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-11 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-12P-1	0.000	0.322	0.068	0.068	100,000,000	No	103,858
1A-11	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-10P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-3P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-4	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-4P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-12	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12P	0.000	0.409	0.068	0.068	100,000,000	No	103,858
1A-5P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-9P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858

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:	**MSD33A-1-MSDT 21A to HDT**				***Sorted By:Remaining Life***		
1A-15	0.000	0.352	0.044	0.044	100,000,000	No	103,858
===>Grouped by Line:	**MSD34A-1-MSDT 22A to HDT**				***Sorted By:Remaining Life***		
2A-VALVE-5EX-29-2	0.000	0.089	0.048	0.048	252,172	No	222,946
2A-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
2A-3N	0.000	0.208	0.058	0.058	1,502,605	No	222,946
2A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-3P-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3P	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-4P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2P-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
===>Grouped by Line:	**MSD35A-1-MSDT 23A to HDT**				***Sorted By:Remaining Life***		
3A-VALVE-5EX-29-3	0.000	0.089	0.044	0.044	271,131	No	222,946
3A-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
3A-16N	0.000	0.693	0.058	0.058	6,366,078	No	222,946
3A-16P US	0.000	0.428	0.058	0.058	100,000,000	No	103,858
3A-16	0.000	0.422	0.058	0.058	100,000,000	No	103,858

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: MSD35A-1-MSDT 23A to HDT					Sorted By:Remaining Life		
3A-16 (D/S)	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-1P	0.000	0.423	0.068	0.068	100,000,000	No	103,858
3A-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
3A-1 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
===>Grouped by Line: MSD36A-1-MSDT 21B to HDT					Sorted By:Remaining Life		
1B-VALVE-5EX-29-4	0.000	0.089	0.048	0.048	252,172	No	222,946
1B-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
1B-3N	0.000	0.267	0.058	0.058	2,101,846	No	222,946
1B-3P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-3	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-2P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-2	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P	0.000	0.280	0.051	0.051	100,000,000	No	86,338

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: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Remaining Life***		
1B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
===>Grouped by Line: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Remaining Life***		
2B-VALVE-5EX-29-5	0.000	0.089	0.048	0.048	252,172	No	222,946
2B-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
2B-1N	0.000	0.287	0.058	0.058	2,302,364	No	222,946
2B-1P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2 (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-4	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-4P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338

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: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Remaining Life***		
2B-7P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
===>Grouped by Line: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Remaining Life***		
3B-VALVE-5EX-29-6	0.000	0.089	0.048	0.048	252,172	No	222,946
3B-3N	0.000	0.208	0.058	0.058	1,502,605	No	222,946
3B-15N	0.000	0.290	0.044	0.044	1,849,506	No	222,946
3B-10P DS	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-11	0.000	0.346	0.044	0.044	100,000,000	No	103,858
3B-11P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-11P DS	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-12	0.000	0.347	0.044	0.044	100,000,000	No	103,858
3B-12P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-14	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-14P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-15P	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-3P	0.000	0.322	0.068	0.068	100,000,000	No	103,858
3B-3	0.000	0.427	0.058	0.058	100,000,000	No	103,858
3B-3 (D/S)	0.000	0.429	0.058	0.058	100,000,000	No	103,858
3B-4P	0.000	0.428	0.068	0.068	100,000,000	No	103,858

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: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Remaining Life***		
3B-4	0.000	0.455	0.058	0.058	100,000,000	No	103,858
3B-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-5	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-5P	0.000	0.280	0.052	0.052	100,000,000	No	88,449
3B-1	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-2P-1	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-8	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-9P DS	0.000	0.250	0.052	0.052	100,000,000	No	103,858
3B-10	0.000	0.183	0.044	0.044	100,000,000	No	103,858
3B-10P US	0.000	0.238	0.052	0.052	100,000,000	No	103,858

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:30:51AM

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD33A-1-MSDT 21A to HDT**					***Sorted By:Flow Order***		
1A-12N	0.000	0.208	0.058	0.058	1,502,605	No	222,946
1A-12P	0.000	0.409	0.068	0.068	100,000,000	No	103,858
1A-12	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12P-1	0.000	0.322	0.068	0.068	100,000,000	No	103,858
1A-11	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-11 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-11P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-10P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-VALVE-5EX-29-1	0.000	0.089	0.048	0.048	252,172	No	222,946
1A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-3P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-4	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-4P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-5P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-9P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-15	0.000	0.352	0.044	0.044	100,000,000	No	103,858

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:	**MSD33A-1-MSDT 21A to HDT**				***Sorted By:Flow Order***		
1A-15N	0.438	0.340	0.044	0.044	2,014,763	Yes	222,946
===>Grouped by Line:	**MSD34A-1-MSDT 22A to HDT**				***Sorted By:Flow Order***		
2A-3N	0.000	0.208	0.058	0.058	1,502,605	No	222,946
2A-3P-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3P	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-4P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-VALVE-5EX-29-2	0.000	0.089	0.048	0.048	252,172	No	222,946
2A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2P-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
===>Grouped by Line:	**MSD35A-1-MSDT 23A to HDT**				***Sorted By:Flow Order***		
3A-16N	0.000	0.693	0.058	0.058	6,366,078	No	222,946
3A-16P US	0.000	0.428	0.058	0.058	100,000,000	No	103,858
3A-16	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-16 (D/S)	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-1P	0.000	0.423	0.068	0.068	100,000,000	No	103,858

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: **MSD35A-1-MSDT 23A to HDT**					***Sorted By:Flow Order***		
3A-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
3A-1 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-VALVE-5EX-29-3	0.000	0.089	0.044	0.044	271,131	No	222,946
3A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
===>Grouped by Line: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Flow Order***		
1B-3N	0.000	0.267	0.058	0.058	2,101,846	No	222,946
1B-3P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-3	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-VALVE-5EX-29-4	0.000	0.089	0.048	0.048	252,172	No	222,946
1B-2P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-2	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338

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: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Flow Order***		
1B-7P-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
===>Grouped by Line: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Flow Order***		
2B-1N	0.000	0.287	0.058	0.058	2,302,364	No	222,946
2B-1P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2 (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-4	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-VALVE-5EX-29-5	0.000	0.089	0.048	0.048	252,172	No	222,946
2B-4P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338

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: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Flow Order***		
2B-7P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15N	0.000	0.128	0.044	0.044	625,563	No	222,946
===>Grouped by Line: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Flow Order***		
3B-3N	0.000	0.208	0.058	0.058	1,502,605	No	222,946
3B-3P	0.000	0.322	0.068	0.068	100,000,000	No	103,858
3B-3	0.000	0.427	0.058	0.058	100,000,000	No	103,858
3B-3 (D/S)	0.000	0.429	0.058	0.058	100,000,000	No	103,858
3B-4P	0.000	0.428	0.068	0.068	100,000,000	No	103,858
3B-4	0.000	0.455	0.058	0.058	100,000,000	No	103,858
3B-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-5	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-5P	0.000	0.280	0.052	0.052	100,000,000	No	88,449
3B-1	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-VALVE-5EX-29-6	0.000	0.089	0.048	0.048	252,172	No	222,946
3B-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-2P-1	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-8	0.000	0.280	0.044	0.044	100,000,000	No	88,449

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: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Flow Order***		
3B-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-9P DS	0.000	0.250	0.052	0.052	100,000,000	No	103,858
3B-10	0.000	0.183	0.044	0.044	100,000,000	No	103,858
3B-10P US	0.000	0.238	0.052	0.052	100,000,000	No	103,858
3B-10P DS	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-11	0.000	0.346	0.044	0.044	100,000,000	No	103,858
3B-11P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-11P DS	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-12	0.000	0.347	0.044	0.044	100,000,000	No	103,858
3B-12P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-14	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-14P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-15P	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-15N	0.000	0.290	0.044	0.044	1,849,506	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:31:37AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD27-1-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16P-1	61	0.449	0.087	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-2-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-17N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-17P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-3-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19P-1	61	0.449	0.087	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-4-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-17 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-17	12	0.681	0.132	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-17 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-5-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-18 (BR/SE)	11	2.050	0.399	384.5	0.888	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-VALVE-5EX-19L	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-VALVE-5EX-19M	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20	2	1.584	0.308	384.5	0.930	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18	11	1.509	0.293	384.5	0.619	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18P DS	62	0.813	0.158	384.5	0.880	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD27-5-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-18P US	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18 (D/S)	11	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-1-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16P-1	61	0.448	0.087	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16P	62	0.331	0.064	384.5	0.307	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-2-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-17N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-3-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-4-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-17 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17P	62	0.575	0.112	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-5-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-18 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-VALVE-5EX-19J	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-VALVE-5EX-19K	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-18	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-18P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-18 (D/S)	11	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-1-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD29-1-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-16P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-2-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-17N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-3-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-4-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-17 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17P	61	0.776	0.151	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17	12	0.680	0.132	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-5-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-18 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-VALVE-5EX-19G	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-VALVE-5EX-19H	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-21N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-21	2	1.524	0.296	384.5	0.892	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-18	11	1.501	0.292	384.5	0.615	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-21P	52	1.026	0.199	384.5	0.888	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20P-1 DS	58	0.899	0.175	384.5	0.884	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20P-1 US	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-18P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-18 (D/S)	11	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-1-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16P-1	61	0.452	0.088	384.5	0.311	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-2-MS21B to MSDT 21B***								***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:	***MSD30-2-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-18N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-18P	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-3-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19P-1	61	0.449	0.087	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19P	62	0.331	0.064	384.5	0.307	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-4-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-18 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-18	12	0.679	0.132	384.5	0.307	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-18 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-5-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-17 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-VALVE-5EX-19	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-VALVE-5EX-19F	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-17 (D/S)	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-17	11	0.833	0.162	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-17P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-1-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16P-1	61	0.449	0.087	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-2-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-18N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-3-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-19P-1	61	0.450	0.088	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD31-3-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-4-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-18 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18P	61	0.776	0.151	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18	12	0.673	0.131	384.5	0.304	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-5-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-17 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-VALVE-5EX-19D	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-VALVE-5EX-19E	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-17 (D/S)	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-17	11	0.832	0.162	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-17P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-1-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-2-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-18N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-3-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-4-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-18 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18P	61	0.776	0.151	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18	12	0.683	0.133	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD32-5-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-17 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-VALVE-5EX-19B	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-VALVE-5EX-19C	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-21N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-21	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-17 (D/S)	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-21P	52	1.013	0.197	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-17	11	0.838	0.163	384.5	0.311	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-17P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:37AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD27-1-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16P-1	61	0.449	0.087	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-2-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-17N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-17P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-3-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19P-1	61	0.449	0.087	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-4-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-17	12	0.681	0.132	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-17 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-17 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD27-5-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-18 (D/S)	11	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18	11	1.509	0.293	384.5	0.619	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18 (BR/SE)	11	2.050	0.399	384.5	0.888	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18P US	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-18P DS	62	0.813	0.158	384.5	0.880	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20	2	1.584	0.308	384.5	0.930	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-VALVE-5EX-19L	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-VALVE-5EX-19M	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD27-5-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1A-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-1-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16P-1	61	0.448	0.087	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-16P	62	0.331	0.064	384.5	0.307	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-2-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-17N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-3-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-4-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-17	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-17P	62	0.575	0.112	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD28-5-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-18 (D/S)	11	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-18	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-18 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-18P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-VALVE-5EX-19J	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-VALVE-5EX-19K	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2A-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-1-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-16P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD29-1-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-2-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-17N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-3-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-4-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-17	12	0.680	0.132	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-17P	61	0.776	0.151	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD29-5-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-18 (D/S)	11	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-18	11	1.501	0.292	384.5	0.615	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-18 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-18P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-VALVE-5EX-19G	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-VALVE-5EX-19H	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20P-1 US	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-20P-1 DS	58	0.899	0.175	384.5	0.884	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-21	2	1.524	0.296	384.5	0.892	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-21P	52	1.026	0.199	384.5	0.888	0.0	12.750	6.953	0.000	'107.96'	ARD
3A-21N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-1-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16P-1	61	0.452	0.088	384.5	0.311	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-2-MS21B to MSDT 21B***									***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:	***MSD30-2-MS21B to MSDT 21B***								***Sorted By: Flow Order***		
1B-18N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-18P	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-3-MS21B to MSDT 21B***								***Sorted By: Flow Order***		
1B-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19P-1	61	0.449	0.087	384.5	0.308	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-19P	62	0.331	0.064	384.5	0.307	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-4-MS21B to MSDT 21B***								***Sorted By: Flow Order***		
1B-18 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-18	12	0.679	0.132	384.5	0.307	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-18 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD30-5-MS21B to MSDT 21B***								***Sorted By: Flow Order***		
1B-17	11	0.833	0.162	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-17 (D/S)	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-17 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-17P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-VALVE-5EX-19	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-VALVE-5EX-19F	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
1B-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-1-MS22B to MSDT 22B***								***Sorted By: Flow Order***		
2B-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16P-1	61	0.449	0.087	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-2-MS22B to MSDT 22B***								***Sorted By: Flow Order***		
2B-18N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-3-MS22B to MSDT 22B***								***Sorted By: Flow Order***		
2B-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-19P-1	61	0.450	0.088	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD31-3-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-4-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-18 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18	12	0.673	0.131	384.5	0.304	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-18P	61	0.776	0.151	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD31-5-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-17	11	0.832	0.162	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-17 (D/S)	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-17 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-17P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-VALVE-5EX-19D	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-VALVE-5EX-19E	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
2B-20N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-1-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-16N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-16P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-2-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-18N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18P1	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-3-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-19N	31	0.791	0.154	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19P-1	61	0.427	0.083	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19 (D/S)	12	0.649	0.126	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-19P	62	0.317	0.062	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
===>Grouped by Line:	***MSD32-4-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-18 (BR/SE)	12	0.538	0.105	384.5	0.293	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18	12	0.683	0.133	384.5	0.309	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18 (D/S)	12	1.178	0.229	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-18P	61	0.776	0.151	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	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:	***MSD32-5-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-17	11	0.838	0.163	384.5	0.311	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-17 (D/S)	11	1.436	0.279	384.5	0.587	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-17 (BR/SE)	11	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-17P	62	0.810	0.158	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-20	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-VALVE-5EX-19B	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-20P	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-VALVE-5EX-19C	25	2.025	0.394	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-20P-1	58	0.891	0.173	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-21	2	1.499	0.291	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-21P	52	1.013	0.197	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD
3B-21N	30	1.620	0.315	384.5	0.876	0.0	12.750	6.953	0.000	'107.96'	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:37AM

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD27-1-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1A-16 (BR/SE)	0.000	0.214	0.085	0.085	10,795,834	No	222,946
1A-16 (D/S)	0.000	0.367	0.085	0.085	19,536,574	No	222,946
1A-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
1A-16P-1	0.410	0.376	0.100	0.100	27,679,630	Yes	222,946
===>Grouped by Line: **MSD27-2-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-17N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1A-17P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
===>Grouped by Line: **MSD27-3-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1A-19 (BR/SE)	0.000	0.245	0.085	0.085	13,391,064	No	222,946
1A-19 (D/S)	0.000	0.370	0.085	0.085	19,744,846	No	222,946
1A-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
1A-19P-1	0.408	0.377	0.100	0.100	27,797,452	No	222,946
===>Grouped by Line: **MSD27-4-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-17 (D/S)	0.000	0.362	0.085	0.085	10,587,463	No	222,946
1A-17 (BR/SE)	0.000	0.222	0.085	0.085	11,465,571	No	222,946
1A-17	0.405	0.360	0.085	0.085	18,153,334	No	222,946
===>Grouped by Line: **MSD27-5-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-VALVE-5EX-19L	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1A-VALVE-5EX-19M	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1A-18 (BR/SE)	0.290	0.204	0.085	0.085	2,604,082	No	222,946
1A-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
1A-20	0.430	0.273	0.085	0.085	5,322,150	Yes	222,946
1A-20P	0.000	0.210	0.100	0.100	5,555,019	Yes	222,946
1A-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
1A-18P DS	0.263	0.223	0.100	0.100	6,839,335	Yes	222,946

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: MSD27-5-MS21A to MSDT 21A					Sorted By:Remaining Life		
1A-18P US	0.000	0.229	0.100	0.100	7,196,628	No	222,946
1A-18	0.410	0.357	0.085	0.085	8,096,466	No	222,946
1A-18 (D/S)	0.000	0.359	0.085	0.085	15,581,508	No	222,946
===>Grouped by Line: MSD28-1-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-16 (BR/SE)	0.000	0.247	0.085	0.085	13,541,611	No	222,946
2A-16 (D/S)	0.000	0.346	0.085	0.085	18,116,918	No	222,946
2A-16P-1	0.404	0.378	0.100	0.100	27,932,944	No	222,946
2A-16P	0.399	0.318	0.100	0.100	29,589,034	No	222,946
===>Grouped by Line: MSD28-2-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-17N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-17P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line: MSD28-3-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-19 (D/S)	0.000	0.233	0.085	0.085	10,281,272	No	222,946
2A-19 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
2A-19P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
2A-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line: MSD28-4-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-17 (D/S)	0.000	0.220	0.085	0.085	5,149,616	No	222,946
2A-17	0.000	0.233	0.085	0.085	10,281,272	No	222,946
2A-17P	0.000	0.235	0.100	0.100	10,617,067	No	222,946
2A-17 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
===>Grouped by Line: MSD28-5-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-VALVE-5EX-19J	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2A-VALVE-5EX-19K	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2A-18 (BR/SE)	0.000	0.198	0.085	0.085	2,515,118	No	222,946
2A-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
2A-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
2A-18	0.000	0.213	0.085	0.085	4,016,297	No	222,946
2A-20P	0.000	0.210	0.100	0.100	5,540,136	Yes	222,946
2A-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
2A-18P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
2A-18 (D/S)	0.000	0.230	0.085	0.085	8,224,255	No	222,946
===>Grouped by Line: MSD29-1-MS23A to MSDT 23A					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:	**MSD29-1-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3A-16 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
3A-16P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3A-16 (D/S)	0.000	0.354	0.085	0.085	18,634,064	No	222,946
3A-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD29-2-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-17N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3A-17P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD29-3-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3A-19 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
3A-19P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3A-19 (D/S)	0.000	0.349	0.085	0.085	18,286,944	No	222,946
3A-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD29-4-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-17P	0.000	0.230	0.100	0.100	7,567,228	No	222,946
3A-17 (D/S)	0.000	0.355	0.100	0.100	9,761,877	No	222,946
3A-17 (BR/SE)	0.000	0.233	0.100	0.100	11,165,500	No	222,946
3A-17	0.402	0.356	0.100	0.100	16,939,230	No	222,946
===>Grouped by Line:	**MSD29-5-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-VALVE-5EX-19G	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3A-VALVE-5EX-19H	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3A-18 (BR/SE)	0.000	0.217	0.085	0.085	2,927,918	No	222,946
3A-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
3A-21	0.305	0.224	0.085	0.085	4,099,882	Yes	222,946
3A-21N	0.000	0.267	0.085	0.085	5,047,099	No	222,946
3A-21P	0.292	0.218	0.100	0.100	5,185,821	Yes	222,946
3A-20P-1 DS	0.278	0.217	0.100	0.100	5,880,271	Yes	222,946
3A-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3A-20P-1 US	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3A-18P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
3A-18	0.393	0.343	0.085	0.085	7,720,391	No	222,946
3A-18 (D/S)	0.000	0.233	0.085	0.085	8,408,627	No	222,946
===>Grouped by Line:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1B-16 (BR/SE)	0.000	0.254	0.085	0.085	14,144,518	No	222,946

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:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-16 (D/S)	0.000	0.361	0.085	0.085	19,120,030	No	222,946
1B-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
1B-16P-1	0.435	0.398	0.100	0.100	29,653,188	Yes	222,946
===>Grouped by Line:	**MSD30-2-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-18N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1B-18P	0.000	0.239	0.100	0.100	14,669,329	No	222,946
===>Grouped by Line:	**MSD30-3-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1B-19 (BR/SE)	0.000	0.225	0.085	0.085	11,716,723	No	222,946
1B-19 (D/S)	0.000	0.354	0.085	0.085	18,634,064	No	222,946
1B-19P-1	0.407	0.376	0.100	0.100	27,705,732	No	222,946
1B-19P	0.398	0.361	0.100	0.100	35,445,888	Yes	222,946
===>Grouped by Line:	**MSD30-4-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-18 (D/S)	0.000	0.356	0.085	0.085	10,357,966	No	222,946
1B-18 (BR/SE)	0.000	0.235	0.085	0.085	12,553,894	No	222,946
1B-18	0.396	0.354	0.085	0.085	17,806,626	No	222,946
===>Grouped by Line:	**MSD30-5-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-VALVE-5EX-19	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1B-VALVE-5EX-19F	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1B-17 (BR/SE)	0.000	0.230	0.085	0.085	3,217,101	No	222,946
1B-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
1B-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
1B-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
1B-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
1B-17P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
1B-17 (D/S)	0.000	0.350	0.085	0.085	8,296,721	No	222,946
1B-17	0.415	0.360	0.085	0.085	14,852,939	No	222,946
===>Grouped by Line:	**MSD31-1-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2B-16 (BR/SE)	0.000	0.260	0.085	0.085	14,646,821	No	222,946
2B-16 (D/S)	0.000	0.358	0.085	0.085	18,911,760	No	222,946
2B-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
2B-16P-1	0.413	0.381	0.100	0.100	28,154,848	No	222,946
===>Grouped by Line:	**MSD31-2-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-18N	0.000	0.230	0.085	0.085	8,224,255	No	222,946

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:	**MSD31-2-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-18P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD31-3-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2B-19 (BR/SE)	0.000	0.232	0.100	0.100	11,081,783	No	222,946
2B-19 (D/S)	0.000	0.345	0.100	0.100	16,996,744	No	222,946
2B-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
2B-19P-1	0.419	0.374	0.100	0.100	27,401,226	Yes	222,946
===>Grouped by Line:	**MSD31-4-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-18P	0.000	0.230	0.100	0.100	7,567,228	No	222,946
2B-18 (D/S)	0.000	0.347	0.100	0.100	9,455,882	No	222,946
2B-18 (BR/SE)	0.000	0.236	0.100	0.100	11,413,108	No	222,946
2B-18	0.367	0.342	0.100	0.100	16,189,057	No	222,946
===>Grouped by Line:	**MSD31-5-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-VALVE-5EX-19D	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2B-VALVE-5EX-19E	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2B-17 (BR/SE)	0.000	0.218	0.100	0.100	2,625,737	No	222,946
2B-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
2B-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
2B-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
2B-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
2B-17P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
2B-17 (D/S)	0.000	0.353	0.100	0.100	7,933,385	No	222,946
2B-17	0.411	0.357	0.100	0.100	13,919,114	No	222,946
===>Grouped by Line:	**MSD32-1-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3B-16 (BR/SE)	0.000	0.241	0.085	0.085	13,056,196	No	222,946
3B-16P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3B-16 (D/S)	0.000	0.348	0.085	0.085	18,217,520	No	222,946
3B-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD32-2-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-18N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3B-18P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD32-3-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3B-19 (BR/SE)	0.000	0.244	0.085	0.085	13,307,347	No	222,946

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:	**MSD32-3-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-19P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3B-19 (D/S)	0.000	0.367	0.085	0.085	19,536,574	No	222,946
3B-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD32-4-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-18P	0.000	0.230	0.100	0.100	7,567,228	No	222,946
3B-18 (D/S)	0.000	0.368	0.085	0.085	10,816,959	No	222,946
3B-18 (BR/SE)	0.000	0.227	0.085	0.085	11,884,157	No	222,946
3B-18	0.417	0.369	0.085	0.085	18,678,194	No	222,946
===>Grouped by Line:	**MSD32-5-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-VALVE-5EX-19B	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3B-VALVE-5EX-19C	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3B-17 (BR/SE)	0.000	0.224	0.100	0.100	2,759,206	No	222,946
3B-21N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
3B-21	0.000	0.212	0.085	0.085	3,801,667	No	222,946
3B-21P	0.000	0.224	0.100	0.100	5,527,983	No	222,946
3B-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3B-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3B-17P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
3B-20	0.000	0.351	0.085	0.085	7,985,265	Yes	222,946
3B-17 (D/S)	0.000	0.359	0.100	0.100	8,121,571	No	222,946
3B-17	0.437	0.357	0.100	0.100	13,804,667	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:37AM

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD27-1-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1A-16P-1	0.410	0.376	0.100	0.100	27,679,630	Yes	222,946
1A-16 (BR/SE)	0.000	0.214	0.085	0.085	10,795,834	No	222,946
1A-16 (D/S)	0.000	0.367	0.085	0.085	19,536,574	No	222,946
1A-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line: **MSD27-2-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-17N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1A-17P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
===>Grouped by Line: **MSD27-3-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1A-19P-1	0.408	0.377	0.100	0.100	27,797,452	No	222,946
1A-19 (BR/SE)	0.000	0.245	0.085	0.085	13,391,064	No	222,946
1A-19 (D/S)	0.000	0.370	0.085	0.085	19,744,846	No	222,946
1A-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line: **MSD27-4-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-17	0.405	0.360	0.085	0.085	18,153,334	No	222,946
1A-17 (BR/SE)	0.000	0.222	0.085	0.085	11,465,571	No	222,946
1A-17 (D/S)	0.000	0.362	0.085	0.085	10,587,463	No	222,946
===>Grouped by Line: **MSD27-5-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-18 (D/S)	0.000	0.359	0.085	0.085	15,581,508	No	222,946
1A-18	0.410	0.357	0.085	0.085	8,096,466	No	222,946
1A-18 (BR/SE)	0.290	0.204	0.085	0.085	2,604,082	No	222,946
1A-18P US	0.000	0.229	0.100	0.100	7,196,628	No	222,946
1A-18P DS	0.263	0.223	0.100	0.100	6,839,335	Yes	222,946
1A-20	0.430	0.273	0.085	0.085	5,322,150	Yes	222,946
1A-VALVE-5EX-19L	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1A-20P	0.000	0.210	0.100	0.100	5,555,019	Yes	222,946

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:	**MSD27-5-MS21A to MSDT 21A**				***Sorted By:Flow Order***		
1A-VALVE-5EX-19M	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1A-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
1A-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
===>Grouped by Line:	**MSD28-1-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-16P-1	0.404	0.378	0.100	0.100	27,932,944	No	222,946
2A-16 (BR/SE)	0.000	0.247	0.085	0.085	13,541,611	No	222,946
2A-16 (D/S)	0.000	0.346	0.085	0.085	18,116,918	No	222,946
2A-16P	0.399	0.318	0.100	0.100	29,589,034	No	222,946
===>Grouped by Line:	**MSD28-2-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-17N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-17P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD28-3-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-19P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
2A-19 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
2A-19 (D/S)	0.000	0.233	0.085	0.085	10,281,272	No	222,946
2A-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD28-4-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-17	0.000	0.233	0.085	0.085	10,281,272	No	222,946
2A-17 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
2A-17 (D/S)	0.000	0.220	0.085	0.085	5,149,616	No	222,946
2A-17P	0.000	0.235	0.100	0.100	10,617,067	No	222,946
===>Grouped by Line:	**MSD28-5-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-18 (D/S)	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2A-18	0.000	0.213	0.085	0.085	4,016,297	No	222,946
2A-18 (BR/SE)	0.000	0.198	0.085	0.085	2,515,118	No	222,946
2A-18P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
2A-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
2A-VALVE-5EX-19J	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2A-20P	0.000	0.210	0.100	0.100	5,540,136	Yes	222,946
2A-VALVE-5EX-19K	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2A-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
2A-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
===>Grouped by Line:	**MSD29-1-MS23A to MSDT 23A**				***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:	**MSD29-1-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3A-16P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3A-16 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
3A-16 (D/S)	0.000	0.354	0.085	0.085	18,634,064	No	222,946
3A-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD29-2-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-17N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3A-17P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD29-3-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3A-19P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3A-19 (BR/SE)	0.000	0.236	0.085	0.085	12,634,067	No	222,946
3A-19 (D/S)	0.000	0.349	0.085	0.085	18,286,944	No	222,946
3A-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD29-4-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-17	0.402	0.356	0.100	0.100	16,939,230	No	222,946
3A-17 (BR/SE)	0.000	0.233	0.100	0.100	11,165,500	No	222,946
3A-17 (D/S)	0.000	0.355	0.100	0.100	9,761,877	No	222,946
3A-17P	0.000	0.230	0.100	0.100	7,567,228	No	222,946
===>Grouped by Line:	**MSD29-5-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-18 (D/S)	0.000	0.233	0.085	0.085	8,408,627	No	222,946
3A-18	0.393	0.343	0.085	0.085	7,720,391	No	222,946
3A-18 (BR/SE)	0.000	0.217	0.085	0.085	2,927,918	No	222,946
3A-18P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
3A-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
3A-VALVE-5EX-19G	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3A-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3A-VALVE-5EX-19H	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3A-20P-1 US	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3A-20P-1 DS	0.278	0.217	0.100	0.100	5,880,271	Yes	222,946
3A-21	0.305	0.224	0.085	0.085	4,099,882	Yes	222,946
3A-21P	0.292	0.218	0.100	0.100	5,185,821	Yes	222,946
3A-21N	0.000	0.267	0.085	0.085	5,047,099	No	222,946
===>Grouped by Line:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1B-16P-1	0.435	0.398	0.100	0.100	29,653,188	Yes	222,946

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:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-16 (BR/SE)	0.000	0.254	0.085	0.085	14,144,518	No	222,946
1B-16 (D/S)	0.000	0.361	0.085	0.085	19,120,030	No	222,946
1B-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD30-2-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-18N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1B-18P	0.000	0.239	0.100	0.100	14,669,329	No	222,946
===>Grouped by Line:	**MSD30-3-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
1B-19P-1	0.407	0.376	0.100	0.100	27,705,732	No	222,946
1B-19 (BR/SE)	0.000	0.225	0.085	0.085	11,716,723	No	222,946
1B-19 (D/S)	0.000	0.354	0.085	0.085	18,634,064	No	222,946
1B-19P	0.398	0.361	0.100	0.100	35,445,888	Yes	222,946
===>Grouped by Line:	**MSD30-4-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-18 (BR/SE)	0.000	0.235	0.085	0.085	12,553,894	No	222,946
1B-18	0.396	0.354	0.085	0.085	17,806,626	No	222,946
1B-18 (D/S)	0.000	0.356	0.085	0.085	10,357,966	No	222,946
===>Grouped by Line:	**MSD30-5-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-17	0.415	0.360	0.085	0.085	14,852,939	No	222,946
1B-17 (D/S)	0.000	0.350	0.085	0.085	8,296,721	No	222,946
1B-17 (BR/SE)	0.000	0.230	0.085	0.085	3,217,101	No	222,946
1B-17P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
1B-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
1B-VALVE-5EX-19	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1B-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
1B-VALVE-5EX-19F	0.000	0.198	0.091	0.091	2,380,219	No	222,946
1B-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
1B-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
===>Grouped by Line:	**MSD31-1-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2B-16P-1	0.413	0.381	0.100	0.100	28,154,848	No	222,946
2B-16 (BR/SE)	0.000	0.260	0.085	0.085	14,646,821	No	222,946
2B-16 (D/S)	0.000	0.358	0.085	0.085	18,911,760	No	222,946
2B-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD31-2-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-18N	0.000	0.230	0.085	0.085	8,224,255	No	222,946

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:	**MSD31-2-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-18P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD31-3-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
2B-19P-1	0.419	0.374	0.100	0.100	27,401,226	Yes	222,946
2B-19 (BR/SE)	0.000	0.232	0.100	0.100	11,081,783	No	222,946
2B-19 (D/S)	0.000	0.345	0.100	0.100	16,996,744	No	222,946
2B-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD31-4-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-18 (BR/SE)	0.000	0.236	0.100	0.100	11,413,108	No	222,946
2B-18	0.367	0.342	0.100	0.100	16,189,057	No	222,946
2B-18 (D/S)	0.000	0.347	0.100	0.100	9,455,882	No	222,946
2B-18P	0.000	0.230	0.100	0.100	7,567,228	No	222,946
===>Grouped by Line:	**MSD31-5-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-17	0.411	0.357	0.100	0.100	13,919,114	No	222,946
2B-17 (D/S)	0.000	0.353	0.100	0.100	7,933,385	No	222,946
2B-17 (BR/SE)	0.000	0.218	0.100	0.100	2,625,737	No	222,946
2B-17P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
2B-20	0.000	0.212	0.085	0.085	3,801,667	No	222,946
2B-VALVE-5EX-19D	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2B-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
2B-VALVE-5EX-19E	0.000	0.198	0.091	0.091	2,380,219	No	222,946
2B-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
2B-20N	0.000	0.209	0.085	0.085	3,430,547	No	222,946
===>Grouped by Line:	**MSD32-1-MS23B to MSDT 23B**				***Sorted By:Flow Order***		
3B-16N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3B-16P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946
3B-16 (BR/SE)	0.000	0.241	0.085	0.085	13,056,196	No	222,946
3B-16 (D/S)	0.000	0.348	0.085	0.085	18,217,520	No	222,946
3B-16P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD32-2-MS23B to MSDT 23B**				***Sorted By:Flow Order***		
3B-18N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3B-18P1	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line:	**MSD32-3-MS23B to MSDT 23B**				***Sorted By:Flow Order***		
3B-19N	0.000	0.230	0.085	0.085	8,224,255	No	222,946
3B-19P-1	0.000	0.239	0.100	0.100	14,669,329	No	222,946

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: **MSD32-3-MS23B to MSDT 23B**					***Sorted By:Flow Order***		
3B-19 (BR/SE)	0.000	0.244	0.085	0.085	13,307,347	No	222,946
3B-19 (D/S)	0.000	0.367	0.085	0.085	19,536,574	No	222,946
3B-19P	0.000	0.242	0.100	0.100	20,204,904	No	222,946
===>Grouped by Line: **MSD32-4-MS23B to MSDT 23B**					***Sorted By:Flow Order***		
3B-18 (BR/SE)	0.000	0.227	0.085	0.085	11,884,157	No	222,946
3B-18	0.417	0.369	0.085	0.085	18,678,194	No	222,946
3B-18 (D/S)	0.000	0.368	0.085	0.085	10,816,959	No	222,946
3B-18P	0.000	0.230	0.100	0.100	7,567,228	No	222,946
===>Grouped by Line: **MSD32-5-MS23B to MSDT 23B**					***Sorted By:Flow Order***		
3B-17	0.437	0.357	0.100	0.100	13,804,667	No	222,946
3B-17 (D/S)	0.000	0.359	0.100	0.100	8,121,571	No	222,946
3B-17 (BR/SE)	0.000	0.224	0.100	0.100	2,759,206	No	222,946
3B-17P	0.000	0.229	0.100	0.100	7,196,628	No	222,946
3B-20	0.000	0.351	0.085	0.085	7,985,265	Yes	222,946
3B-VALVE-5EX-19B	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3B-20P	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3B-VALVE-5EX-19C	0.000	0.198	0.091	0.091	2,380,219	No	222,946
3B-20P-1	0.000	0.227	0.100	0.100	6,438,153	No	222,946
3B-21	0.000	0.212	0.085	0.085	3,801,667	No	222,946
3B-21P	0.000	0.224	0.100	0.100	5,527,983	No	222,946
3B-21N	0.000	0.209	0.085	0.085	3,430,547	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:31:40AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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-MPS A to Separating Tk A***								***Sorted By: Average Wear Rate***		
TEMP07	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***PD-MPS B to Separating Tk A***								***Sorted By: Average Wear Rate***		
TEMP08	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***PD-MPS C to Separating Tk B***								***Sorted By: Average Wear Rate***		
TEMP09	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***PD-MPS D to Separating Tk B***								***Sorted By: Average Wear Rate***		
TEMP10	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:40AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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-MPS A to Separating Tk A***								***Sorted By: Flow Order***		
TEMP07	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***PD-MPS B to Separating Tk A***								***Sorted By: Flow Order***		
TEMP08	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***PD-MPS C to Separating Tk B***								***Sorted By: Flow Order***		
TEMP09	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD
===>Grouped by Line:	***PD-MPS D to Separating Tk B***								***Sorted By: Flow Order***		
TEMP10	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	'298.02'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:40AM

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **PD-MPS A to Separating Tk A**					***Sorted By:Remaining Life***		
TEMP07	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS B to Separating Tk A**					***Sorted By:Remaining Life***		
TEMP08	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS C to Separating Tk B**					***Sorted By:Remaining Life***		
TEMP09	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS D to Separating Tk B**					***Sorted By:Remaining Life***		
TEMP10	0.000	-0.085	0.166	0.166	-142,007	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:40AM

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **PD-MPS A to Separating Tk A**					***Sorted By:Flow Order***		
TEMP07	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS B to Separating Tk A**					***Sorted By:Flow Order***		
TEMP08	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS C to Separating Tk B**					***Sorted By:Flow Order***		
TEMP09	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS D to Separating Tk B**					***Sorted By:Flow Order***		
TEMP10	0.000	-0.085	0.166	0.166	-142,007	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:31:57AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD45A-1-RHDT21A to CV***								***Sorted By: Average Wear Rate***		
MS-1A11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A24FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A28	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A29	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A16	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A17	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A20	3	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30R-1 (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1A26	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A27	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14A	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A18	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A19	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A17P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A17P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A25 (D/S)	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A25	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A12P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD45A-1-RHDT21A to CV***								***Sorted By: Average Wear Rate***		
MS-1A12P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A28P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A28P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A13P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A13P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A29P US	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A29P DS	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14AP	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30P-1	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30R-1	17	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A15P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A15P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A16P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A20P	53	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A26P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A27P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A18P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21P US	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21P DS	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A22	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A23	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24	4	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A25P	65	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A24P-1	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A24P DS	54	1.976	0.667	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A21P-1	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22P-1	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A25P-1	56	1.059	0.357	495.9	7.053	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:57AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD45A-1-RHDT21A to CV***									***Sorted By: Flow Order***	
MS-1A11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A11P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A12P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A12P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A13P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A13P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14AP	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A14A	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A15P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A15P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A16	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A16P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A17	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A17P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A17P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A18	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A18P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A19	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A20	3	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A20P	53	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	MSD45A-1-RHDT21A to CV									Sorted By: Flow Order	
MS-1A21	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21P US	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21P DS	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A21R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A21P-1	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A22P-1	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A23	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24	4	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24P DS	54	1.976	0.667	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A24R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A24P-1	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A24FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A25P-1	56	1.059	0.357	495.9	7.053	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A25	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A25 (D/S)	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A25P	65	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A26	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A26P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A27	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A27P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A28	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A28P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A28P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A29	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A29P US	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A29P DS	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30P-1	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30R-1	17	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30R-1 (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:57AM

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD45A-1-RHDT21A to CV**					***Sorted By:Remaining Life***		
MS-1A11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-1A24FE	0.000	0.342	0.233	0.233	547,099	No	222,946
MS-1A30R-1	0.000	0.297	0.233	0.233	642,620	No	222,946
MS-1A15	0.000	0.352	0.233	0.233	801,675	Yes	222,946
MS-1A14A	0.000	0.344	0.233	0.233	837,152	Yes	222,946
MS-1A12	0.000	0.362	0.233	0.233	869,139	Yes	222,946
MS-1A17	0.000	0.374	0.233	0.233	950,097	Yes	222,946
MS-1A30	0.000	0.374	0.233	0.233	950,097	Yes	222,946
MS-1A30R-1 (D/S)	0.000	0.291	0.158	0.158	957,408	No	222,946
MS-1A11	0.000	0.380	0.233	0.233	990,576	Yes	222,946
MS-1A14	0.000	0.381	0.233	0.233	997,322	Yes	222,946
MS-1A28	0.000	0.381	0.233	0.233	997,322	Yes	222,946
MS-1A19	0.000	0.367	0.233	0.233	1,011,128	Yes	222,946
MS-1A16	0.000	0.385	0.233	0.233	1,024,308	Yes	222,946
MS-1A21	0.000	0.379	0.233	0.233	1,101,899	Yes	222,946
MS-1A29	0.000	0.397	0.233	0.233	1,105,208	Yes	222,946
MS-1A13	0.000	0.398	0.233	0.233	1,112,012	Yes	222,946
MS-1A17P US	0.000	0.377	0.233	0.233	1,126,278	Yes	222,946
MS-1A20	0.000	0.392	0.233	0.233	1,135,772	Yes	222,946
MS-1A17P DS	0.000	0.381	0.233	0.233	1,157,481	Yes	222,946
MS-1A27	0.000	0.391	0.233	0.233	1,192,670	Yes	222,946
MS-1A18	0.000	0.397	0.233	0.233	1,238,055	Yes	222,946
MS-1A26	0.000	0.405	0.233	0.233	1,298,569	Yes	222,946
MS-1A11P US	0.000	0.363	0.233	0.233	1,301,615	Yes	222,946
MS-1A11P DS	0.000	0.367	0.233	0.233	1,341,554	Yes	222,946
MS-1A12P DS	0.000	0.376	0.233	0.233	1,426,233	Yes	222,946
MS-1A28P US	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-1A16P	0.000	0.378	0.233	0.233	1,448,722	Yes	222,946
MS-1A12P US	0.000	0.379	0.233	0.233	1,456,187	Yes	222,946
MS-1A11P-1	0.000	0.391	0.233	0.233	1,460,163	Yes	222,946
MS-1A13P DS	0.000	0.381	0.233	0.233	1,481,341	Yes	222,946

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: **MSD45A-1-RHDT21A to CV**					***Sorted By:Remaining Life***		
MS-1A13P US	0.000	0.386	0.233	0.233	1,531,265	Yes	222,946
MS-1A14P US	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-1A21P US	0.000	0.371	0.233	0.233	1,571,385	Yes	222,946
MS-1A14P DS	0.000	0.391	0.233	0.233	1,581,189	Yes	222,946
MS-1A30P-1	0.000	0.391	0.233	0.233	1,581,189	Yes	222,946
MS-1A14AP	0.000	0.392	0.233	0.233	1,591,173	Yes	222,946
MS-1A26P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1A20P	0.000	0.393	0.233	0.233	1,601,158	Yes	222,946
MS-1A15P US	0.000	0.397	0.233	0.233	1,641,097	Yes	222,946
MS-1A15P DS	0.000	0.400	0.233	0.233	1,671,052	Yes	222,946
MS-1A28P DS	0.000	0.402	0.233	0.233	1,685,837	Yes	222,946
MS-1A23	0.000	0.452	0.303	0.303	1,695,647	Yes	222,946
MS-1A29P US	0.000	0.404	0.233	0.233	1,705,806	Yes	222,946
MS-1A18P	0.000	0.384	0.233	0.233	1,718,888	Yes	222,946
MS-1A21P DS	0.000	0.384	0.233	0.233	1,718,888	Yes	222,946
MS-1A29P DS	0.000	0.408	0.233	0.233	1,750,930	Yes	222,946
MS-1A27P	0.000	0.389	0.233	0.233	1,775,619	Yes	222,946
MS-1A24	0.000	0.460	0.303	0.303	1,786,556	Yes	222,946
MS-1A24P-1	0.000	0.385	0.233	0.233	1,896,042	Yes	222,946
MS-1A21R	0.000	0.447	0.233	0.233	1,909,830	No	222,946
MS-1A25P	0.000	0.389	0.233	0.233	1,945,966	Yes	222,946
MS-1A25	0.000	0.471	0.233	0.233	1,984,924	No	222,946
MS-1A25 (D/S)	0.000	0.475	0.233	0.233	2,018,207	No	222,946
MS-1A22	0.000	0.482	0.303	0.303	2,036,556	Yes	222,946
MS-1A24P DS	0.000	0.458	0.303	0.303	2,040,878	Yes	222,946
MS-1A21R (D/S)	0.000	0.459	0.303	0.303	2,188,767	No	222,946
MS-1A22P US	0.000	0.460	0.303	0.303	2,645,195	Yes	222,946
MS-1A22P DS	0.000	0.461	0.303	0.303	2,662,013	Yes	222,946
MS-1A21P-1	0.000	0.467	0.303	0.303	2,762,922	Yes	222,946
MS-1A22P-1	0.000	0.469	0.303	0.303	2,796,558	Yes	222,946
MS-1A24R	0.000	0.480	0.303	0.303	2,981,558	No	222,946
MS-1A24R (D/S)	0.000	0.478	0.233	0.233	3,402,263	No	222,946
MS-1A25P-1	0.000	0.397	0.233	0.233	4,017,445	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:31:57AM

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD45A-1-RHDT21A to CV**					***Sorted By:Flow Order***		
MS-1A11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-1A11P-1	0.000	0.391	0.233	0.233	1,460,163	Yes	222,946
MS-1A11	0.000	0.380	0.233	0.233	990,576	Yes	222,946
MS-1A11P US	0.000	0.363	0.233	0.233	1,301,615	Yes	222,946
MS-1A11P DS	0.000	0.367	0.233	0.233	1,341,554	Yes	222,946
MS-1A12	0.000	0.362	0.233	0.233	869,139	Yes	222,946
MS-1A12P US	0.000	0.379	0.233	0.233	1,456,187	Yes	222,946
MS-1A12P DS	0.000	0.376	0.233	0.233	1,426,233	Yes	222,946
MS-1A13	0.000	0.398	0.233	0.233	1,112,012	Yes	222,946
MS-1A13P US	0.000	0.386	0.233	0.233	1,531,265	Yes	222,946
MS-1A13P DS	0.000	0.381	0.233	0.233	1,481,341	Yes	222,946
MS-1A14	0.000	0.381	0.233	0.233	997,322	Yes	222,946
MS-1A14P US	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-1A14AP	0.000	0.392	0.233	0.233	1,591,173	Yes	222,946
MS-1A14P DS	0.000	0.391	0.233	0.233	1,581,189	Yes	222,946
MS-1A14A	0.000	0.344	0.233	0.233	837,152	Yes	222,946
MS-1A15	0.000	0.352	0.233	0.233	801,675	Yes	222,946
MS-1A15P US	0.000	0.397	0.233	0.233	1,641,097	Yes	222,946
MS-1A15P DS	0.000	0.400	0.233	0.233	1,671,052	Yes	222,946
MS-1A16	0.000	0.385	0.233	0.233	1,024,308	Yes	222,946
MS-1A16P	0.000	0.378	0.233	0.233	1,448,722	Yes	222,946
MS-1A17	0.000	0.374	0.233	0.233	950,097	Yes	222,946
MS-1A17P US	0.000	0.377	0.233	0.233	1,126,278	Yes	222,946
MS-1A17P DS	0.000	0.381	0.233	0.233	1,157,481	Yes	222,946
MS-1A18	0.000	0.397	0.233	0.233	1,238,055	Yes	222,946
MS-1A18P	0.000	0.384	0.233	0.233	1,718,888	Yes	222,946
MS-1A19	0.000	0.367	0.233	0.233	1,011,128	Yes	222,946
MS-1A20	0.000	0.392	0.233	0.233	1,135,772	Yes	222,946
MS-1A20P	0.000	0.393	0.233	0.233	1,601,158	Yes	222,946
MS-1A21	0.000	0.379	0.233	0.233	1,101,899	Yes	222,946
MS-1A21P US	0.000	0.371	0.233	0.233	1,571,385	Yes	222,946

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:* **MSD45A-1-RHDT21A to CV**					***Sorted By:Flow Order***		
MS-1A21P DS	0.000	0.384	0.233	0.233	1,718,888	Yes	222,946
MS-1A21R	0.000	0.447	0.233	0.233	1,909,830	No	222,946
MS-1A21R (D/S)	0.000	0.459	0.303	0.303	2,188,767	No	222,946
MS-1A21P-1	0.000	0.467	0.303	0.303	2,762,922	Yes	222,946
MS-1A22	0.000	0.482	0.303	0.303	2,036,556	Yes	222,946
MS-1A22P US	0.000	0.460	0.303	0.303	2,645,195	Yes	222,946
MS-1A22P DS	0.000	0.461	0.303	0.303	2,662,013	Yes	222,946
MS-1A22P-1	0.000	0.469	0.303	0.303	2,796,558	Yes	222,946
MS-1A23	0.000	0.452	0.303	0.303	1,695,647	Yes	222,946
MS-1A24	0.000	0.460	0.303	0.303	1,786,556	Yes	222,946
MS-1A24P DS	0.000	0.458	0.303	0.303	2,040,878	Yes	222,946
MS-1A24R	0.000	0.480	0.303	0.303	2,981,558	No	222,946
MS-1A24R (D/S)	0.000	0.478	0.233	0.233	3,402,263	No	222,946
MS-1A24P-1	0.000	0.385	0.233	0.233	1,896,042	Yes	222,946
MS-1A24FE	0.000	0.342	0.233	0.233	547,099	No	222,946
MS-1A25P-1	0.000	0.397	0.233	0.233	4,017,445	Yes	222,946
MS-1A25	0.000	0.471	0.233	0.233	1,984,924	No	222,946
MS-1A25 (D/S)	0.000	0.475	0.233	0.233	2,018,207	No	222,946
MS-1A25P	0.000	0.389	0.233	0.233	1,945,966	Yes	222,946
MS-1A26	0.000	0.405	0.233	0.233	1,298,569	Yes	222,946
MS-1A26P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1A27	0.000	0.391	0.233	0.233	1,192,670	Yes	222,946
MS-1A27P	0.000	0.389	0.233	0.233	1,775,619	Yes	222,946
MS-1A28	0.000	0.381	0.233	0.233	997,322	Yes	222,946
MS-1A28P US	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-1A28P DS	0.000	0.402	0.233	0.233	1,685,837	Yes	222,946
MS-1A29	0.000	0.397	0.233	0.233	1,105,208	Yes	222,946
MS-1A29P US	0.000	0.404	0.233	0.233	1,705,806	Yes	222,946
MS-1A29P DS	0.000	0.408	0.233	0.233	1,750,930	Yes	222,946
MS-1A30	0.000	0.374	0.233	0.233	950,097	Yes	222,946
MS-1A30P-1	0.000	0.391	0.233	0.233	1,581,189	Yes	222,946
MS-1A30R-1	0.000	0.297	0.233	0.233	642,620	No	222,946
MS-1A30R-1 (D/S)	0.000	0.291	0.158	0.158	957,408	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:32:14AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD48A-1-RHDT21B to CV***								***Sorted By: Average Wear Rate***		
MS-1B11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B25	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B26	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B27	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B28	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B29	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B30	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B16	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B32	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B18	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B19	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B20	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33R (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1B13	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B31	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B17	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B25P	54	3.328	1.123	495.9	7.569	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B24 (D/S)	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B24	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B20R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B11P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B12P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD48A-1-RHDT21B to CV***								***Sorted By: Average Wear Rate***		
MS-1B27P-1	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B27P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B28P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B29P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B30P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B15P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B16P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B32P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B32P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B18P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B19P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33R	17	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B13P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B31P US	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B31P DS	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B17P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B21	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B22	4	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B24P US	65	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B22P	54	1.976	0.667	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B20R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B20P-1	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B20P	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23P	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B14P-1 US	56	1.040	0.351	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:14AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD48A-1-RHDT21B to CV***									***Sorted By: Flow Order***	
MS-1B11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B11P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B12P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B13	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B13P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B14P-1 US	56	1.040	0.351	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B15P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B16	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B16P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B17	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B17P	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B18	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B18P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B19	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B19P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B20	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B20P-1	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B20R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B20R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B20P	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B21	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B22	4	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD48A-1-RHDT21B to CV***									***Sorted By: Flow Order***	
MS-1B22P	54	1.976	0.667	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23P	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B23R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B24	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B24 (D/S)	15	3.120	1.053	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B24P US	65	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B25	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B25P	54	3.328	1.123	495.9	7.569	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B26	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B27P-1	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B27	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B27P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B28	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B28P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B29	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B29P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B30	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B30P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B31	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B31P US	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B31P DS	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B32	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B32P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B32P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33R	17	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33R (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:14AM

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD48A-1-RHDT21B to CV**					***Sorted By:Remaining Life***		
MS-1B14FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-1B11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-1B14	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B18	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B29	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B30	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B20	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B27	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B28	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B16	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B15	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B19	0.000	0.358	0.233	0.233	842,549	Yes	222,946
MS-1B31	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-1B17	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-1B13	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-1B33	0.000	0.361	0.233	0.233	866,020	Yes	222,946
MS-1B32	0.000	0.364	0.233	0.233	886,260	Yes	222,946
MS-1B25	0.000	0.365	0.233	0.233	890,762	Yes	222,946
MS-1B12	0.000	0.372	0.233	0.233	936,604	Yes	222,946
MS-1B11	0.000	0.393	0.233	0.233	1,078,280	Yes	222,946
MS-1B26	0.000	0.393	0.233	0.233	1,080,688	Yes	222,946
MS-1B20R	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-1B33R (D/S)	0.000	0.325	0.158	0.158	1,198,978	Yes	222,946
MS-1B11P	0.000	0.358	0.233	0.233	1,251,691	Yes	222,946
MS-1B25P	0.000	0.399	0.233	0.233	1,292,380	Yes	222,946
MS-1B29P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B30P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B14P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B27P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B28P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B16P	0.000	0.366	0.233	0.233	1,327,607	No	222,946

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: **MSD48A-1-RHDT21B to CV**					***Sorted By:Remaining Life***		
MS-1B15P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B11P-1	0.000	0.387	0.233	0.233	1,423,183	Yes	222,946
MS-1B32P US	0.000	0.387	0.233	0.233	1,542,448	Yes	222,946
MS-1B33P	0.000	0.388	0.233	0.233	1,552,433	Yes	222,946
MS-1B12P	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-1B21	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-1B23	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-1B13P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1B17P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1B31P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1B19P US	0.000	0.396	0.233	0.233	1,626,111	Yes	222,946
MS-1B32P DS	0.000	0.396	0.233	0.233	1,632,311	Yes	222,946
MS-1B27P-1	0.000	0.403	0.233	0.233	1,695,588	Yes	222,946
MS-1B18P DS	0.000	0.415	0.233	0.233	1,815,821	Yes	222,946
MS-1B24 (D/S)	0.000	0.456	0.233	0.233	1,860,348	No	222,946
MS-1B31P DS	0.000	0.400	0.233	0.233	1,892,097	No	222,946
MS-1B24	0.000	0.469	0.233	0.233	1,968,516	No	222,946
MS-1B22	0.000	0.477	0.303	0.303	1,972,604	Yes	222,946
MS-1B22P	0.000	0.462	0.303	0.303	2,093,402	Yes	222,946
MS-1B20R (D/S)	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-1B33R	0.000	0.446	0.233	0.233	2,131,550	No	222,946
MS-1B24P US	0.000	0.408	0.233	0.233	2,185,408	Yes	222,946
MS-1B23R	0.000	0.453	0.303	0.303	2,527,468	No	222,946
MS-1B20P-1	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-1B20P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-1B23P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-1B23R (D/S)	0.000	0.465	0.233	0.233	3,221,982	No	222,946
MS-1B14P-1 US	0.000	0.406	0.233	0.233	4,315,221	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:14AM

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD48A-1-RHDT21B to CV**					***Sorted By:Flow Order***		
MS-1B11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-1B11P-1	0.000	0.387	0.233	0.233	1,423,183	Yes	222,946
MS-1B11	0.000	0.393	0.233	0.233	1,078,280	Yes	222,946
MS-1B11P	0.000	0.358	0.233	0.233	1,251,691	Yes	222,946
MS-1B12	0.000	0.372	0.233	0.233	936,604	Yes	222,946
MS-1B12P	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-1B13	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-1B13P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1B14	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B14P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B14FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-1B14P-1 US	0.000	0.406	0.233	0.233	4,315,221	No	222,946
MS-1B15	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B15P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B16	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B16P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B17	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-1B17P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1B18	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B18P DS	0.000	0.415	0.233	0.233	1,815,821	Yes	222,946
MS-1B19	0.000	0.358	0.233	0.233	842,549	Yes	222,946
MS-1B19P US	0.000	0.396	0.233	0.233	1,626,111	Yes	222,946
MS-1B20	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B20P-1	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-1B20R	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-1B20R (D/S)	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-1B20P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-1B21	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-1B22	0.000	0.477	0.303	0.303	1,972,604	Yes	222,946
MS-1B22P	0.000	0.462	0.303	0.303	2,093,402	Yes	222,946
MS-1B23	0.000	0.442	0.303	0.303	1,576,052	No	222,946

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: **MSD48A-1-RHDT21B to CV**					***Sorted By:Flow Order***		
MS-1B23P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-1B23R	0.000	0.453	0.303	0.303	2,527,468	No	222,946
MS-1B23R (D/S)	0.000	0.465	0.233	0.233	3,221,982	No	222,946
MS-1B24	0.000	0.469	0.233	0.233	1,968,516	No	222,946
MS-1B24 (D/S)	0.000	0.456	0.233	0.233	1,860,348	No	222,946
MS-1B24P US	0.000	0.408	0.233	0.233	2,185,408	Yes	222,946
MS-1B25	0.000	0.365	0.233	0.233	890,762	Yes	222,946
MS-1B25P	0.000	0.399	0.233	0.233	1,292,380	Yes	222,946
MS-1B26	0.000	0.393	0.233	0.233	1,080,688	Yes	222,946
MS-1B27P-1	0.000	0.403	0.233	0.233	1,695,588	Yes	222,946
MS-1B27	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B27P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B28	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B28P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B29	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B29P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B30	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-1B30P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-1B31	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-1B31P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1B31P DS	0.000	0.400	0.233	0.233	1,892,097	No	222,946
MS-1B32	0.000	0.364	0.233	0.233	886,260	Yes	222,946
MS-1B32P US	0.000	0.387	0.233	0.233	1,542,448	Yes	222,946
MS-1B32P DS	0.000	0.396	0.233	0.233	1,632,311	Yes	222,946
MS-1B33	0.000	0.361	0.233	0.233	866,020	Yes	222,946
MS-1B33P	0.000	0.388	0.233	0.233	1,552,433	Yes	222,946
MS-1B33R	0.000	0.446	0.233	0.233	2,131,550	No	222,946
MS-1B33R (D/S)	0.000	0.325	0.158	0.158	1,198,978	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:32:28AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD46A-1-RHDT22A to CV***								***Sorted By: Average Wear Rate***		
MS-2A11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A22	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23R (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2A22P US	54	3.328	1.123	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A22P DS	54	3.328	1.123	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-1	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-3	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A12P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A12P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A13P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A14P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23P-1	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23R	17	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A16	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A17	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A18	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A19	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A20	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD46A-1-RHDT22A to CV***								***Sorted By: Average Wear Rate***		
MS-2A15P-2	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-2 (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A21R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15P-5 (D/S)	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15R-1 (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15R-3 (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-5	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21P DS	52	1.590	0.536	495.9	4.039	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A16P	52	1.544	0.521	495.9	4.917	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A17P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A17P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A18P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A18P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A19P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A19P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A20P	52	1.544	0.521	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-1	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15R-2	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-4	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-6	65	1.235	0.417	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-3	56	1.065	0.359	495.9	7.098	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:28AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD46A-1-RHDT22A to CV***									***Sorted By: Flow Order***	
MS-2A11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A11P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A12P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A12P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A13P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A14P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-1	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-1 (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-1	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15R-2	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15R-2 (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15P-2	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15P-3	56	1.065	0.359	495.9	7.098	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-3	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A15R-3 (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-4	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-5	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-5 (D/S)	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A15P-6	65	1.235	0.417	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A16	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A16P	52	1.544	0.521	495.9	4.917	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD46A-1-RHDT22A to CV***									***Sorted By: Flow Order***	
MS-2A17	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A17P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A17P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A18	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A18P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A18P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A19	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A19P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A19P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A20	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A20P	52	1.544	0.521	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21P DS	52	1.590	0.536	495.9	4.039	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2A21R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A22	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A22P US	54	3.328	1.123	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A22P DS	54	3.328	1.123	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23P-1	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23R	17	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23R (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:28AM

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

===>Grouped by Line: **MSD46A-1-RHDT22A to CV** ***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)
MS-2A13	0.000	0.333	0.233	0.233	673,492	Yes	222,946
MS-2A15FE	0.000	0.382	0.233	0.233	746,794	No	222,946
MS-2A11N	0.000	0.404	0.233	0.233	855,142	No	222,946
MS-2A11	0.000	0.362	0.233	0.233	869,139	Yes	222,946
MS-2A22	0.000	0.376	0.233	0.233	963,590	Yes	222,946
MS-2A23	0.000	0.376	0.233	0.233	963,590	Yes	222,946
MS-2A14	0.000	0.377	0.233	0.233	970,336	Yes	222,946
MS-2A12	0.000	0.383	0.233	0.233	1,010,815	Yes	222,946
MS-2A15	0.000	0.386	0.233	0.233	1,031,054	Yes	222,946
MS-2A22P DS	0.000	0.377	0.233	0.233	1,126,278	Yes	222,946
MS-2A22P US	0.000	0.378	0.233	0.233	1,134,079	Yes	222,946
MS-2A23R	0.000	0.354	0.233	0.233	1,211,752	No	222,946
MS-2A16	0.000	0.420	0.303	0.303	1,332,012	Yes	222,946
MS-2A12P DS	0.000	0.368	0.233	0.233	1,351,539	Yes	222,946
MS-2A23R (D/S)	0.000	0.348	0.158	0.158	1,368,159	No	222,946
MS-2A12P US	0.000	0.375	0.233	0.233	1,421,432	Yes	222,946
MS-2A13P	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-2A23P-1	0.000	0.384	0.233	0.233	1,511,295	Yes	222,946
MS-2A11P US	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-2A11P DS	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-2A14P	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-2A11P-1	0.000	0.404	0.233	0.233	1,580,715	Yes	222,946
MS-2A21	0.000	0.454	0.303	0.303	1,718,375	No	222,946
MS-2A19	0.000	0.458	0.303	0.303	1,763,829	Yes	222,946
MS-2A15R-1	0.000	0.438	0.233	0.233	1,829,595	No	222,946
MS-2A17	0.000	0.475	0.303	0.303	1,957,010	Yes	222,946
MS-2A15R-3	0.000	0.454	0.233	0.233	1,972,235	No	222,946
MS-2A18	0.000	0.481	0.303	0.303	2,025,192	Yes	222,946
MS-2A20	0.000	0.482	0.303	0.303	2,036,556	Yes	222,946
MS-2A15P-2	0.000	0.405	0.233	0.233	2,145,661	Yes	222,946
MS-2A15R-2	0.000	0.447	0.303	0.303	2,426,559	No	222,946

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: **MSD46A-1-RHDT22A to CV**					***Sorted By:Remaining Life***		
MS-2A18P DS	0.000	0.449	0.303	0.303	2,460,196	Yes	222,946
MS-2A15P-1	0.000	0.456	0.303	0.303	2,577,923	Yes	222,946
MS-2A17P US	0.000	0.457	0.303	0.303	2,594,741	Yes	222,946
MS-2A19P DS	0.000	0.457	0.303	0.303	2,594,741	Yes	222,946
MS-2A15P-4	0.000	0.458	0.303	0.303	2,611,559	Yes	222,946
MS-2A20P	0.000	0.458	0.303	0.303	2,611,559	Yes	222,946
MS-2A18P US	0.000	0.462	0.303	0.303	2,678,831	Yes	222,946
MS-2A15R-3 (D/S)	0.000	0.497	0.303	0.303	2,721,342	No	222,946
MS-2A19P US	0.000	0.465	0.303	0.303	2,729,286	Yes	222,946
MS-2A15R-1 (D/S)	0.000	0.498	0.303	0.303	2,735,356	No	222,946
MS-2A17P DS	0.000	0.467	0.303	0.303	2,762,922	Yes	222,946
MS-2A21P DS	0.560	0.474	0.303	0.303	2,791,738	Yes	222,946
MS-2A16P	0.000	0.470	0.303	0.303	2,813,377	Yes	222,946
MS-2A21P US	0.000	0.472	0.303	0.303	2,847,013	Yes	222,946
MS-2A15R-2 (D/S)	0.000	0.445	0.233	0.233	2,944,628	No	222,946
MS-2A15P-6	0.000	0.445	0.303	0.303	2,972,451	Yes	222,946
MS-2A21R (D/S)	0.000	0.474	0.233	0.233	3,346,792	No	222,946
MS-2A21R	0.000	0.502	0.303	0.303	3,351,557	No	222,946
MS-2A15P-3	0.000	0.404	0.233	0.233	4,163,441	Yes	222,946
MS-2A15P-5	0.000	0.678	0.303	0.303	5,258,079	No	222,946
MS-2A15P-5 (D/S)	0.000	0.678	0.303	0.303	5,258,079	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:28AM

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD46A-1-RHDT22A to CV**					***Sorted By:Flow Order***		
MS-2A11N	0.000	0.404	0.233	0.233	855,142	No	222,946
MS-2A11P-1	0.000	0.404	0.233	0.233	1,580,715	Yes	222,946
MS-2A11	0.000	0.362	0.233	0.233	869,139	Yes	222,946
MS-2A11P US	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-2A11P DS	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-2A12	0.000	0.383	0.233	0.233	1,010,815	Yes	222,946
MS-2A12P US	0.000	0.375	0.233	0.233	1,421,432	Yes	222,946
MS-2A12P DS	0.000	0.368	0.233	0.233	1,351,539	Yes	222,946
MS-2A13	0.000	0.333	0.233	0.233	673,492	Yes	222,946
MS-2A13P	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-2A14	0.000	0.377	0.233	0.233	970,336	Yes	222,946
MS-2A14P	0.000	0.389	0.233	0.233	1,561,219	Yes	222,946
MS-2A15	0.000	0.386	0.233	0.233	1,031,054	Yes	222,946
MS-2A15R-1	0.000	0.438	0.233	0.233	1,829,595	No	222,946
MS-2A15R-1 (D/S)	0.000	0.498	0.303	0.303	2,735,356	No	222,946
MS-2A15P-1	0.000	0.456	0.303	0.303	2,577,923	Yes	222,946
MS-2A15R-2	0.000	0.447	0.303	0.303	2,426,559	No	222,946
MS-2A15R-2 (D/S)	0.000	0.445	0.233	0.233	2,944,628	No	222,946
MS-2A15P-2	0.000	0.405	0.233	0.233	2,145,661	Yes	222,946
MS-2A15FE	0.000	0.382	0.233	0.233	746,794	No	222,946
MS-2A15P-3	0.000	0.404	0.233	0.233	4,163,441	Yes	222,946
MS-2A15R-3	0.000	0.454	0.233	0.233	1,972,235	No	222,946
MS-2A15R-3 (D/S)	0.000	0.497	0.303	0.303	2,721,342	No	222,946
MS-2A15P-4	0.000	0.458	0.303	0.303	2,611,559	Yes	222,946
MS-2A15P-5	0.000	0.678	0.303	0.303	5,258,079	No	222,946
MS-2A15P-5 (D/S)	0.000	0.678	0.303	0.303	5,258,079	No	222,946
MS-2A15P-6	0.000	0.445	0.303	0.303	2,972,451	Yes	222,946
MS-2A16	0.000	0.420	0.303	0.303	1,332,012	Yes	222,946
MS-2A16P	0.000	0.470	0.303	0.303	2,813,377	Yes	222,946
MS-2A17	0.000	0.475	0.303	0.303	1,957,010	Yes	222,946
MS-2A17P US	0.000	0.457	0.303	0.303	2,594,741	Yes	222,946

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: **MSD46A-1-RHDT22A to CV**					***Sorted By:Flow Order***		
MS-2A17P DS	0.000	0.467	0.303	0.303	2,762,922	Yes	222,946
MS-2A18	0.000	0.481	0.303	0.303	2,025,192	Yes	222,946
MS-2A18P US	0.000	0.462	0.303	0.303	2,678,831	Yes	222,946
MS-2A18P DS	0.000	0.449	0.303	0.303	2,460,196	Yes	222,946
MS-2A19	0.000	0.458	0.303	0.303	1,763,829	Yes	222,946
MS-2A19P US	0.000	0.465	0.303	0.303	2,729,286	Yes	222,946
MS-2A19P DS	0.000	0.457	0.303	0.303	2,594,741	Yes	222,946
MS-2A20	0.000	0.482	0.303	0.303	2,036,556	Yes	222,946
MS-2A20P	0.000	0.458	0.303	0.303	2,611,559	Yes	222,946
MS-2A21	0.000	0.454	0.303	0.303	1,718,375	No	222,946
MS-2A21P US	0.000	0.472	0.303	0.303	2,847,013	Yes	222,946
MS-2A21P DS	0.560	0.474	0.303	0.303	2,791,738	Yes	222,946
MS-2A21R	0.000	0.502	0.303	0.303	3,351,557	No	222,946
MS-2A21R (D/S)	0.000	0.474	0.233	0.233	3,346,792	No	222,946
MS-2A22	0.000	0.376	0.233	0.233	963,590	Yes	222,946
MS-2A22P US	0.000	0.378	0.233	0.233	1,134,079	Yes	222,946
MS-2A22P DS	0.000	0.377	0.233	0.233	1,126,278	Yes	222,946
MS-2A23	0.000	0.376	0.233	0.233	963,590	Yes	222,946
MS-2A23P-1	0.000	0.384	0.233	0.233	1,511,295	Yes	222,946
MS-2A23R	0.000	0.354	0.233	0.233	1,211,752	No	222,946
MS-2A23R (D/S)	0.000	0.348	0.158	0.158	1,368,159	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:32:45AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD49A-1-RHDT22B to CV***								***Sorted By: Average Wear Rate***		
MS-2B30R1 (D/S)	7	6.196	2.161	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2B11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B16	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B28R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17R-1	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B18R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B11P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B12P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B13P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B14P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B15P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B16P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17P-3	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B27P-2	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17P-1 US	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B27R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17R-2 (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B22	2	1.522	0.514	495.9	2.492	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B29	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B30	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	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:	***MSD49A-1-RHDT22B to CV***								***Sorted By: Average Wear Rate***		
MS-2B20	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B21	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B23	4	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B24	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B25	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B26	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B30R1	7	1.418	0.479	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B19	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B23P US	54	1.297	0.438	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B23P DS	54	1.297	0.438	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27 (D/S)	15	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28R (D/S)	18	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B17R-1 (D/S)	18	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18R (D/S)	18	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27	15	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B17P-2 DS	56	1.040	0.351	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17P DS	68	1.030	0.348	495.9	2.495	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27R	17	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28P-1	68	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B29P	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B17R-2	17	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18P-1 US	68	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18P	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B20P	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B21P US	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B21P DS	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B24P DS	52	1.013	0.342	495.9	3.053	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B25P US	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B26P	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28P	51	0.892	0.301	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B19P	51	0.892	0.301	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27P-1	65	0.811	0.274	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:45AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD49A-1-RHDT22B to CV***									***Sorted By: Flow Order***	
MS-2B11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B11	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B11P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B12P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B13P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B14	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B14P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B15P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B16	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B16P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17P-3	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17R-1	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17R-1 (D/S)	18	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B17P DS	68	1.030	0.348	495.9	2.495	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B17R-2	17	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B17R-2 (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17P-1 US	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B17P-2 DS	56	1.040	0.351	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B18R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B18R (D/S)	18	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18P-1 US	68	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B18P	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	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:	MSD49A-1-RHDT22B to CV									Sorted By: Flow Order	
MS-2B19	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B19P	51	0.892	0.301	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B20	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B20P	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B21	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B21P US	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B21P DS	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B22	2	1.522	0.514	495.9	2.492	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B23	4	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B23P US	54	1.297	0.438	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B23P DS	54	1.297	0.438	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B24	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B24P DS	52	1.013	0.342	495.9	3.053	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B25	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B25P US	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B26	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B26P	52	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27	15	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27 (D/S)	15	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27P-1	65	0.811	0.274	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27R	17	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B27R (D/S)	17	1.872	0.632	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B27P-2	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B28R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B28R (D/S)	18	1.216	0.410	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28P-1	68	1.013	0.342	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B28P	51	0.892	0.301	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B29	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B29P	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B30	2	1.499	0.506	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B30R1	7	1.418	0.479	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B30R1 (D/S)	7	6.196	2.161	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:45AM

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD49A-1-RHDT22B to CV**					***Sorted By:Remaining Life***		
MS-2B17FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-2B14	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B11N	0.000	0.394	0.233	0.233	806,277	Yes	222,946
MS-2B17	0.000	0.345	0.233	0.233	850,190	Yes	222,946
MS-2B15	0.000	0.377	0.233	0.233	970,307	Yes	222,946
MS-2B30R1 (D/S)	0.000	0.404	0.158	0.158	998,039	No	222,946
MS-2B16	0.000	0.373	0.233	0.233	1,061,989	Yes	222,946
MS-2B11	0.000	0.392	0.233	0.233	1,073,941	Yes	222,946
MS-2B17R-1	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-2B28R	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-2B12	0.000	0.405	0.233	0.233	1,161,645	Yes	222,946
MS-2B13	0.000	0.408	0.233	0.233	1,179,341	Yes	222,946
MS-2B14P	0.000	0.367	0.233	0.233	1,336,667	Yes	222,946
MS-2B15P	0.000	0.369	0.233	0.233	1,356,637	Yes	222,946
MS-2B11P-1	0.000	0.381	0.233	0.233	1,365,622	Yes	222,946
MS-2B12P	0.000	0.370	0.233	0.233	1,366,091	Yes	222,946
MS-2B13P	0.000	0.375	0.233	0.233	1,419,947	Yes	222,946
MS-2B11P	0.000	0.383	0.233	0.233	1,496,423	Yes	222,946
MS-2B16P	0.000	0.380	0.233	0.233	1,667,631	Yes	222,946
MS-2B22	0.633	0.477	0.378	0.378	1,694,384	Yes	222,946
MS-2B17P-3	0.000	0.391	0.233	0.233	1,792,440	Yes	222,946
MS-2B27P-2	0.000	0.379	0.233	0.233	1,824,683	No	222,946
MS-2B17P-1 US	0.000	0.389	0.233	0.233	1,954,653	Yes	222,946
MS-2B27R (D/S)	0.000	0.384	0.233	0.233	2,100,836	No	222,946
MS-2B20	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B21	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B24	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B26	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B29	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B30	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B30R1	0.000	0.550	0.378	0.378	3,156,129	No	222,946

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: **MSD49A-1-RHDT22B to CV**					***Sorted By:Remaining Life***		
MS-2B23	0.000	0.561	0.378	0.378	3,174,658	Yes	222,946
MS-2B25	0.000	0.570	0.378	0.378	3,330,475	Yes	222,946
MS-2B23P US	0.000	0.554	0.378	0.378	3,523,464	Yes	222,946
MS-2B19	0.000	0.560	0.378	0.378	3,534,924	No	222,946
MS-2B28	0.000	0.560	0.378	0.378	3,534,924	No	222,946
MS-2B18	0.000	0.587	0.378	0.378	3,626,297	Yes	222,946
MS-2B23P DS	0.000	0.561	0.378	0.378	3,666,037	No	222,946
MS-2B17R-1 (D/S)	0.000	0.563	0.378	0.378	3,954,486	No	222,946
MS-2B28R (D/S)	0.000	0.563	0.378	0.378	3,954,486	No	222,946
MS-2B27	0.000	0.569	0.378	0.378	4,074,723	No	222,946
MS-2B27 (D/S)	0.000	0.572	0.378	0.378	4,138,780	No	222,946
MS-2B17P DS	0.636	0.546	0.378	0.378	4,232,628	Yes	222,946
MS-2B17R-2 (D/S)	0.000	0.541	0.233	0.233	4,277,684	No	222,946
MS-2B18R (D/S)	0.000	0.582	0.378	0.378	4,351,126	No	222,946
MS-2B17P-2 DS	0.000	0.409	0.233	0.233	4,390,106	Yes	222,946
MS-2B24P DS	0.000	0.561	0.378	0.378	4,686,905	Yes	222,946
MS-2B18P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B20P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B21P US	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B26P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B27R	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B28P-1	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B29P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B18P-1 US	0.000	0.570	0.378	0.378	4,919,707	Yes	222,946
MS-2B25P US	0.000	0.574	0.378	0.378	5,020,006	Yes	222,946
MS-2B21P DS	0.000	0.587	0.378	0.378	5,353,106	Yes	222,946
MS-2B18R	0.000	0.834	0.233	0.233	5,356,657	No	222,946
MS-2B19P	0.000	0.571	0.378	0.378	5,632,734	No	222,946
MS-2B28P	0.000	0.571	0.378	0.378	5,632,734	No	222,946
MS-2B17R-2	0.000	0.609	0.378	0.378	5,918,685	No	222,946
MS-2B27P-1	0.000	0.573	0.378	0.378	6,262,077	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:45AM

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD49A-1-RHDT22B to CV**					***Sorted By:Flow Order***		
MS-2B11N	0.000	0.394	0.233	0.233	806,277	Yes	222,946
MS-2B11P-1	0.000	0.381	0.233	0.233	1,365,622	Yes	222,946
MS-2B11	0.000	0.392	0.233	0.233	1,073,941	Yes	222,946
MS-2B11P	0.000	0.383	0.233	0.233	1,496,423	Yes	222,946
MS-2B12	0.000	0.405	0.233	0.233	1,161,645	Yes	222,946
MS-2B12P	0.000	0.370	0.233	0.233	1,366,091	Yes	222,946
MS-2B13	0.000	0.408	0.233	0.233	1,179,341	Yes	222,946
MS-2B13P	0.000	0.375	0.233	0.233	1,419,947	Yes	222,946
MS-2B14	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B14P	0.000	0.367	0.233	0.233	1,336,667	Yes	222,946
MS-2B15	0.000	0.377	0.233	0.233	970,307	Yes	222,946
MS-2B15P	0.000	0.369	0.233	0.233	1,356,637	Yes	222,946
MS-2B16	0.000	0.373	0.233	0.233	1,061,989	Yes	222,946
MS-2B16P	0.000	0.380	0.233	0.233	1,667,631	Yes	222,946
MS-2B17	0.000	0.345	0.233	0.233	850,190	Yes	222,946
MS-2B17P-3	0.000	0.391	0.233	0.233	1,792,440	Yes	222,946
MS-2B17R-1	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-2B17R-1 (D/S)	0.000	0.563	0.378	0.378	3,954,486	No	222,946
MS-2B17P DS	0.636	0.546	0.378	0.378	4,232,628	Yes	222,946
MS-2B17R-2	0.000	0.609	0.378	0.378	5,918,685	No	222,946
MS-2B17R-2 (D/S)	0.000	0.541	0.233	0.233	4,277,684	No	222,946
MS-2B17P-1 US	0.000	0.389	0.233	0.233	1,954,653	Yes	222,946
MS-2B17FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-2B17P-2 DS	0.000	0.409	0.233	0.233	4,390,106	Yes	222,946
MS-2B18R	0.000	0.834	0.233	0.233	5,356,657	No	222,946
MS-2B18R (D/S)	0.000	0.582	0.378	0.378	4,351,126	No	222,946
MS-2B18P-1 US	0.000	0.570	0.378	0.378	4,919,707	Yes	222,946
MS-2B18	0.000	0.587	0.378	0.378	3,626,297	Yes	222,946
MS-2B18P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B19	0.000	0.560	0.378	0.378	3,534,924	No	222,946
MS-2B19P	0.000	0.571	0.378	0.378	5,632,734	No	222,946

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: **MSD49A-1-RHDT22B to CV**					***Sorted By:Flow Order***		
MS-2B20	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B20P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B21	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B21P US	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B21P DS	0.000	0.587	0.378	0.378	5,353,106	Yes	222,946
MS-2B22	0.633	0.477	0.378	0.378	1,694,384	Yes	222,946
MS-2B23	0.000	0.561	0.378	0.378	3,174,658	Yes	222,946
MS-2B23P US	0.000	0.554	0.378	0.378	3,523,464	Yes	222,946
MS-2B23P DS	0.000	0.561	0.378	0.378	3,666,037	No	222,946
MS-2B24	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B24P DS	0.000	0.561	0.378	0.378	4,686,905	Yes	222,946
MS-2B25	0.000	0.570	0.378	0.378	3,330,475	Yes	222,946
MS-2B25P US	0.000	0.574	0.378	0.378	5,020,006	Yes	222,946
MS-2B26	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B26P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B27	0.000	0.569	0.378	0.378	4,074,723	No	222,946
MS-2B27 (D/S)	0.000	0.572	0.378	0.378	4,138,780	No	222,946
MS-2B27P-1	0.000	0.573	0.378	0.378	6,262,077	No	222,946
MS-2B27R	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B27R (D/S)	0.000	0.384	0.233	0.233	2,100,836	No	222,946
MS-2B27P-2	0.000	0.379	0.233	0.233	1,824,683	No	222,946
MS-2B28R	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-2B28R (D/S)	0.000	0.563	0.378	0.378	3,954,486	No	222,946
MS-2B28P-1	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B28	0.000	0.560	0.378	0.378	3,534,924	No	222,946
MS-2B28P	0.000	0.571	0.378	0.378	5,632,734	No	222,946
MS-2B29	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B29P	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B30	0.000	0.556	0.378	0.378	3,081,344	No	222,946
MS-2B30R1	0.000	0.550	0.378	0.378	3,156,129	No	222,946
MS-2B30R1 (D/S)	0.000	0.404	0.158	0.158	998,039	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:32:56AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD47-1-RHDT23A to CV***								***Sorted By: Average Wear Rate***		
MS-3A23R (D/S)	7	6.196	2.161	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3A11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A16FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A20	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A21	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A22	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A16	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23R	7	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A11	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A12	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A14	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A19R (D/S)	7	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A17R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A11P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A19P US	57	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A19P DS	57	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A21P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A21P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A14P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A22P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A16P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A12P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A13P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15P-1 US	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15P-1 DS	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD47-1-RHDT23A to CV***								***Sorted By: Average Wear Rate***		
MS-3A17	4	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A18	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19R	7	2.161	0.729	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A17P	54	1.976	0.667	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19 (D/S)	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A17R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A18P	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A17P-1	56	1.040	0.351	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:56AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD47-1-RHDT23A to CV***									***Sorted By: Flow Order***	
MS-3A11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A11P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A11	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A12P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A12	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A13P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A14P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A14	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15P-1 US	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15P-1 DS	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A15P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A16	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A16P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A16FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A17P-1	56	1.040	0.351	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A17R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A17R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A17	4	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A17P	54	1.976	0.667	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A18	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A18P	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19 (D/S)	15	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19R	7	2.161	0.729	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3A19R (D/S)	7	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A19P US	57	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A19P DS	57	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD47-1-RHDT23A to CV***									***Sorted By: Flow Order***	
MS-3A20	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A21	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A21P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A21P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A22	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A22P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23R	7	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23R (D/S)	7	6.196	2.161	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:56AM

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.000

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) :1.000

===>Grouped by Line: **MSD47-1-RHDT23A to CV** ***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)
MS-3A16FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3A11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3A22	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3A23	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3A23R (D/S)	0.000	0.327	0.158	0.158	684,243	Yes	222,946
MS-3A11	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3A12	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3A19R (D/S)	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-3A21	0.000	0.366	0.233	0.233	899,752	Yes	222,946
MS-3A14	0.000	0.356	0.233	0.233	927,922	Yes	222,946
MS-3A16	0.000	0.371	0.233	0.233	929,858	Yes	222,946
MS-3A20	0.000	0.371	0.233	0.233	933,485	Yes	222,946
MS-3A13	0.000	0.376	0.233	0.233	963,590	Yes	222,946
MS-3A15	0.000	0.383	0.233	0.233	1,010,815	Yes	222,946
MS-3A17R	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-3A23R	0.000	0.390	0.233	0.233	1,123,639	Yes	222,946
MS-3A11P	0.000	0.361	0.233	0.233	1,180,326	No	222,946
MS-3A19P US	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3A21P DS	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3A22P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3A14P	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-3A21P US	0.000	0.386	0.233	0.233	1,532,464	Yes	222,946
MS-3A15P	0.000	0.390	0.233	0.233	1,571,204	Yes	222,946
MS-3A19P DS	0.000	0.390	0.233	0.233	1,572,402	Yes	222,946
MS-3A18	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-3A17	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-3A12P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-3A16P	0.000	0.395	0.233	0.233	1,621,128	Yes	222,946
MS-3A19R	0.000	0.445	0.303	0.303	1,703,866	No	222,946
MS-3A13P	0.000	0.385	0.233	0.233	1,730,234	Yes	222,946
MS-3A15P-1 US	0.000	0.390	0.233	0.233	1,786,966	Yes	222,946

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: **MSD47-1-RHDT23A to CV**					***Sorted By:Remaining Life***		
MS-3A17P	0.000	0.450	0.303	0.303	1,925,544	No	222,946
MS-3A15P-1 DS	0.000	0.408	0.233	0.233	1,991,200	Yes	222,946
MS-3A19	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-3A19 (D/S)	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-3A17R (D/S)	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-3A18P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3A17P-1	0.000	0.411	0.233	0.233	4,442,339	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:32:56AM

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD47-1-RHDT23A to CV**					***Sorted By:Flow Order***		
MS-3A11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3A11P	0.000	0.361	0.233	0.233	1,180,326	No	222,946
MS-3A11	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3A12P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-3A12	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3A13P	0.000	0.385	0.233	0.233	1,730,234	Yes	222,946
MS-3A13	0.000	0.376	0.233	0.233	963,590	Yes	222,946
MS-3A14P	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-3A14	0.000	0.356	0.233	0.233	927,922	Yes	222,946
MS-3A15P-1 US	0.000	0.390	0.233	0.233	1,786,966	Yes	222,946
MS-3A15P-1 DS	0.000	0.408	0.233	0.233	1,991,200	Yes	222,946
MS-3A15	0.000	0.383	0.233	0.233	1,010,815	Yes	222,946
MS-3A15P	0.000	0.390	0.233	0.233	1,571,204	Yes	222,946
MS-3A16	0.000	0.371	0.233	0.233	929,858	Yes	222,946
MS-3A16P	0.000	0.395	0.233	0.233	1,621,128	Yes	222,946
MS-3A16FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3A17P-1	0.000	0.411	0.233	0.233	4,442,339	Yes	222,946
MS-3A17R	0.000	0.358	0.233	0.233	1,114,575	No	222,946
MS-3A17R (D/S)	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-3A17	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-3A17P	0.000	0.450	0.303	0.303	1,925,544	No	222,946
MS-3A18	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-3A18P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3A19	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-3A19 (D/S)	0.000	0.453	0.303	0.303	2,097,959	No	222,946
MS-3A19R	0.000	0.445	0.303	0.303	1,703,866	No	222,946
MS-3A19R (D/S)	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-3A19P US	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3A19P DS	0.000	0.390	0.233	0.233	1,572,402	Yes	222,946
MS-3A20	0.000	0.371	0.233	0.233	933,485	Yes	222,946
MS-3A21	0.000	0.366	0.233	0.233	899,752	Yes	222,946

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: **MSD47-1-RHDT23A to CV**					***Sorted By:Flow Order***		
MS-3A21P US	0.000	0.386	0.233	0.233	1,532,464	Yes	222,946
MS-3A21P DS	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3A22	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3A22P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3A23	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3A23R	0.000	0.390	0.233	0.233	1,123,639	Yes	222,946
MS-3A23R (D/S)	0.000	0.327	0.158	0.158	684,243	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:33:20AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD50A-1-RHDT23B to CV***								***Sorted By: Average Wear Rate***		
MS-3B11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B34 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B34	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B19	2	3.911	1.320	495.9	7.038	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B35	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B36	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B37	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B14	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B38	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B39	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B16	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B40	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B17	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B18	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B20	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B22	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B23	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B32	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B33	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B42R (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3B11	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD50A-1-RHDT23B to CV***								***Sorted By: Average Wear Rate***		
MS-3B24	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B14P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B16P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B20P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B40R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B35P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B36P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B12P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B37P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B13P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B38P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B38P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B17P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B18P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B22P US	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B22P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B23P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B32P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B33P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B11P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B24P US	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B24P DS	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B41	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B34P	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B40R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B25	2	1.609	1.306	495.9	6.959	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B26	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B27	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B28	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B29	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B40P	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD50A-1-RHDT23B to CV***								***Sorted By: Average Wear Rate***		
MS-3B41P US	52	1.544	0.521	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B41P DS	52	1.544	0.521	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B26P US	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B27P	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B28P	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B29P	52	1.081	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30P	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21P-1	56	1.049	0.354	495.9	6.983	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B25P	51	0.954	0.775	495.9	6.939	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:33:20AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD50A-1-RHDT23B to CV***									***Sorted By: Flow Order***	
MS-3B11N	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B11P-1	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B11	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B11P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B12	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B12P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B13	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B13P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B14	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B14P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B15	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B16	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B16P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B17	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B17P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B18	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B18P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B19	2	3.911	1.320	495.9	7.038	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B20	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B20P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21FE	6	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B21P-1	56	1.049	0.354	495.9	6.983	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B22	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B22P US	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B22P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B23	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B23P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD50A-1-RHDT23B to CV***									***Sorted By: Flow Order***	
MS-3B24	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B24P US	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B24P DS	51	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B25	2	1.609	1.306	495.9	6.959	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B25P	51	0.954	0.775	495.9	6.939	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B26	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B26P US	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B27	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B27P	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B28	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B28P	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B29	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B29P	52	1.081	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30	2	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30P	52	1.081	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B30P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B31P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B32	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B32P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B33	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B33P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B34	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B34 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B34P	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B35	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B35P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B36	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B36P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B37	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B37P	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B38	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B38P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B38P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B39	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD50A-1-RHDT23B to CV***									***Sorted By: Flow Order***	
MS-3B40	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B40R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B40R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B40P	68	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B41	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B41P US	52	1.544	0.521	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B41P DS	52	1.544	0.521	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42	2	2.284	0.771	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42P US	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42P DS	52	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42R	17	1.544	0.521	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B42R (D/S)	17	3.485	1.216	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:33:20AM

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD50A-1-RHDT23B to CV**					***Sorted By:Remaining Life***		
MS-3B11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3B21FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3B31	0.000	0.320	0.233	0.233	585,788	Yes	222,946
MS-3B42R (D/S)	0.000	0.248	0.158	0.158	649,500	No	222,946
MS-3B21	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B17	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B18	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B16	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B15	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B13	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B12	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B31	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B32	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B33	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B35	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B36	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B37	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B38	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B34 (D/S)	0.000	0.354	0.233	0.233	736,590	No	222,946
MS-3B22	0.000	0.347	0.233	0.233	769,325	Yes	222,946
MS-3B11	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3B24	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3B16P	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-3B20	0.000	0.367	0.233	0.233	903,267	Yes	222,946
MS-3B23	0.000	0.371	0.233	0.233	933,485	Yes	222,946
MS-3B30	0.000	0.377	0.233	0.233	970,336	Yes	222,946
MS-3B25	0.441	0.380	0.233	0.233	987,145	Yes	86,338
MS-3B39	0.000	0.386	0.233	0.233	1,034,682	Yes	222,946
MS-3B40	0.000	0.386	0.233	0.233	1,034,682	Yes	222,946
MS-3B14	0.000	0.394	0.233	0.233	1,087,434	Yes	222,946
MS-3B19	0.457	0.402	0.233	0.233	1,119,740	Yes	222,946

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: **MSD50A-1-RHDT23B to CV**					***Sorted By:Remaining Life***		
MS-3B14P	0.000	0.384	0.233	0.233	1,178,506	Yes	222,946
MS-3B11P-1	0.000	0.361	0.233	0.233	1,180,326	No	222,946
MS-3B34	0.000	0.431	0.233	0.233	1,205,388	No	222,946
MS-3B28	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B29	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B30	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B27	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B20P US	0.000	0.393	0.233	0.233	1,252,326	Yes	222,946
MS-3B17P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B12P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B31P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B32P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B35P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B21P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B36P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B37P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B38P US	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B13P	0.000	0.367	0.233	0.233	1,338,889	Yes	222,946
MS-3B26	0.000	0.441	0.233	0.233	1,402,080	Yes	86,338
MS-3B33P	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-3B22P DS	0.000	0.376	0.233	0.233	1,432,616	Yes	222,946
MS-3B31P	0.000	0.385	0.233	0.233	1,521,280	Yes	222,946
MS-3B30P	0.000	0.387	0.233	0.233	1,541,250	Yes	222,946
MS-3B41	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-3B18P DS	0.000	0.393	0.233	0.233	1,596,156	Yes	222,946
MS-3B11P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-3B24P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-3B38P DS	0.000	0.394	0.233	0.233	1,612,342	Yes	222,946
MS-3B22P US	0.000	0.404	0.233	0.233	1,705,573	Yes	222,946
MS-3B34P	0.000	0.379	0.233	0.233	1,824,683	No	222,946
MS-3B25P	0.437	0.395	0.233	0.233	1,836,360	Yes	86,338
MS-3B23P US	0.000	0.417	0.233	0.233	1,841,991	Yes	222,946
MS-3B28P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B29P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B30P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B26P US	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B27P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B24P DS	0.000	0.402	0.233	0.233	1,924,291	Yes	222,946
MS-3B42	0.000	0.478	0.303	0.303	1,982,648	Yes	222,946
MS-3B40R	0.000	0.457	0.233	0.233	1,998,752	Yes	222,946
MS-3B40R (D/S)	0.000	0.472	0.303	0.303	2,371,980	Yes	222,946

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: **MSD50A-1-RHDT23B to CV**					***Sorted By:Remaining Life***		
MS-3B40P	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B41P US	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B42P DS	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B42R	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B42P US	0.000	0.464	0.303	0.303	2,699,469	Yes	222,946
MS-3B41P DS	0.000	0.470	0.303	0.303	2,800,378	Yes	222,946
MS-3B21P-1	0.000	0.396	0.233	0.233	4,027,968	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:33:20AM

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD50A-1-RHDT23B to CV**					***Sorted By:Flow Order***		
MS-3B11N	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3B11P-1	0.000	0.361	0.233	0.233	1,180,326	No	222,946
MS-3B11	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3B11P	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-3B12	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B12P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B13	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B13P	0.000	0.367	0.233	0.233	1,338,889	Yes	222,946
MS-3B14	0.000	0.394	0.233	0.233	1,087,434	Yes	222,946
MS-3B14P	0.000	0.384	0.233	0.233	1,178,506	Yes	222,946
MS-3B15	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B16	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B16P	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-3B17	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B17P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B18	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B18P DS	0.000	0.393	0.233	0.233	1,596,156	Yes	222,946
MS-3B19	0.457	0.402	0.233	0.233	1,119,740	Yes	222,946
MS-3B20	0.000	0.367	0.233	0.233	903,267	Yes	222,946
MS-3B20P US	0.000	0.393	0.233	0.233	1,252,326	Yes	222,946
MS-3B21	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B21P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B21FE	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3B21P-1	0.000	0.396	0.233	0.233	4,027,968	No	222,946
MS-3B22	0.000	0.347	0.233	0.233	769,325	Yes	222,946
MS-3B22P US	0.000	0.404	0.233	0.233	1,705,573	Yes	222,946
MS-3B22P DS	0.000	0.376	0.233	0.233	1,432,616	Yes	222,946
MS-3B23	0.000	0.371	0.233	0.233	933,485	Yes	222,946
MS-3B23P US	0.000	0.417	0.233	0.233	1,841,991	Yes	222,946
MS-3B24	0.000	0.345	0.233	0.233	845,595	No	222,946
MS-3B24P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946

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: **MSD50A-1-RHDT23B to CV**					***Sorted By:Flow Order***		
MS-3B24P DS	0.000	0.402	0.233	0.233	1,924,291	Yes	222,946
MS-3B25	0.441	0.380	0.233	0.233	987,145	Yes	86,338
MS-3B25P	0.437	0.395	0.233	0.233	1,836,360	Yes	86,338
MS-3B26	0.000	0.441	0.233	0.233	1,402,080	Yes	86,338
MS-3B26P US	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B27	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B27P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B28	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B28P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B29	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B29P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B30	0.000	0.416	0.233	0.233	1,237,076	No	86,338
MS-3B30P	0.000	0.421	0.233	0.233	1,881,930	No	86,338
MS-3B31	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B31P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B30	0.000	0.377	0.233	0.233	970,336	Yes	222,946
MS-3B30P	0.000	0.387	0.233	0.233	1,541,250	Yes	222,946
MS-3B31	0.000	0.320	0.233	0.233	585,788	Yes	222,946
MS-3B31P	0.000	0.385	0.233	0.233	1,521,280	Yes	222,946
MS-3B32	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B32P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B33	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B33P	0.000	0.376	0.233	0.233	1,431,417	Yes	222,946
MS-3B34	0.000	0.431	0.233	0.233	1,205,388	No	222,946
MS-3B34 (D/S)	0.000	0.354	0.233	0.233	736,590	No	222,946
MS-3B34P	0.000	0.379	0.233	0.233	1,824,683	No	222,946
MS-3B35	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B35P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B36	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B36P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B37	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B37P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B38	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-3B38P US	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-3B38P DS	0.000	0.394	0.233	0.233	1,612,342	Yes	222,946
MS-3B39	0.000	0.386	0.233	0.233	1,034,682	Yes	222,946
MS-3B40	0.000	0.386	0.233	0.233	1,034,682	Yes	222,946
MS-3B40R	0.000	0.457	0.233	0.233	1,998,752	Yes	222,946
MS-3B40R (D/S)	0.000	0.472	0.303	0.303	2,371,980	Yes	222,946
MS-3B40P	0.000	0.461	0.303	0.303	2,649,690	No	222,946

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: **MSD50A-1-RHDT23B to CV**					***Sorted By:Flow Order***		
MS-3B41	0.000	0.442	0.303	0.303	1,576,052	No	222,946
MS-3B41P US	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B41P DS	0.000	0.470	0.303	0.303	2,800,378	Yes	222,946
MS-3B42	0.000	0.478	0.303	0.303	1,982,648	Yes	222,946
MS-3B42P US	0.000	0.464	0.303	0.303	2,699,469	Yes	222,946
MS-3B42P DS	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B42R	0.000	0.461	0.303	0.303	2,649,690	No	222,946
MS-3B42R (D/S)	0.000	0.248	0.158	0.158	649,500	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:34:06AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD45B-1-RHDT21A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-LCV-1104	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1A30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1A31	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A32	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30R2 (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30P2	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A31P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A32P	51	0.000	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-1-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A34T1 (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A34T1 (D/S)	12	1.662	0.561	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34P1	62	0.811	0.274	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-2-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A34T2 (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A34T2 (D/S)	12	3.008	1.015	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A35	1	2.421	0.817	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34T2	12	1.662	0.561	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34P2	62	1.467	0.495	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-3-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A35T (D/S)	12	4.267	1.440	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A36	3	3.642	1.229	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A35T (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A37	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A38	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A39	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A40	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A35T	12	3.008	1.015	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A36P US	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A36P DS	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	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:	***MSD45C-3-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A37P US	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A37P DS	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A38P	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A39P	51	2.289	0.773	495.9	8.204	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A40P	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A41	14	0.001	0.001	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A41 (D/S)	14	0.001	0.001	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A41 (BR/SE)	14	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-4-RHDT A HDR to FWH26C***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-MS-14-2	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A66P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67 (D/S)	12	2.238	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67	12	2.238	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67P-1	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67P DS	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A63	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A64	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A65	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A64P US	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A64P DS	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A65P US	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A65P DS	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A63P US	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A63P DS	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-5-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A68	14	6.148	2.075	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A42	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A43	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A44	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A45	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A68 (BR/SE)	14	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD45C-5-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A41R (D/S)	7	3.577	1.207	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A68 (D/S)	14	3.396	1.146	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A41P-1 US	57	2.794	0.943	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A41P-1 DS	57	2.794	0.943	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A41R	7	2.568	0.866	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A42P US	51	2.459	0.830	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A42P DS	51	2.459	0.830	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A43P US	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A43P DS	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A44P US	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A44P DS	51	2.459	0.830	495.9	9.952	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A45P US	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45D-1-RHDT A HDR to FWH26B***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-MS-14-1	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A55	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A56	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A57	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A58	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A59	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A60	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A55P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A57P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A57P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A58P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A59P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A59P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A60P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A60P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61P-1	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A68P	64	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD45D-1-RHDT A HDR to FWH26B***								***Sorted By: Average Wear Rate***		
MS-1A62R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45D-2-RHDT A HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-MS-14	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A46	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A47	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A48	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A49	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A50	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A51	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A52	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A45R (D/S)	7	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A47P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A47P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A49P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A49P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A46P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A50P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A51P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A51P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A52P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A52P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A45R	7	2.161	0.729	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A53P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53P-1	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A45P-1 US	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A45P-1 DS	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD46A-2-RHDT22A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2A-VALVE-LCV-1104A	24	15.557	5.427	495.9	33.594	3.3	3.500	6.379	0.000	'55.44'	HBD
MS-2A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD46A-2-RHDT22A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A25P	51	0.000	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD47-2-RHDT23A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-3A-VALVE-LCV-1104B	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A25P	51	0.000	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:06AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD45B-1-RHDT21A CV to FWH26***									***Sorted By: Flow Order***	
MS-1A-VALVE-LCV-1104	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1A30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1A30R2 (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A30P2	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A31	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A31P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A32	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A32P	51	0.000	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-1-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A34T1 (D/S)	12	1.662	0.561	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34P1	62	0.811	0.274	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34T1 (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-2-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A34T2	12	1.662	0.561	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34T2 (D/S)	12	3.008	1.015	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34P2	62	1.467	0.495	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A35	1	2.421	0.817	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A34T2 (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-3-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A35T (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A35T	12	3.008	1.015	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A35T (D/S)	12	4.267	1.440	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A36	3	3.642	1.229	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A36P US	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A36P DS	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A37	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A37P US	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A37P DS	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A38	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	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:	***MSD45C-3-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A38P	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A39	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A39P	51	2.289	0.773	495.9	8.204	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A40	1	3.434	1.159	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A40P	51	2.289	0.773	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A41	14	0.001	0.001	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A41 (BR/SE)	14	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A41 (D/S)	14	0.001	0.001	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-4-RHDT A HDR to FWH26C***									***Sorted By: Flow Order***	
MS-1A63P US	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A63P DS	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A63	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A64P US	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A64P DS	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A64	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A65P US	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A65P DS	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A65	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A-VALVE-MS-14-2	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A66 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67P DS	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67	12	2.238	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67 (D/S)	12	2.238	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67P-1	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A67R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A67N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45C-5-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A41R	7	2.568	0.866	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-1A41R (D/S)	7	3.577	1.207	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A41P-1 US	57	2.794	0.943	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A41P-1 DS	57	2.794	0.943	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A42	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A42P US	51	2.459	0.830	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD45C-5-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A42P DS	51	2.459	0.830	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A43	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A43P US	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A43P DS	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A44	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A44P US	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A44P DS	51	2.459	0.830	495.9	9.952	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A45	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A45P US	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A68	14	6.148	2.075	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A68 (BR/SE)	14	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A68 (D/S)	14	3.396	1.146	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45D-1-RHDT A HDR to FWH26B***									***Sorted By: Flow Order***	
MS-1A68P	64	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A55	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A55P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A56	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A57	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A57P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A57P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A58	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A58P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A59	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A59P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A59P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A60	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A-VALVE-MS-14-1	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A60P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A60P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A61P-1	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A62R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD45D-1-RHDT A HDR to FWH26B***									***Sorted By: Flow Order***	
MS-1A62N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD45D-2-RHDT A HDR to FWH26A***									***Sorted By: Flow Order***	
MS-1A45R	7	2.161	0.729	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A45R (D/S)	7	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A45P-1 US	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A45P-1 DS	67	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A46	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A46P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A47	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A47P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A47P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A48	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A49	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A49P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A49P DS	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A50	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A50P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A51	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A51P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A51P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A52	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A-VALVE-MS-14	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A52P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A52P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A53P-1	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A54R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1A54N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD46A-2-RHDT22A CV to FWH26***									***Sorted By: Flow Order***	
MS-2A-VALVE-LCV-1104A	24	15.557	5.427	495.9	33.594	3.3	3.500	6.379	0.000	'55.44'	HBD
MS-2A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD46A-2-RHDT22A CV to FWH26***									***Sorted By: Flow Order***	
MS-2A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A25P	51	0.000	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD47-2-RHDT23A CV to FWH26***									***Sorted By: Flow Order***	
MS-3A-VALVE-LCV-1104B	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A25P	51	0.000	0.000	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:06AM

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD45B-1-RHDT21A CV to FWH26**					***Sorted By:Remaining Life***		
MS-1A-VALVE-LCV-1104	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-1A30R2 (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A32P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A31P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A32	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A31	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A30P2	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-1-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A34T1 (BR/SE)	0.000	0.342	0.233	0.233	801,292	No	222,946
MS-1A34T1 (D/S)	0.000	0.552	0.378	0.378	2,716,267	No	222,946
MS-1A34P1	0.000	0.573	0.378	0.378	6,262,077	No	222,946
===>Grouped by Line: **MSD45C-2-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A35	0.000	0.551	0.378	0.378	1,859,653	Yes	222,946
MS-1A34T2 (D/S)	0.000	0.594	0.378	0.378	1,862,064	Yes	222,946
MS-1A34T2	0.000	0.583	0.378	0.378	3,207,170	Yes	222,946
MS-1A34P2	0.000	0.613	0.378	0.378	4,160,058	Yes	222,946
MS-1A34T2 (BR/SE)	0.000	1.621	0.233	0.233	10,191,508	No	222,946
===>Grouped by Line: **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A36	0.000	0.499	0.378	0.378	866,322	Yes	222,946
MS-1A38	0.000	0.501	0.378	0.378	932,837	Yes	222,946
MS-1A39	0.000	0.539	0.378	0.378	1,214,511	Yes	222,946
MS-1A35T (D/S)	0.000	0.578	0.378	0.378	1,220,281	Yes	222,946
MS-1A37	0.000	0.564	0.378	0.378	1,406,552	Yes	222,946
MS-1A40	0.000	0.566	0.378	0.378	1,418,612	Yes	222,946
MS-1A38P	0.000	0.536	0.378	0.378	1,790,113	No	222,946
MS-1A35T	0.000	0.589	0.378	0.378	1,825,883	Yes	222,946
MS-1A39P	0.000	0.559	0.378	0.378	2,057,905	Yes	222,946

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: **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A40P	0.000	0.572	0.378	0.378	2,197,030	Yes	222,946
MS-1A36P US	0.000	0.572	0.378	0.378	2,198,106	Yes	222,946
MS-1A36P DS	0.000	0.573	0.378	0.378	2,208,369	Yes	222,946
MS-1A37P US	0.000	0.585	0.378	0.378	2,344,436	Yes	222,946
MS-1A37P DS	0.000	0.601	0.378	0.378	2,534,139	Yes	222,946
MS-1A35T (BR/SE)	0.000	1.566	0.233	0.233	9,785,664	No	222,946
MS-1A41	0.000	0.594	0.349	0.349	100,000,000	No	86,338
MS-1A41 (BR/SE)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A41 (D/S)	0.000	0.594	0.349	0.349	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-4-RHDT A HDR to FWH26C**					***Sorted By:Remaining Life***		
MS-1A66 (D/S)	0.000	0.266	0.233	0.233	202,321	No	222,946
MS-1A-VALVE-MS-14-2	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-1A66P DS	0.000	0.257	0.233	0.233	269,717	Yes	222,946
MS-1A66	0.000	0.279	0.233	0.233	281,469	No	222,946
MS-1A67P-1	0.000	0.341	0.233	0.233	1,349,184	Yes	222,946
MS-1A67R	0.000	0.404	0.233	0.233	1,523,267	Yes	222,946
MS-1A67 (D/S)	0.000	0.502	0.233	0.233	1,636,611	No	97,487
MS-1A67	0.000	0.505	0.233	0.233	1,654,875	No	97,487
MS-1A66P US	0.000	0.386	0.233	0.233	1,734,309	Yes	222,946
MS-1A67P US	0.000	0.372	0.233	0.233	1,735,860	Yes	222,946
MS-1A67P DS	0.000	0.374	0.233	0.233	1,761,056	Yes	222,946
MS-1A67R (D/S)	0.000	0.453	0.303	0.303	2,101,416	Yes	222,946
MS-1A67N	0.000	2.844	0.303	0.303	26,709,046	No	222,946
MS-1A63P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A64P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A65P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65	0.000	0.432	0.215	0.215	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A68	0.000	0.443	0.303	0.303	590,859	Yes	222,946
MS-1A42	0.000	0.430	0.303	0.303	891,832	Yes	222,946
MS-1A45P US	0.000	0.403	0.303	0.303	1,053,118	Yes	222,946
MS-1A45	0.000	0.456	0.303	0.303	1,074,815	Yes	222,946
MS-1A68 (BR/SE)	0.000	0.396	0.233	0.233	1,162,816	Yes	222,946
MS-1A44	0.000	0.470	0.303	0.303	1,173,345	Yes	222,946

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:* **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A41R (D/S)	0.000	0.476	0.303	0.303	1,256,882	No	222,946
MS-1A43	0.000	0.488	0.303	0.303	1,300,026	Yes	222,946
MS-1A68 (D/S)	0.000	0.481	0.303	0.303	1,360,875	Yes	222,946
MS-1A41P-1 DS	0.000	0.454	0.303	0.303	1,397,055	Yes	222,946
MS-1A41P-1 US	0.000	0.456	0.303	0.303	1,415,635	No	222,946
MS-1A42P US	0.000	0.447	0.303	0.303	1,517,614	Yes	222,946
MS-1A44P US	0.000	0.448	0.303	0.303	1,528,171	Yes	222,946
MS-1A44P DS	0.000	0.451	0.303	0.303	1,559,841	Yes	222,946
MS-1A42P DS	0.000	0.453	0.303	0.303	1,580,955	Yes	222,946
MS-1A41R	0.000	0.539	0.378	0.378	1,633,925	No	222,946
MS-1A43P US	0.000	0.468	0.303	0.303	1,739,305	No	222,946
MS-1A43P DS	0.000	0.485	0.303	0.303	1,918,770	Yes	222,946
===>*Grouped by Line:* **MSD45D-1-RHDT A HDR to FWH26B**					***Sorted By:Remaining Life***		
MS-1A-VALVE-MS-14-1	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-1A57P DS	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-1A55	0.000	0.370	0.233	0.233	923,111	Yes	222,946
MS-1A57P	0.000	0.354	0.233	0.233	946,864	Yes	222,946
MS-1A60	0.000	0.384	0.233	0.233	1,021,189	Yes	222,946
MS-1A56	0.000	0.387	0.233	0.233	1,037,801	Yes	222,946
MS-1A58	0.000	0.389	0.233	0.233	1,051,294	Yes	222,946
MS-1A59	0.000	0.389	0.233	0.233	1,053,702	Yes	222,946
MS-1A57	0.000	0.394	0.233	0.233	1,085,026	Yes	222,946
MS-1A55P	0.000	0.383	0.233	0.233	1,173,082	Yes	222,946
MS-1A62N	0.000	0.437	0.303	0.303	1,408,296	No	222,946
MS-1A59P US	0.000	0.384	0.233	0.233	1,505,877	Yes	222,946
MS-1A59P DS	0.000	0.385	0.233	0.233	1,522,479	Yes	222,946
MS-1A58P	0.000	0.389	0.233	0.233	1,556,035	Yes	222,946
MS-1A61 (D/S)	0.000	0.501	0.233	0.233	1,629,599	No	222,946
MS-1A60P DS	0.000	0.380	0.233	0.233	1,665,170	Yes	222,946
MS-1A62R	0.000	0.422	0.233	0.233	1,686,063	No	222,946
MS-1A60P US	0.000	0.392	0.233	0.233	1,802,387	Yes	222,946
MS-1A61P DS	0.000	0.379	0.233	0.233	1,824,683	No	222,946
MS-1A61	0.000	0.538	0.233	0.233	1,854,866	No	222,946
MS-1A68P	0.000	0.384	0.233	0.233	1,892,248	Yes	222,946
MS-1A61P US	0.000	0.389	0.233	0.233	1,954,653	Yes	222,946
MS-1A61P-1	0.000	0.390	0.233	0.233	1,959,337	Yes	222,946
MS-1A62 (D/S)	0.000	0.558	0.233	0.233	1,980,097	No	222,946
MS-1A62	0.000	0.596	0.233	0.233	2,211,452	No	222,946
MS-1A62R (D/S)	0.000	0.472	0.303	0.303	2,368,786	No	222,946

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: MSD45D-2-RHDT A HDR to FWH26A					Sorted By:Remaining Life		
MS-1A-VALVE-MS-14	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-1A49	0.000	0.340	0.233	0.233	724,344	Yes	222,946
MS-1A49P DS	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-1A50	0.000	0.370	0.233	0.233	923,111	Yes	222,946
MS-1A48	0.000	0.376	0.233	0.233	967,217	Yes	222,946
MS-1A51	0.000	0.386	0.233	0.233	1,031,054	Yes	222,946
MS-1A49P US	0.000	0.366	0.233	0.233	1,041,358	Yes	222,946
MS-1A52	0.000	0.387	0.233	0.233	1,041,428	Yes	222,946
MS-1A46	0.000	0.400	0.233	0.233	1,129,132	Yes	222,946
MS-1A47P US	0.000	0.383	0.233	0.233	1,173,968	No	222,946
MS-1A47	0.000	0.409	0.233	0.233	1,189,851	Yes	222,946
MS-1A47P DS	0.000	0.387	0.233	0.233	1,205,171	Yes	222,946
MS-1A50P	0.000	0.371	0.233	0.233	1,381,493	Yes	222,946
MS-1A54N	0.000	0.437	0.303	0.303	1,408,296	No	222,946
MS-1A51P US	0.000	0.374	0.233	0.233	1,411,447	Yes	222,946
MS-1A51P DS	0.000	0.387	0.233	0.233	1,542,448	Yes	222,946
MS-1A46P	0.000	0.388	0.233	0.233	1,552,433	Yes	222,946
MS-1A52P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1A53 (D/S)	0.000	0.498	0.233	0.233	1,611,335	No	222,946
MS-1A53	0.000	0.521	0.233	0.233	1,751,365	No	222,946
MS-1A54 (D/S)	0.000	0.524	0.233	0.233	1,773,096	No	222,946
MS-1A54	0.000	0.526	0.233	0.233	1,785,272	No	222,946
MS-1A54R	0.000	0.435	0.233	0.233	1,801,957	No	222,946
MS-1A45P-1 US	0.000	0.380	0.233	0.233	1,842,324	Yes	222,946
MS-1A53P DS	0.000	0.382	0.233	0.233	1,859,489	Yes	222,946
MS-1A53P-1	0.000	0.384	0.233	0.233	1,884,451	Yes	222,946
MS-1A45P-1 DS	0.000	0.384	0.233	0.233	1,892,248	Yes	222,946
MS-1A53P US	0.000	0.389	0.233	0.233	1,954,653	Yes	222,946
MS-1A52P DS	0.000	0.406	0.233	0.233	1,960,175	No	222,946
MS-1A45R	0.000	0.474	0.303	0.303	2,053,969	No	222,946
MS-1A45R (D/S)	0.000	0.512	0.233	0.233	2,180,246	No	222,946
MS-1A54R (D/S)	0.000	0.475	0.303	0.303	2,410,831	No	222,946
===>Grouped by Line: MSD46A-2-RHDT22A CV to FWH26					Sorted By:Remaining Life		
MS-2A-VALVE-LCV-1104A	0.000	0.042	0.132	0.132	-96,646	No	222,946
MS-2A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338

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: **MSD46A-2-RHDT22A CV to FWH26**					***Sorted By:Remaining Life***		
MS-2A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD47-2-RHDT23A CV to FWH26**					***Sorted By:Remaining Life***		
MS-3A-VALVE-LCV-1104B	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-3A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:06AM

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD45B-1-RHDT21A CV to FWH26**					***Sorted By:Flow Order***		
MS-1A-VALVE-LCV-1104	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-1A30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-1A30R2 (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A30P2	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A31	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A31P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A32	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A32P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-1-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A34T1 (D/S)	0.000	0.552	0.378	0.378	2,716,267	No	222,946
MS-1A34P1	0.000	0.573	0.378	0.378	6,262,077	No	222,946
MS-1A34T1 (BR/SE)	0.000	0.342	0.233	0.233	801,292	No	222,946
===>Grouped by Line: **MSD45C-2-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A34T2	0.000	0.583	0.378	0.378	3,207,170	Yes	222,946
MS-1A34T2 (D/S)	0.000	0.594	0.378	0.378	1,862,064	Yes	222,946
MS-1A34P2	0.000	0.613	0.378	0.378	4,160,058	Yes	222,946
MS-1A35	0.000	0.551	0.378	0.378	1,859,653	Yes	222,946
MS-1A34T2 (BR/SE)	0.000	1.621	0.233	0.233	10,191,508	No	222,946
===>Grouped by Line: **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A35T (BR/SE)	0.000	1.566	0.233	0.233	9,785,664	No	222,946
MS-1A35T	0.000	0.589	0.378	0.378	1,825,883	Yes	222,946
MS-1A35T (D/S)	0.000	0.578	0.378	0.378	1,220,281	Yes	222,946
MS-1A36	0.000	0.499	0.378	0.378	866,322	Yes	222,946
MS-1A36P US	0.000	0.572	0.378	0.378	2,198,106	Yes	222,946
MS-1A36P DS	0.000	0.573	0.378	0.378	2,208,369	Yes	222,946
MS-1A37	0.000	0.564	0.378	0.378	1,406,552	Yes	222,946
MS-1A37P US	0.000	0.585	0.378	0.378	2,344,436	Yes	222,946
MS-1A37P DS	0.000	0.601	0.378	0.378	2,534,139	Yes	222,946

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:	**MSD45C-3-RHDT A HDR to FWH26**				***Sorted By:Flow Order***		
MS-1A38	0.000	0.501	0.378	0.378	932,837	Yes	222,946
MS-1A38P	0.000	0.536	0.378	0.378	1,790,113	No	222,946
MS-1A39	0.000	0.539	0.378	0.378	1,214,511	Yes	222,946
MS-1A39P	0.000	0.559	0.378	0.378	2,057,905	Yes	222,946
MS-1A40	0.000	0.566	0.378	0.378	1,418,612	Yes	222,946
MS-1A40P	0.000	0.572	0.378	0.378	2,197,030	Yes	222,946
MS-1A41	0.000	0.594	0.349	0.349	100,000,000	No	86,338
MS-1A41 (BR/SE)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A41 (D/S)	0.000	0.594	0.349	0.349	100,000,000	No	86,338
===>Grouped by Line:	**MSD45C-4-RHDT A HDR to FWH26C**				***Sorted By:Flow Order***		
MS-1A63P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A64P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A65P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A-VALVE-MS-14-2	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-1A66P US	0.000	0.386	0.233	0.233	1,734,309	Yes	222,946
MS-1A66P DS	0.000	0.257	0.233	0.233	269,717	Yes	222,946
MS-1A66	0.000	0.279	0.233	0.233	281,469	No	222,946
MS-1A66 (D/S)	0.000	0.266	0.233	0.233	202,321	No	222,946
MS-1A67P US	0.000	0.372	0.233	0.233	1,735,860	Yes	222,946
MS-1A67P DS	0.000	0.374	0.233	0.233	1,761,056	Yes	222,946
MS-1A67	0.000	0.505	0.233	0.233	1,654,875	No	97,487
MS-1A67 (D/S)	0.000	0.502	0.233	0.233	1,636,611	No	97,487
MS-1A67P-1	0.000	0.341	0.233	0.233	1,349,184	Yes	222,946
MS-1A67R	0.000	0.404	0.233	0.233	1,523,267	Yes	222,946
MS-1A67R (D/S)	0.000	0.453	0.303	0.303	2,101,416	Yes	222,946
MS-1A67N	0.000	2.844	0.303	0.303	26,709,046	No	222,946
===>Grouped by Line:	**MSD45C-5-RHDT A HDR to FWH26**				***Sorted By:Flow Order***		
MS-1A41R	0.000	0.539	0.378	0.378	1,633,925	No	222,946
MS-1A41R (D/S)	0.000	0.476	0.303	0.303	1,256,882	No	222,946
MS-1A41P-1 US	0.000	0.456	0.303	0.303	1,415,635	No	222,946
MS-1A41P-1 DS	0.000	0.454	0.303	0.303	1,397,055	Yes	222,946
MS-1A42	0.000	0.430	0.303	0.303	891,832	Yes	222,946
MS-1A42P US	0.000	0.447	0.303	0.303	1,517,614	Yes	222,946

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: **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A42P DS	0.000	0.453	0.303	0.303	1,580,955	Yes	222,946
MS-1A43	0.000	0.488	0.303	0.303	1,300,026	Yes	222,946
MS-1A43P US	0.000	0.468	0.303	0.303	1,739,305	No	222,946
MS-1A43P DS	0.000	0.485	0.303	0.303	1,918,770	Yes	222,946
MS-1A44	0.000	0.470	0.303	0.303	1,173,345	Yes	222,946
MS-1A44P US	0.000	0.448	0.303	0.303	1,528,171	Yes	222,946
MS-1A44P DS	0.000	0.451	0.303	0.303	1,559,841	Yes	222,946
MS-1A45	0.000	0.456	0.303	0.303	1,074,815	Yes	222,946
MS-1A45P US	0.000	0.403	0.303	0.303	1,053,118	Yes	222,946
MS-1A68	0.000	0.443	0.303	0.303	590,859	Yes	222,946
MS-1A68 (BR/SE)	0.000	0.396	0.233	0.233	1,162,816	Yes	222,946
MS-1A68 (D/S)	0.000	0.481	0.303	0.303	1,360,875	Yes	222,946
===>Grouped by Line: **MSD45D-1-RHDT A HDR to FWH26B**					***Sorted By:Flow Order***		
MS-1A68P	0.000	0.384	0.233	0.233	1,892,248	Yes	222,946
MS-1A55	0.000	0.370	0.233	0.233	923,111	Yes	222,946
MS-1A55P	0.000	0.383	0.233	0.233	1,173,082	Yes	222,946
MS-1A56	0.000	0.387	0.233	0.233	1,037,801	Yes	222,946
MS-1A57	0.000	0.394	0.233	0.233	1,085,026	Yes	222,946
MS-1A57P	0.000	0.354	0.233	0.233	946,864	Yes	222,946
MS-1A57P DS	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-1A58	0.000	0.389	0.233	0.233	1,051,294	Yes	222,946
MS-1A58P	0.000	0.389	0.233	0.233	1,556,035	Yes	222,946
MS-1A59	0.000	0.389	0.233	0.233	1,053,702	Yes	222,946
MS-1A59P US	0.000	0.384	0.233	0.233	1,505,877	Yes	222,946
MS-1A59P DS	0.000	0.385	0.233	0.233	1,522,479	Yes	222,946
MS-1A60	0.000	0.384	0.233	0.233	1,021,189	Yes	222,946
MS-1A-VALVE-MS-14-1	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-1A60P US	0.000	0.392	0.233	0.233	1,802,387	Yes	222,946
MS-1A60P DS	0.000	0.380	0.233	0.233	1,665,170	Yes	222,946
MS-1A61	0.000	0.538	0.233	0.233	1,854,866	No	222,946
MS-1A61 (D/S)	0.000	0.501	0.233	0.233	1,629,599	No	222,946
MS-1A61P US	0.000	0.389	0.233	0.233	1,954,653	Yes	222,946
MS-1A61P DS	0.000	0.379	0.233	0.233	1,824,683	No	222,946
MS-1A62	0.000	0.596	0.233	0.233	2,211,452	No	222,946
MS-1A62 (D/S)	0.000	0.558	0.233	0.233	1,980,097	No	222,946
MS-1A61P-1	0.000	0.390	0.233	0.233	1,959,337	Yes	222,946
MS-1A62R	0.000	0.422	0.233	0.233	1,686,063	No	222,946
MS-1A62R (D/S)	0.000	0.472	0.303	0.303	2,368,786	No	222,946
MS-1A62N	0.000	0.437	0.303	0.303	1,408,296	No	222,946

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: **MSD45D-2-RHDT A HDR to FWH26A**					***Sorted By:Flow Order***		
MS-1A45R	0.000	0.474	0.303	0.303	2,053,969	No	222,946
MS-1A45R (D/S)	0.000	0.512	0.233	0.233	2,180,246	No	222,946
MS-1A45P-1 US	0.000	0.380	0.233	0.233	1,842,324	Yes	222,946
MS-1A45P-1 DS	0.000	0.384	0.233	0.233	1,892,248	Yes	222,946
MS-1A46	0.000	0.400	0.233	0.233	1,129,132	Yes	222,946
MS-1A46P	0.000	0.388	0.233	0.233	1,552,433	Yes	222,946
MS-1A47	0.000	0.409	0.233	0.233	1,189,851	Yes	222,946
MS-1A47P US	0.000	0.383	0.233	0.233	1,173,968	No	222,946
MS-1A47P DS	0.000	0.387	0.233	0.233	1,205,171	Yes	222,946
MS-1A48	0.000	0.376	0.233	0.233	967,217	Yes	222,946
MS-1A49	0.000	0.340	0.233	0.233	724,344	Yes	222,946
MS-1A49P US	0.000	0.366	0.233	0.233	1,041,358	Yes	222,946
MS-1A49P DS	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-1A50	0.000	0.370	0.233	0.233	923,111	Yes	222,946
MS-1A50P	0.000	0.371	0.233	0.233	1,381,493	Yes	222,946
MS-1A51	0.000	0.386	0.233	0.233	1,031,054	Yes	222,946
MS-1A51P US	0.000	0.374	0.233	0.233	1,411,447	Yes	222,946
MS-1A51P DS	0.000	0.387	0.233	0.233	1,542,448	Yes	222,946
MS-1A52	0.000	0.387	0.233	0.233	1,041,428	Yes	222,946
MS-1A-VALVE-MS-14	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-1A52P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-1A52P DS	0.000	0.406	0.233	0.233	1,960,175	No	222,946
MS-1A53	0.000	0.521	0.233	0.233	1,751,365	No	222,946
MS-1A53 (D/S)	0.000	0.498	0.233	0.233	1,611,335	No	222,946
MS-1A53P US	0.000	0.389	0.233	0.233	1,954,653	Yes	222,946
MS-1A53P DS	0.000	0.382	0.233	0.233	1,859,489	Yes	222,946
MS-1A54	0.000	0.526	0.233	0.233	1,785,272	No	222,946
MS-1A54 (D/S)	0.000	0.524	0.233	0.233	1,773,096	No	222,946
MS-1A53P-1	0.000	0.384	0.233	0.233	1,884,451	Yes	222,946
MS-1A54R	0.000	0.435	0.233	0.233	1,801,957	No	222,946
MS-1A54R (D/S)	0.000	0.475	0.303	0.303	2,410,831	No	222,946
MS-1A54N	0.000	0.437	0.303	0.303	1,408,296	No	222,946
===>Grouped by Line: **MSD46A-2-RHDT22A CV to FWH26**					***Sorted By:Flow Order***		
MS-2A-VALVE-LCV-1104A	0.000	0.042	0.132	0.132	-96,646	No	222,946
MS-2A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338

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: **MSD46A-2-RHDT22A CV to FWH26**					***Sorted By:Flow Order***		
MS-2A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD47-2-RHDT23A CV to FWH26**					***Sorted By:Flow Order***		
MS-3A-VALVE-LCV-1104B	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-3A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:34:42AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD48B-1-RHDT21B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-1B-VALVE-LCV-1105	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1B35	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34P US	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34P DS	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B35P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1B34	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33P-1	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD48B-2-RHDT B HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1B36 (D/S)	12	4.583	1.546	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B37	2	4.136	1.396	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B38	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B39	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36 (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B37P	52	2.794	0.943	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36	12	2.531	0.854	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B38P	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B39P	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36P US	62	2.236	0.754	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36P DS	62	2.236	0.754	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49B-1-RHDT22B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-LCV-1105A	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2B32	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B33	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31P US	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31P DS	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B32P US	51	0.892	0.301	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B32P DS	51	0.892	0.301	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	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:	***MSD49B-1-RHDT22B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2B30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2B31	2	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B30R2 (D/S)	18	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31P	68	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-1-RHDT B HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-2B34 (D/S)	12	4.267	1.440	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B34 (BR/SE)	12	3.800	1.282	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2B36P US	54	3.330	1.124	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B36P DS	54	3.330	1.124	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B63	14	2.380	1.931	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B63 (D/S)	14	1.678	1.362	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B34	12	1.662	0.561	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B63 (BR/SE)	14	1.513	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B35	2	0.005	0.005	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B36	4	0.005	0.005	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B35P	52	0.004	0.003	495.9	9.471	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B33P	62	0.003	0.003	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-2-RHDT B HDR to FWH26C***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-MS-15-2	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B54 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B54	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B51	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B52	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B50P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B52P US	54	3.328	1.123	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B52P DS	54	3.328	1.123	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B53P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B53P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55P	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B54P	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2B50	4	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B63P	64	0.865	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B53	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD49C-3-RHDT B HDR***								***Sorted By: Average Wear Rate***		
MS-2B64	14	4.035	1.362	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B64 (BR/SE)	14	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B64 (D/S)	14	2.229	0.752	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B63P-1 US	64	1.467	0.495	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-4-RHDT B HDR to FWH26B***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-MS-15-1	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B44	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B45	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B46	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B47	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B44P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B45P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B45P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B46P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B46P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2B47P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B47P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B48P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49P	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B64P	64	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B48P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-5-RHDT B HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-MS-15	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43N	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B37	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B38	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B39	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B40	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B41	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD49C-5-RHDT B HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-2B64R (D/S)	7	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B38P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B64P-1 US	57	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B37P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B39P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B40P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B40P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B41P	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43P	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B64R	7	1.418	0.479	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B43R	18	1.211	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43R (D/S)	18	0.770	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD50C-1-RHDT23B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-3B-VALVE-LCV-1105B	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3B43P US	54	1.976	0.667	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B43R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3B43	4	0.000	0.000	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B43R (D/S)	18	0.000	0.000	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:42AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD48B-1-RHDT21B CV to FWH26***									***Sorted By: Flow Order***	
MS-1B-VALVE-LCV-1105	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1B34R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-1B34R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B33P-1	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34P US	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B34P DS	52	2.600	0.877	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B35	1	3.432	1.158	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B35P	51	2.288	0.772	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD48B-2-RHDT B HDR to FWH26***									***Sorted By: Flow Order***	
MS-1B36 (BR/SE)	12	3.536	1.193	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B36 (D/S)	12	4.583	1.546	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36P US	62	2.236	0.754	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36P DS	62	2.236	0.754	495.9	15.283	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B37	2	4.136	1.396	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B37P	52	2.794	0.943	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B38	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B38P	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B39	1	3.689	1.245	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B39P	51	2.459	0.830	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-1B36	12	2.531	0.854	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49B-1-RHDT22B CV to FWH26***									***Sorted By: Flow Order***	
MS-2B-VALVE-LCV-1105A	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2B30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-2B30R2 (D/S)	18	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31P	68	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31	2	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31P US	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B31P DS	52	1.013	0.342	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	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:	***MSD49B-1-RHDT22B CV to FWH26***									***Sorted By: Flow Order***	
MS-2B32	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B32P US	51	0.892	0.301	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B32P DS	51	0.892	0.301	495.9	9.664	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B33	1	1.337	0.451	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-1-RHDT B HDR to FWH26***									***Sorted By: Flow Order***	
MS-2B34 (BR/SE)	12	3.800	1.282	495.9	7.870	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2B34	12	1.662	0.561	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B34 (D/S)	12	4.267	1.440	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B33P	62	0.003	0.003	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B35	2	0.005	0.005	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B35P	52	0.004	0.003	495.9	9.471	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B36	4	0.005	0.005	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B36P US	54	3.330	1.124	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B36P DS	54	3.330	1.124	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B63	14	2.380	1.931	495.9	7.499	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B63 (BR/SE)	14	1.513	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B63 (D/S)	14	1.678	1.362	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-2-RHDT B HDR to FWH26C***									***Sorted By: Flow Order***	
MS-2B63P	64	0.865	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B50	4	1.600	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B50P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B51	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B52	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B52P US	54	3.328	1.123	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B52P DS	54	3.328	1.123	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B53	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B-VALVE-MS-15-2	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B53P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B53P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B54	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B54 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B54P	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55P	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B55R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	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:	***MSD49C-3-RHDT B HDR***									***Sorted By: Flow Order***	
MS-2B63P-1 US	64	1.467	0.495	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B64	14	4.035	1.362	495.9	4.965	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B64 (BR/SE)	14	3.640	1.228	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B64 (D/S)	14	2.229	0.752	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-4-RHDT B HDR to FWH26B***									***Sorted By: Flow Order***	
MS-2B64P	64	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B44	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B44P US	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B45	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B45P US	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B45P DS	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B46	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B46P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B46P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B47	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B-VALVE-MS-15-1	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B47P US	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B47P DS	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B48P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B48P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49P	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49R	18	2.912	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B49R (D/S)	18	1.852	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2B49N	30	2.470	0.833	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD49C-5-RHDT B HDR to FWH26A***									***Sorted By: Flow Order***	
MS-2B64R	7	1.418	0.479	495.9	2.450	3.3	10.750	6.379	0.000	'55.44'	HBD
MS-2B64R (D/S)	7	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B64P-1 US	57	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B37	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B37P	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B38	4	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B38P	54	3.328	1.123	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B39	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B39P	52	2.600	0.877	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B40	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B40P US	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	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:	***MSD49C-5-RHDT B HDR to FWH26A***									***Sorted By: Flow Order***	
MS-2B40P DS	52	2.600	0.877	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B41	2	3.848	1.298	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B-VALVE-MS-15	22	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B41P	58	2.288	0.772	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42P US	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B42P DS	62	2.080	0.702	495.9	8.745	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43 (D/S)	12	4.264	1.439	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43P	62	2.080	0.702	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43R	18	1.211	0.983	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B43R (D/S)	18	0.770	0.625	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-2B43N	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD50C-1-RHDT23B CV to FWH26***									***Sorted By: Flow Order***	
MS-3B-VALVE-LCV-1105B	24	9.681	3.377	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3B43R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	'55.44'	HBD
MS-3B43R (D/S)	18	0.000	0.000	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B43	4	0.000	0.000	495.9	3.910	3.3	8.625	6.379	0.000	'55.44'	HBD
MS-3B43P US	54	1.976	0.667	495.9	10.736	3.3	8.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:42AM

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD48B-1-RHDT21B CV to FWH26**					***Sorted By:Remaining Life***		
MS-1B-VALVE-LCV-1105	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-1B35	0.000	0.327	0.233	0.233	711,719	Yes	222,946
MS-1B34P US	0.000	0.390	0.233	0.233	1,566,202	Yes	222,946
MS-1B34P DS	0.000	0.396	0.233	0.233	1,627,010	Yes	222,946
MS-1B35P	0.000	0.395	0.233	0.233	1,835,510	Yes	222,946
MS-1B34	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B33P-1	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1B34R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B34R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
===>Grouped by Line: **MSD48B-2-RHDT B HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1B39	0.000	0.372	0.303	0.303	484,105	Yes	222,946
MS-1B36 (D/S)	0.000	0.431	0.303	0.303	725,460	No	222,946
MS-1B37	0.000	0.443	0.303	0.303	876,771	Yes	222,946
MS-1B38	0.000	0.480	0.303	0.303	1,247,748	Yes	222,946
MS-1B37P	0.000	0.458	0.303	0.303	1,435,425	Yes	222,946
MS-1B36	0.000	0.450	0.303	0.303	1,507,992	No	222,946
MS-1B36P DS	0.000	0.441	0.303	0.303	1,599,935	Yes	222,946
MS-1B36P US	0.000	0.443	0.303	0.303	1,625,023	No	222,946
MS-1B38P	0.000	0.464	0.303	0.303	1,697,079	Yes	222,946
MS-1B39P	0.000	0.472	0.303	0.303	1,782,000	Yes	222,946
MS-1B36 (BR/SE)	0.000	0.824	0.233	0.233	4,342,515	No	222,946
===>Grouped by Line: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Remaining Life***		
MS-2B-VALVE-LCV-1105A	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-2B33	0.000	0.563	0.378	0.378	3,597,543	Yes	222,946
MS-2B32	0.000	0.576	0.378	0.378	3,836,898	Yes	222,946
MS-2B31P DS	0.000	0.556	0.378	0.378	4,560,659	Yes	222,946
MS-2B31P US	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B32P US	0.000	0.576	0.378	0.378	5,779,416	Yes	222,946
MS-2B32P DS	0.000	0.600	0.378	0.378	6,462,107	Yes	222,946

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: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Remaining Life***		
MS-2B30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2B30R2 (D/S)	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B31P	0.000	0.500	0.335	0.335	100,000,000	No	86,338
MS-2B31	0.000	0.500	0.349	0.349	100,000,000	No	86,338
===>Grouped by Line: **MSD49C-1-RHDT B HDR to FWH26**					***Sorted By:Remaining Life***		
MS-2B63	0.000	0.571	0.378	0.378	873,952	No	86,338
MS-2B36P DS	0.000	0.509	0.378	0.378	1,024,236	No	222,946
MS-2B34 (D/S)	0.000	0.555	0.378	0.378	1,078,276	No	222,946
MS-2B63 (D/S)	0.000	0.577	0.378	0.378	1,284,162	No	86,338
MS-2B63 (BR/SE)	0.000	0.417	0.233	0.233	1,313,844	No	86,338
MS-2B36P US	0.000	0.554	0.378	0.378	1,372,643	Yes	222,946
MS-2B34	0.000	0.579	0.378	0.378	3,147,231	No	222,946
MS-2B34 (BR/SE)	0.000	1.449	0.303	0.303	7,825,661	No	222,946
MS-2B33P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B36	0.000	0.594	0.378	0.378	100,000,000	No	41,469
===>Grouped by Line: **MSD49C-2-RHDT B HDR to FWH26C**					***Sorted By:Remaining Life***		
MS-2B-VALVE-MS-15-2	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-2B52	0.000	0.333	0.233	0.233	675,900	Yes	222,946
MS-2B55R	0.000	0.334	0.233	0.233	903,613	Yes	222,946
MS-2B52P US	0.000	0.364	0.233	0.233	1,022,494	Yes	222,946
MS-2B52P DS	0.000	0.374	0.233	0.233	1,103,763	Yes	222,946
MS-2B53P DS	0.000	0.333	0.233	0.233	1,141,394	Yes	222,946
MS-2B50	0.000	0.404	0.233	0.233	1,154,899	Yes	86,338
MS-2B51	0.000	0.404	0.233	0.233	1,156,118	Yes	222,946
MS-2B50P US	0.000	0.387	0.233	0.233	1,201,908	Yes	222,946
MS-2B55P	0.000	0.331	0.233	0.233	1,219,679	Yes	222,946
MS-2B53P US	0.000	0.385	0.233	0.233	1,722,963	Yes	222,946
MS-2B54	0.000	0.532	0.233	0.233	1,819,259	Yes	222,946
MS-2B54 (D/S)	0.000	0.542	0.233	0.233	1,880,141	Yes	222,946
MS-2B54P	0.000	0.401	0.233	0.233	2,098,041	Yes	222,946
MS-2B55	0.000	0.608	0.233	0.233	2,283,970	Yes	222,946
MS-2B55 (D/S)	0.000	0.612	0.233	0.233	2,308,323	Yes	222,946
MS-2B63P	0.000	0.418	0.233	0.233	2,310,218	No	86,338
MS-2B55R (D/S)	0.000	0.485	0.303	0.303	2,547,909	Yes	222,946
MS-2B53	0.000	0.432	0.215	0.215	100,000,000	No	86,338
===>Grouped by Line: **MSD49C-3-RHDT B 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: **MSD49C-3-RHDT B HDR**					***Sorted By:Remaining Life***		
MS-2B64 (BR/SE)	0.000	0.364	0.233	0.233	934,592	Yes	222,946
MS-2B64	0.000	0.581	0.378	0.378	1,309,889	Yes	222,946
MS-2B64 (D/S)	0.000	0.573	0.378	0.378	2,278,551	Yes	222,946
MS-2B63P-1 US	0.000	0.557	0.378	0.378	3,163,272	No	222,946
===>Grouped by Line: **MSD49C-4-RHDT B HDR to FWH26B**					***Sorted By:Remaining Life***		
MS-2B-VALVE-MS-15-1	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-2B47	0.000	0.342	0.233	0.233	737,837	Yes	222,946
MS-2B46	0.000	0.382	0.233	0.233	1,007,696	Yes	222,946
MS-2B45	0.000	0.384	0.233	0.233	1,021,189	Yes	222,946
MS-2B44P US	0.000	0.367	0.233	0.233	1,049,159	Yes	222,946
MS-2B46P DS	0.000	0.343	0.233	0.233	1,103,118	Yes	222,946
MS-2B44	0.000	0.428	0.233	0.233	1,318,033	Yes	222,946
MS-2B46P US	0.000	0.369	0.233	0.233	1,362,722	Yes	222,946
MS-2B49N	0.000	0.437	0.303	0.303	1,408,296	No	222,946
MS-2B49 (D/S)	0.000	0.493	0.233	0.233	1,580,893	No	222,946
MS-2B47P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-2B45P US	0.000	0.393	0.233	0.233	1,602,357	Yes	222,946
MS-2B64P	0.000	0.361	0.233	0.233	1,605,186	Yes	222,946
MS-2B45P DS	0.000	0.396	0.233	0.233	1,632,311	Yes	222,946
MS-2B47P DS	0.000	0.381	0.233	0.233	1,676,516	Yes	222,946
MS-2B49P	0.000	0.375	0.233	0.233	1,779,920	Yes	222,946
MS-2B48P DS	0.000	0.377	0.233	0.233	1,804,882	Yes	222,946
MS-2B49	0.000	0.533	0.233	0.233	1,824,424	No	222,946
MS-2B49R	0.000	0.453	0.233	0.233	1,963,092	No	222,946
MS-2B48P US	0.000	0.393	0.233	0.233	2,004,577	Yes	222,946
MS-2B49R (D/S)	0.000	0.492	0.303	0.303	2,652,282	No	222,946
===>Grouped by Line: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Remaining Life***		
MS-2B-VALVE-MS-15	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-2B43N	0.000	0.326	0.233	0.233	581,994	No	222,946
MS-2B37	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B38	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B39	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B40	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B38P	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-2B43 (D/S)	0.000	0.422	0.233	0.233	1,148,626	No	222,946
MS-2B41	0.000	0.411	0.233	0.233	1,203,343	Yes	222,946
MS-2B37P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-2B39P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-2B40P US	0.000	0.366	0.233	0.233	1,327,607	No	222,946

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: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Remaining Life***		
MS-2B64P-1 US	0.000	0.370	0.233	0.233	1,372,707	Yes	222,946
MS-2B40P DS	0.000	0.389	0.233	0.233	1,562,418	Yes	222,946
MS-2B43	0.000	0.493	0.233	0.233	1,580,893	No	222,946
MS-2B42 (D/S)	0.000	0.499	0.233	0.233	1,619,330	Yes	222,946
MS-2B43R	0.000	0.420	0.233	0.233	1,668,898	No	86,338
MS-2B41P	0.000	0.385	0.233	0.233	1,723,031	Yes	222,946
MS-2B43P	0.000	0.375	0.233	0.233	1,779,920	Yes	222,946
MS-2B64R (D/S)	0.000	0.471	0.233	0.233	1,860,421	Yes	222,946
MS-2B42P US	0.000	0.387	0.233	0.233	1,918,339	Yes	222,946
MS-2B42P DS	0.000	0.398	0.233	0.233	2,066,982	Yes	222,946
MS-2B42	0.000	0.614	0.233	0.233	2,319,482	Yes	222,946
MS-2B43R (D/S)	0.000	0.492	0.303	0.303	2,652,282	No	86,338
MS-2B64R	0.000	0.583	0.378	0.378	3,757,986	Yes	222,946
===>Grouped by Line: **MSD50C-1-RHDT23B CV to FWH26**					***Sorted By:Remaining Life***		
MS-3B-VALVE-LCV-1105B	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-3B43P US	0.000	0.379	0.303	0.303	993,252	Yes	222,946
MS-3B43R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3B43R (D/S)	0.000	0.500	0.280	0.280	100,000,000	No	86,338
MS-3B43	0.000	0.500	0.280	0.280	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:42AM

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD48B-1-RHDT21B CV to FWH26**					***Sorted By:Flow Order***		
MS-1B-VALVE-LCV-1105	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-1B34R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-1B34R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B33P-1	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1B34	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B34P US	0.000	0.390	0.233	0.233	1,566,202	Yes	222,946
MS-1B34P DS	0.000	0.396	0.233	0.233	1,627,010	Yes	222,946
MS-1B35	0.000	0.327	0.233	0.233	711,719	Yes	222,946
MS-1B35P	0.000	0.395	0.233	0.233	1,835,510	Yes	222,946
===>Grouped by Line: **MSD48B-2-RHDT B HDR to FWH26**					***Sorted By:Flow Order***		
MS-1B36 (BR/SE)	0.000	0.824	0.233	0.233	4,342,515	No	222,946
MS-1B36 (D/S)	0.000	0.431	0.303	0.303	725,460	No	222,946
MS-1B36P US	0.000	0.443	0.303	0.303	1,625,023	No	222,946
MS-1B36P DS	0.000	0.441	0.303	0.303	1,599,935	Yes	222,946
MS-1B37	0.000	0.443	0.303	0.303	876,771	Yes	222,946
MS-1B37P	0.000	0.458	0.303	0.303	1,435,425	Yes	222,946
MS-1B38	0.000	0.480	0.303	0.303	1,247,748	Yes	222,946
MS-1B38P	0.000	0.464	0.303	0.303	1,697,079	Yes	222,946
MS-1B39	0.000	0.372	0.303	0.303	484,105	Yes	222,946
MS-1B39P	0.000	0.472	0.303	0.303	1,782,000	Yes	222,946
MS-1B36	0.000	0.450	0.303	0.303	1,507,992	No	222,946
===>Grouped by Line: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Flow Order***		
MS-2B-VALVE-LCV-1105A	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-2B30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2B30R2 (D/S)	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B31P	0.000	0.500	0.335	0.335	100,000,000	No	86,338
MS-2B31	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B31P US	0.000	0.568	0.378	0.378	4,877,522	No	222,946
MS-2B31P DS	0.000	0.556	0.378	0.378	4,560,659	Yes	222,946

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: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Flow Order***		
MS-2B32	0.000	0.576	0.378	0.378	3,836,898	Yes	222,946
MS-2B32P US	0.000	0.576	0.378	0.378	5,779,416	Yes	222,946
MS-2B32P DS	0.000	0.600	0.378	0.378	6,462,107	Yes	222,946
MS-2B33	0.000	0.563	0.378	0.378	3,597,543	Yes	222,946
===>Grouped by Line: **MSD49C-1-RHDT B HDR to FWH26**					***Sorted By:Flow Order***		
MS-2B34 (BR/SE)	0.000	1.449	0.303	0.303	7,825,661	No	222,946
MS-2B34	0.000	0.579	0.378	0.378	3,147,231	No	222,946
MS-2B34 (D/S)	0.000	0.555	0.378	0.378	1,078,276	No	222,946
MS-2B33P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B36	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B36P US	0.000	0.554	0.378	0.378	1,372,643	Yes	222,946
MS-2B36P DS	0.000	0.509	0.378	0.378	1,024,236	No	222,946
MS-2B63	0.000	0.571	0.378	0.378	873,952	No	86,338
MS-2B63 (BR/SE)	0.000	0.417	0.233	0.233	1,313,844	No	86,338
MS-2B63 (D/S)	0.000	0.577	0.378	0.378	1,284,162	No	86,338
===>Grouped by Line: **MSD49C-2-RHDT B HDR to FWH26C**					***Sorted By:Flow Order***		
MS-2B63P	0.000	0.418	0.233	0.233	2,310,218	No	86,338
MS-2B50	0.000	0.404	0.233	0.233	1,154,899	Yes	86,338
MS-2B50P US	0.000	0.387	0.233	0.233	1,201,908	Yes	222,946
MS-2B51	0.000	0.404	0.233	0.233	1,156,118	Yes	222,946
MS-2B52	0.000	0.333	0.233	0.233	675,900	Yes	222,946
MS-2B52P US	0.000	0.364	0.233	0.233	1,022,494	Yes	222,946
MS-2B52P DS	0.000	0.374	0.233	0.233	1,103,763	Yes	222,946
MS-2B53	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2B-VALVE-MS-15-2	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-2B53P US	0.000	0.385	0.233	0.233	1,722,963	Yes	222,946
MS-2B53P DS	0.000	0.333	0.233	0.233	1,141,394	Yes	222,946
MS-2B54	0.000	0.532	0.233	0.233	1,819,259	Yes	222,946
MS-2B54 (D/S)	0.000	0.542	0.233	0.233	1,880,141	Yes	222,946
MS-2B54P	0.000	0.401	0.233	0.233	2,098,041	Yes	222,946
MS-2B55	0.000	0.608	0.233	0.233	2,283,970	Yes	222,946
MS-2B55 (D/S)	0.000	0.612	0.233	0.233	2,308,323	Yes	222,946
MS-2B55P	0.000	0.331	0.233	0.233	1,219,679	Yes	222,946
MS-2B55R	0.000	0.334	0.233	0.233	903,613	Yes	222,946
MS-2B55R (D/S)	0.000	0.485	0.303	0.303	2,547,909	Yes	222,946
===>Grouped by Line: **MSD49C-3-RHDT B 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: **MSD49C-3-RHDT B HDR**					***Sorted By:Flow Order***		
MS-2B63P-1 US	0.000	0.557	0.378	0.378	3,163,272	No	222,946
MS-2B64	0.000	0.581	0.378	0.378	1,309,889	Yes	222,946
MS-2B64 (BR/SE)	0.000	0.364	0.233	0.233	934,592	Yes	222,946
MS-2B64 (D/S)	0.000	0.573	0.378	0.378	2,278,551	Yes	222,946
===>Grouped by Line: **MSD49C-4-RHDT B HDR to FWH26B**					***Sorted By:Flow Order***		
MS-2B64P	0.000	0.361	0.233	0.233	1,605,186	Yes	222,946
MS-2B44	0.000	0.428	0.233	0.233	1,318,033	Yes	222,946
MS-2B44P US	0.000	0.367	0.233	0.233	1,049,159	Yes	222,946
MS-2B45	0.000	0.384	0.233	0.233	1,021,189	Yes	222,946
MS-2B45P US	0.000	0.393	0.233	0.233	1,602,357	Yes	222,946
MS-2B45P DS	0.000	0.396	0.233	0.233	1,632,311	Yes	222,946
MS-2B46	0.000	0.382	0.233	0.233	1,007,696	Yes	222,946
MS-2B46P US	0.000	0.369	0.233	0.233	1,362,722	Yes	222,946
MS-2B46P DS	0.000	0.343	0.233	0.233	1,103,118	Yes	222,946
MS-2B47	0.000	0.342	0.233	0.233	737,837	Yes	222,946
MS-2B-VALVE-MS-15-1	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-2B47P US	0.000	0.374	0.233	0.233	1,598,739	No	222,946
MS-2B47P DS	0.000	0.381	0.233	0.233	1,676,516	Yes	222,946
MS-2B48P US	0.000	0.393	0.233	0.233	2,004,577	Yes	222,946
MS-2B48P DS	0.000	0.377	0.233	0.233	1,804,882	Yes	222,946
MS-2B49	0.000	0.533	0.233	0.233	1,824,424	No	222,946
MS-2B49 (D/S)	0.000	0.493	0.233	0.233	1,580,893	No	222,946
MS-2B49P	0.000	0.375	0.233	0.233	1,779,920	Yes	222,946
MS-2B49R	0.000	0.453	0.233	0.233	1,963,092	No	222,946
MS-2B49R (D/S)	0.000	0.492	0.303	0.303	2,652,282	No	222,946
MS-2B49N	0.000	0.437	0.303	0.303	1,408,296	No	222,946
===>Grouped by Line: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Flow Order***		
MS-2B64R	0.000	0.583	0.378	0.378	3,757,986	Yes	222,946
MS-2B64R (D/S)	0.000	0.471	0.233	0.233	1,860,421	Yes	222,946
MS-2B64P-1 US	0.000	0.370	0.233	0.233	1,372,707	Yes	222,946
MS-2B37	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B37P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-2B38	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B38P	0.000	0.347	0.233	0.233	892,666	No	222,946
MS-2B39	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B39P	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-2B40	0.000	0.334	0.233	0.233	682,753	No	222,946
MS-2B40P US	0.000	0.366	0.233	0.233	1,327,607	No	222,946
MS-2B40P DS	0.000	0.389	0.233	0.233	1,562,418	Yes	222,946

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: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Flow Order***		
MS-2B41	0.000	0.411	0.233	0.233	1,203,343	Yes	222,946
MS-2B-VALVE-MS-15	0.000	0.300	0.249	0.249	252,913	No	222,946
MS-2B41P	0.000	0.385	0.233	0.233	1,723,031	Yes	222,946
MS-2B42	0.000	0.614	0.233	0.233	2,319,482	Yes	222,946
MS-2B42 (D/S)	0.000	0.499	0.233	0.233	1,619,330	Yes	222,946
MS-2B42P US	0.000	0.387	0.233	0.233	1,918,339	Yes	222,946
MS-2B42P DS	0.000	0.398	0.233	0.233	2,066,982	Yes	222,946
MS-2B43	0.000	0.493	0.233	0.233	1,580,893	No	222,946
MS-2B43 (D/S)	0.000	0.422	0.233	0.233	1,148,626	No	222,946
MS-2B43P	0.000	0.375	0.233	0.233	1,779,920	Yes	222,946
MS-2B43R	0.000	0.420	0.233	0.233	1,668,898	No	86,338
MS-2B43R (D/S)	0.000	0.492	0.303	0.303	2,652,282	No	86,338
MS-2B43N	0.000	0.326	0.233	0.233	581,994	No	222,946
===>Grouped by Line: **MSD50C-1-RHDT23B CV to FWH26**					***Sorted By:Flow Order***		
MS-3B-VALVE-LCV-1105B	0.000	0.091	0.169	0.169	-111,761	No	222,946
MS-3B43R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3B43R (D/S)	0.000	0.500	0.280	0.280	100,000,000	No	86,338
MS-3B43	0.000	0.500	0.280	0.280	100,000,000	No	86,338
MS-3B43P US	0.000	0.379	0.303	0.303	993,252	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:16:01PM
AnalysisDate/Time: 2/25/2010 11:34:49AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD39-1-RHTR 21A to RHDT 21A***								***Sorted By: Average Wear Rate***		
MS-1AN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1AN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD40-1-RHTR 22A to RHDT 22A***								***Sorted By: Average Wear Rate***		
MS-2AN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2AN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD41-1-RHTR 23A to RHDT 23A***								***Sorted By: Average Wear Rate***		
MS-3AN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3AN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD42-1-RHTR 21B to RHDT 21B***								***Sorted By: Average Wear Rate***		
MS-1BN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1BN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD43-1-RHTR 22B to RHDT 22B***								***Sorted By: Average Wear Rate***		
MS-2BN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2BN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD44-1-RHTR 23B to RHDT 23B***								***Sorted By: Average Wear Rate***		
MS-3BN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3BN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:49AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD39-1-RHTR 21A to RHDT 21A***									***Sorted By: Flow Order***	
MS-1AN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1A0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1AN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD40-1-RHTR 22A to RHDT 22A***									***Sorted By: Flow Order***	
MS-2AN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2A0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2AN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD41-1-RHTR 23A to RHDT 23A***									***Sorted By: Flow Order***	
MS-3AN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3A0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3AN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD42-1-RHTR 21B to RHDT 21B***									***Sorted By: Flow Order***	
MS-1BN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1B0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-1BN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD43-1-RHTR 22B to RHDT 22B***									***Sorted By: Flow Order***	
MS-2BN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2B0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-2BN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
===>Grouped by Line:	***MSD44-1-RHTR 23B to RHDT 23B***									***Sorted By: Flow Order***	
MS-3BN	31	5.200	1.755	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3B0P	61	2.808	0.948	495.9	10.806	3.3	6.625	6.379	0.000	'55.44'	HBD
MS-3BN-1	30	4.160	1.404	495.9	6.915	3.3	6.625	6.379	0.000	'55.44'	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:49AM

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD39-1-RHTR 21A to RHDT 21A**					***Sorted By:Remaining Life***		
MS-1AN	0.000	0.382	0.233	0.233	742,692	No	222,946
MS-1AN-1	0.000	0.396	0.233	0.233	1,016,191	Yes	222,946
MS-1A0P	0.000	0.395	0.233	0.233	1,495,261	Yes	222,946
===>Grouped by Line: **MSD40-1-RHTR 22A to RHDT 22A**					***Sorted By:Remaining Life***		
MS-2AN-1	0.000	0.350	0.233	0.233	732,995	Yes	222,946
MS-2A0P	0.000	0.388	0.233	0.233	1,432,792	Yes	222,946
MS-2AN	0.000	0.777	0.233	0.233	2,717,301	Yes	222,946
===>Grouped by Line: **MSD41-1-RHTR 23A to RHDT 23A**					***Sorted By:Remaining Life***		
MS-3AN-1	0.000	0.326	0.233	0.233	581,994	No	222,946
MS-3A0P	0.000	0.379	0.233	0.233	1,352,912	Yes	222,946
MS-3AN	0.000	0.804	0.233	0.233	2,853,388	No	222,946
===>Grouped by Line: **MSD42-1-RHTR 21B to RHDT 21B**					***Sorted By:Remaining Life***		
MS-1BN	0.000	0.407	0.233	0.233	871,594	No	222,946
MS-1BN-1	0.000	0.389	0.233	0.233	972,857	Yes	222,946
MS-1B0P	0.000	0.387	0.233	0.233	1,425,577	Yes	222,946
===>Grouped by Line: **MSD43-1-RHTR 22B to RHDT 22B**					***Sorted By:Remaining Life***		
MS-2BN-1	0.000	0.326	0.233	0.233	581,994	No	222,946
MS-2B0P	0.000	0.372	0.233	0.233	1,288,196	Yes	222,946
MS-2BN	0.000	0.735	0.233	0.233	2,508,914	No	222,946
===>Grouped by Line: **MSD44-1-RHTR 23B to RHDT 23B**					***Sorted By:Remaining Life***		
MS-3BN	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3BN-1	0.000	0.326	0.233	0.233	581,994	No	222,946
MS-3B0P	0.000	0.361	0.233	0.233	1,180,326	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 1 Analysis Exclude Measured Wear

Report Date/Time: 2/26/2010 1:15:29PM
AnalysisDate/Time: 2/25/2010 11:34:49AM

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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: **MSD39-1-RHTR 21A to RHDT 21A**					***Sorted By:Flow Order***		
MS-1AN	0.000	0.382	0.233	0.233	742,692	No	222,946
MS-1A0P	0.000	0.395	0.233	0.233	1,495,261	Yes	222,946
MS-1AN-1	0.000	0.396	0.233	0.233	1,016,191	Yes	222,946
===>Grouped by Line: **MSD40-1-RHTR 22A to RHDT 22A**					***Sorted By:Flow Order***		
MS-2AN	0.000	0.777	0.233	0.233	2,717,301	Yes	222,946
MS-2A0P	0.000	0.388	0.233	0.233	1,432,792	Yes	222,946
MS-2AN-1	0.000	0.350	0.233	0.233	732,995	Yes	222,946
===>Grouped by Line: **MSD41-1-RHTR 23A to RHDT 23A**					***Sorted By:Flow Order***		
MS-3AN	0.000	0.804	0.233	0.233	2,853,388	No	222,946
MS-3A0P	0.000	0.379	0.233	0.233	1,352,912	Yes	222,946
MS-3AN-1	0.000	0.326	0.233	0.233	581,994	No	222,946
===>Grouped by Line: **MSD42-1-RHTR 21B to RHDT 21B**					***Sorted By:Flow Order***		
MS-1BN	0.000	0.407	0.233	0.233	871,594	No	222,946
MS-1B0P	0.000	0.387	0.233	0.233	1,425,577	Yes	222,946
MS-1BN-1	0.000	0.389	0.233	0.233	972,857	Yes	222,946
===>Grouped by Line: **MSD43-1-RHTR 22B to RHDT 22B**					***Sorted By:Flow Order***		
MS-2BN	0.000	0.735	0.233	0.233	2,508,914	No	222,946
MS-2B0P	0.000	0.372	0.233	0.233	1,288,196	Yes	222,946
MS-2BN-1	0.000	0.326	0.233	0.233	581,994	No	222,946
===>Grouped by Line: **MSD44-1-RHTR 23B to RHDT 23B**					***Sorted By:Flow Order***		
MS-3BN	0.000	0.300	0.233	0.233	333,456	No	222,946
MS-3B0P	0.000	0.361	0.233	0.233	1,180,326	No	222,946
MS-3BN-1	0.000	0.326	0.233	0.233	581,994	No	222,946

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 2:22:50PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.951

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-1P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1P4	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-1P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1P4	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-1P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1P4	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-2P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-2P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	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:	***ES?-2-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-2P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-2P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-3P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-3P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-3P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-4P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	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:	***ES?-4-1STPT ES TO FWH 21A***								***Sorted By: Average Wear Rate***		
LPFW21A-4P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4P5	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4P4	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21B***								***Sorted By: Average Wear Rate***		
LPFW21B-4P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P5	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P4	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21C***								***Sorted By: Average Wear Rate***		
LPFW21C-4P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P5	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P4	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 2:22:50PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.951

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-1P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1P4	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-1N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-1P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1P4	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-1N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-1-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-1P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1P4	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-1N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-2P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-2N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-2P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	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:	***ES?-2-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-2P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-2N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-2-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-2P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-2N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-3P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-3N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-3P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-3N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-3-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-3P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P2	61	3.014	5.724	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P3	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P4	52	4.044	3.313	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3P5	2	5.958	4.880	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-3N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-4P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	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:	***ES?-4-1STPT ES TO FWH 21A***									***Sorted By: Flow Order***	
LPFW21A-4P4	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4P5	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21A-4N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21B***									***Sorted By: Flow Order***	
LPFW21B-4P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P4	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4P5	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21B-4N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
===>Grouped by Line:	***ES?-4-1STPT ES TO FWH 21C***									***Sorted By: Flow Order***	
LPFW21C-4P1	31	9.694	7.951	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P2	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P3	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P4	51	3.559	2.915	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4P5	1	5.103	4.179	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD
LPFW21C-4N	30	6.471	5.301	168.4	227.620	75.3	26.000	7.131	0.000	46.06	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 2:22:50PM

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.951

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21A**					***Sorted By:Remaining Life***		
LPFW21A-1P1	0.000	0.297	0.043	0.043	279,020	No	222,946
LPFW21A-1N	0.000	0.230	0.043	0.043	309,145	Yes	222,946
LPFW21A-1P4	0.000	0.275	0.043	0.043	485,894	Yes	222,946
LPFW21A-1P2	0.000	0.341	0.043	0.043	624,238	Yes	222,946
LPFW21A-1P3	0.000	0.260	0.043	0.043	652,056	Yes	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21B**					***Sorted By:Remaining Life***		
LPFW21B-1P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21B-1N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21B-1P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-1P4	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-1P3	0.000	0.284	0.043	0.043	724,563	No	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21C**					***Sorted By:Remaining Life***		
LPFW21C-1P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-1N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21C-1P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-1P4	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-1P3	0.000	0.284	0.043	0.043	724,563	No	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21A**					***Sorted By:Remaining Life***		
LPFW21A-2P1	0.000	0.317	0.043	0.043	301,056	Yes	222,946
LPFW21A-2N	0.000	0.252	0.043	0.043	345,501	Yes	222,946
LPFW21A-2P5	0.000	0.248	0.043	0.043	367,025	Yes	222,946
LPFW21A-2P2	0.000	0.328	0.043	0.043	435,639	Yes	222,946
LPFW21A-2P3	0.000	0.351	0.051	0.051	538,580	Yes	222,946
LPFW21A-2P4	0.000	0.256	0.043	0.043	562,376	Yes	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21B**					***Sorted By:Remaining Life***		
LPFW21B-2P1	0.000	0.128	0.043	0.043	93,668	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES?-2-1STPT ES TO FWH 21B**				***Sorted By:Remaining Life***		
LPFW21B-2N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21B-2P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21B-2P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21B-2P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21B-2P4	0.000	0.272	0.043	0.043	604,957	No	222,946
===>Grouped by Line:	**ES?-2-1STPT ES TO FWH 21C**				***Sorted By:Remaining Life***		
LPFW21C-2P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-2N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21C-2P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21C-2P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21C-2P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21C-2P4	0.000	0.272	0.043	0.043	604,957	No	222,946
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21A**				***Sorted By:Remaining Life***		
LPFW21A-3P1	0.000	0.275	0.043	0.043	254,781	No	222,946
LPFW21A-3N	0.000	0.214	0.043	0.043	282,704	Yes	222,946
LPFW21A-3P5	0.000	0.229	0.043	0.043	332,920	Yes	222,946
LPFW21A-3P3	0.000	0.249	0.051	0.051	355,490	Yes	222,946
LPFW21A-3P2	0.000	0.342	0.043	0.043	457,065	Yes	222,946
LPFW21A-3P4	0.000	0.259	0.043	0.043	570,308	Yes	222,946
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21B**				***Sorted By:Remaining Life***		
LPFW21B-3P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21B-3N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21B-3P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21B-3P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21B-3P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21B-3P4	0.000	0.272	0.043	0.043	604,957	No	222,946
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21C**				***Sorted By:Remaining Life***		
LPFW21C-3P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-3N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21C-3P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21C-3P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21C-3P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21C-3P4	0.000	0.272	0.043	0.043	604,957	No	222,946
===>Grouped by Line:	**ES?-4-1STPT ES TO FWH 21A**				***Sorted By:Remaining Life***		
LPFW21A-4P1	0.000	0.257	0.043	0.043	234,949	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21A**					***Sorted By:Remaining Life***		
LPFW21A-4N	0.000	0.223	0.043	0.043	297,577	Yes	222,946
LPFW21A-4P5	0.000	0.244	0.043	0.043	420,914	Yes	222,946
LPFW21A-4P2	0.000	0.321	0.043	0.043	582,316	Yes	222,946
LPFW21A-4P3	0.000	0.237	0.043	0.043	582,948	Yes	222,946
LPFW21A-4P4	0.000	0.329	0.043	0.043	859,378	Yes	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21B**					***Sorted By:Remaining Life***		
LPFW21B-4P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21B-4N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21B-4P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-4P5	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-4P3	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21B-4P4	0.000	0.284	0.043	0.043	724,563	No	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21C**					***Sorted By:Remaining Life***		
LPFW21C-4P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-4N	0.000	0.210	0.043	0.043	276,038	No	222,946
LPFW21C-4P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-4P5	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-4P3	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21C-4P4	0.000	0.284	0.043	0.043	724,563	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.951

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21A**					***Sorted By:Flow Order***		
LPFW21A-1P1	0.000	0.297	0.043	0.043	279,020	No	222,946
LPFW21A-1P2	0.000	0.341	0.043	0.043	624,238	Yes	222,946
LPFW21A-1P3	0.000	0.260	0.043	0.043	652,056	Yes	222,946
LPFW21A-1P4	0.000	0.275	0.043	0.043	485,894	Yes	222,946
LPFW21A-1N	0.000	0.230	0.043	0.043	309,145	Yes	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21B**					***Sorted By:Flow Order***		
LPFW21B-1P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21B-1P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-1P3	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21B-1P4	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-1N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: **ES?-1-1STPT ES TO FWH 21C**					***Sorted By:Flow Order***		
LPFW21C-1P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-1P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-1P3	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21C-1P4	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-1N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21A**					***Sorted By:Flow Order***		
LPFW21A-2P1	0.000	0.317	0.043	0.043	301,056	Yes	222,946
LPFW21A-2P2	0.000	0.328	0.043	0.043	435,639	Yes	222,946
LPFW21A-2P3	0.000	0.351	0.051	0.051	538,580	Yes	222,946
LPFW21A-2P4	0.000	0.256	0.043	0.043	562,376	Yes	222,946
LPFW21A-2P5	0.000	0.248	0.043	0.043	367,025	Yes	222,946
LPFW21A-2N	0.000	0.252	0.043	0.043	345,501	Yes	222,946
===>Grouped by Line: **ES?-2-1STPT ES TO FWH 21B**					***Sorted By:Flow Order***		
LPFW21B-2P1	0.000	0.128	0.043	0.043	93,668	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: ES?-2-1STPT ES TO FWH 21B					Sorted By:Flow Order		
LPFW21B-2P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21B-2P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21B-2P4	0.000	0.272	0.043	0.043	604,957	No	222,946
LPFW21B-2P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21B-2N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: ES?-2-1STPT ES TO FWH 21C					Sorted By:Flow Order		
LPFW21C-2P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-2P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21C-2P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21C-2P4	0.000	0.272	0.043	0.043	604,957	No	222,946
LPFW21C-2P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21C-2N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: ES?-3-1STPT ES TO FWH 21A					Sorted By:Flow Order		
LPFW21A-3P1	0.000	0.275	0.043	0.043	254,781	No	222,946
LPFW21A-3P2	0.000	0.342	0.043	0.043	457,065	Yes	222,946
LPFW21A-3P3	0.000	0.249	0.051	0.051	355,490	Yes	222,946
LPFW21A-3P4	0.000	0.259	0.043	0.043	570,308	Yes	222,946
LPFW21A-3P5	0.000	0.229	0.043	0.043	332,920	Yes	222,946
LPFW21A-3N	0.000	0.214	0.043	0.043	282,704	Yes	222,946
===>Grouped by Line: ES?-3-1STPT ES TO FWH 21B					Sorted By:Flow Order		
LPFW21B-3P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21B-3P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21B-3P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21B-3P4	0.000	0.272	0.043	0.043	604,957	No	222,946
LPFW21B-3P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21B-3N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: ES?-3-1STPT ES TO FWH 21C					Sorted By:Flow Order		
LPFW21C-3P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-3P2	0.000	0.298	0.043	0.043	390,282	No	222,946
LPFW21C-3P3	0.000	0.223	0.051	0.051	309,947	No	222,946
LPFW21C-3P4	0.000	0.272	0.043	0.043	604,957	No	222,946
LPFW21C-3P5	0.000	0.223	0.043	0.043	323,278	No	222,946
LPFW21C-3N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: ES?-4-1STPT ES TO FWH 21A					Sorted By:Flow Order		
LPFW21A-4P1	0.000	0.257	0.043	0.043	234,949	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21A**					***Sorted By:Flow Order***		
LPFW21A-4P2	0.000	0.321	0.043	0.043	582,316	Yes	222,946
LPFW21A-4P3	0.000	0.237	0.043	0.043	582,948	Yes	222,946
LPFW21A-4P4	0.000	0.329	0.043	0.043	859,378	Yes	222,946
LPFW21A-4P5	0.000	0.244	0.043	0.043	420,914	Yes	222,946
LPFW21A-4N	0.000	0.223	0.043	0.043	297,577	Yes	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21B**					***Sorted By:Flow Order***		
LPFW21B-4P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21B-4P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-4P3	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21B-4P4	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21B-4P5	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21B-4N	0.000	0.210	0.043	0.043	276,038	No	222,946
===>Grouped by Line: **ES?-4-1STPT ES TO FWH 21C**					***Sorted By:Flow Order***		
LPFW21C-4P1	0.000	0.128	0.043	0.043	93,668	No	222,946
LPFW21C-4P2	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-4P3	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21C-4P4	0.000	0.284	0.043	0.043	724,563	No	222,946
LPFW21C-4P5	0.000	0.245	0.043	0.043	423,083	No	222,946
LPFW21C-4N	0.000	0.210	0.043	0.043	276,038	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

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Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: 1ST POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.951

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:	**ES?-1-1STPT ES TO FWH 21A**											***Sorted By: Flow Order***
LPFW21A-1P2	0.000	116.0	47.0	116.0	47.0	0.355	GW	193,769	259.0	355.0	13.9	193,769
LPFW21A-1P3	0.000	80.9	119.0	80.9	119.0	0.270	GW	193,769	294.1	270.0	9.7	193,769
LPFW21A-1P4	0.000	116.0	112.0	116.0	112.0	0.289	GW	193,769	259.0	289.0	13.9	193,769
LPFW21A-1N	0.000	147.0	159.0	147.0	159.0	0.248	MT	193,769	228.0	248.0	17.7	193,769
===>Grouped by Line:	**ES?-2-1STPT ES TO FWH 21A**											***Sorted By: Flow Order***
LPFW21A-2P1	0.000	220.2	60.0	220.2	60.0	0.343	GW	193,769	154.8	343.0	26.5	193,769
LPFW21A-2P2	0.000	57.6	36.0	57.6	36.0	0.347	GW	193,769	317.4	347.0	19.1	193,769
LPFW21A-2P3	0.000	135.4	31.0	135.4	31.0	0.367	GW	193,769	239.6	367.0	16.3	193,769
LPFW21A-2P4	0.000	91.9	127.0	91.9	127.0	0.267	GW	193,769	283.1	267.0	11.0	193,769
LPFW21A-2P5	0.000	135.4	121.0	135.4	121.0	0.264	GW	193,769	239.6	264.0	16.3	193,769
LPFW21A-2N	0.000	147.0	135.0	147.0	135.0	0.270	GW	193,769	228.0	270.0	17.7	193,769
===>Grouped by Line:	**ES?-3-1STPT ES TO FWH 21A**											***Sorted By: Flow Order***
LPFW21A-3P2	0.000	57.6	40.0	57.6	40.0	0.361	GW	193,769	317.4	361.0	19.1	193,769
LPFW21A-3P3	0.000	135.4	140.0	135.4	140.0	0.265	GW	193,769	239.6	265.0	16.3	193,769
LPFW21A-3P4	0.000	91.9	140.0	91.9	140.0	0.270	GW	193,769	283.1	270.0	11.0	193,769
LPFW21A-3P5	0.000	135.4	168.0	135.4	168.0	0.245	GW	193,769	239.6	245.0	16.3	193,769
LPFW21A-3N	0.000	147.0	175.0	147.0	175.0	0.232	GW	193,769	228.0	232.0	17.7	193,769
===>Grouped by Line:	**ES?-4-1STPT ES TO FWH 21A**											***Sorted By: Flow Order***
LPFW21A-4P2	0.000	116.0	72.0	116.0	72.0	0.335	GW	193,769	259.0	335.0	13.9	193,769
LPFW21A-4P3	0.000	80.9	163.0	80.9	163.0	0.247	GW	193,769	294.1	247.0	9.7	193,769
LPFW21A-4P4	0.000	80.9	71.0	80.9	71.0	0.339	GW	193,769	294.1	339.0	9.7	193,769
LPFW21A-4P5	0.000	116.0	155.0	116.0	155.0	0.258	GW	193,769	259.0	258.0	13.9	193,769
LPFW21A-4N	0.000	147.0	205.0	147.0	205.0	0.241	GW	193,769	228.0	241.0	17.7	193,769

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:18:33PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.792

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22A***								***Sorted By: Average Wear Rate***		
LPFW22A-1P1	31	0.040	0.040	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P5	1	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P3	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P4	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22B***								***Sorted By: Average Wear Rate***		
LPFW22B-1P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P5	1	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P3	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P4	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22C***								***Sorted By: Average Wear Rate***		
LPFW22C-1P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1E	2	0.020	0.020	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1P4	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1P2	52	0.014	0.014	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1P3	52	0.014	0.014	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22A***								***Sorted By: Average Wear Rate***		
LPFW22A-2P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-2N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-2P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22B***								***Sorted By: Average Wear Rate***		
LPFW22B-2P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-2N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	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:	***ES?-2-2NDPT ES TO FWH 22B***								***Sorted By: Average Wear Rate***		
LPFW22B-2P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-2P3	53	0.015	0.015	211.5	212.492	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22C***								***Sorted By: Average Wear Rate***		
LPFW22C-2P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-2N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-2P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:18:33PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.792

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22A***									***Sorted By: Flow Order***	
LPFW22A-1P1	31	0.040	0.040	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P3	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P4	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1P5	1	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-1N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22B***									***Sorted By: Flow Order***	
LPFW22B-1P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P3	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P4	53	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1P5	1	0.017	0.017	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-1N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-1-2NDPT ES TO FWH 22C***									***Sorted By: Flow Order***	
LPFW22C-1P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1E	2	0.020	0.020	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1P2	52	0.014	0.014	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1P3	52	0.014	0.014	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1P4	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-1N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22A***									***Sorted By: Flow Order***	
LPFW22A-2P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-2P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22A-2N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22B***									***Sorted By: Flow Order***	
LPFW22B-2P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-2P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	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:	***ES?-2-2NDPT ES TO FWH 22B***									***Sorted By: Flow Order***	
LPFW22B-2P3	53	0.015	0.015	211.5	212.492	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22B-2N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
===>Grouped by Line:	***ES?-2-2NDPT ES TO FWH 22C***									***Sorted By: Flow Order***	
LPFW22C-2P1	31	0.033	0.033	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-2P2	3	0.019	0.019	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD
LPFW22C-2N	30	0.022	0.022	211.5	183.157	78.0	22.000	7.146	0.000	49.76	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:18:33PM

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.792

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22A**					***Sorted By:Remaining Life***		
LPFW22A-1P1	0.000	0.375	0.037	0.037	74,457,488	No	13,140
LPFW22A-1N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
LPFW22A-1P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22A-1P5	0.000	0.375	0.037	0.037	169,608,720	No	13,140
LPFW22A-1P4	0.000	0.375	0.037	0.037	178,305,664	No	13,140
LPFW22A-1P3	0.000	0.375	0.037	0.037	178,305,664	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22B**					***Sorted By:Remaining Life***		
LPFW22B-1P1	0.000	0.375	0.037	0.037	89,146,256	No	13,140
LPFW22B-1N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
LPFW22B-1P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22B-1P5	0.000	0.375	0.037	0.037	169,608,720	No	13,140
LPFW22B-1P3	0.000	0.375	0.037	0.037	178,305,664	No	13,140
LPFW22B-1P4	0.000	0.375	0.037	0.037	178,305,664	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22C**					***Sorted By:Remaining Life***		
LPFW22C-1P1	0.000	0.375	0.037	0.037	89,130,224	No	29,177
LPFW22C-1N	0.000	0.375	0.037	0.037	133,699,576	No	29,177
LPFW22C-1E	0.000	0.375	0.037	0.037	145,225,696	No	29,177
LPFW22C-1P4	0.000	0.375	0.037	0.037	159,900,000	No	29,177
LPFW22C-1P2	0.000	0.375	0.037	0.037	213,936,832	No	29,177
LPFW22C-1P3	0.000	0.375	0.037	0.037	213,936,832	No	29,177
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22A**					***Sorted By:Remaining Life***		
LPFW22A-2P1	0.000	0.375	0.037	0.037	89,146,256	No	13,140
LPFW22A-2N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
LPFW22A-2P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Remaining Life***		
LPFW22B-2P1	0.000	0.375	0.037	0.037	89,146,256	No	13,140

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Remaining Life***		
LPFW22B-2N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
LPFW22B-2P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22B-2P3	0.000	0.375	0.037	0.037	198,582,288	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22C**					***Sorted By:Remaining Life***		
LPFW22C-2P1	0.000	0.375	0.037	0.037	89,130,224	No	29,177
LPFW22C-2N	0.000	0.375	0.037	0.037	133,699,576	No	29,177
LPFW22C-2P2	0.000	0.375	0.037	0.037	159,900,000	No	29,177

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.792

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22A**					***Sorted By:Flow Order***		
LPFW22A-1P1	0.000	0.375	0.037	0.037	74,457,488	No	13,140
LPFW22A-1P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22A-1P3	0.000	0.375	0.037	0.037	178,305,664	No	13,140
LPFW22A-1P4	0.000	0.375	0.037	0.037	178,305,664	No	13,140
LPFW22A-1P5	0.000	0.375	0.037	0.037	169,608,720	No	13,140
LPFW22A-1N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22B**					***Sorted By:Flow Order***		
LPFW22B-1P1	0.000	0.375	0.037	0.037	89,146,256	No	13,140
LPFW22B-1P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22B-1P3	0.000	0.375	0.037	0.037	178,305,664	No	13,140
LPFW22B-1P4	0.000	0.375	0.037	0.037	178,305,664	No	13,140
LPFW22B-1P5	0.000	0.375	0.037	0.037	169,608,720	No	13,140
LPFW22B-1N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
===>Grouped by Line: **ES?-1-2NDPT ES TO FWH 22C**					***Sorted By:Flow Order***		
LPFW22C-1P1	0.000	0.375	0.037	0.037	89,130,224	No	29,177
LPFW22C-1E	0.000	0.375	0.037	0.037	145,225,696	No	29,177
LPFW22C-1P2	0.000	0.375	0.037	0.037	213,936,832	No	29,177
LPFW22C-1P3	0.000	0.375	0.037	0.037	213,936,832	No	29,177
LPFW22C-1P4	0.000	0.375	0.037	0.037	159,900,000	No	29,177
LPFW22C-1N	0.000	0.375	0.037	0.037	133,699,576	No	29,177
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22A**					***Sorted By:Flow Order***		
LPFW22A-2P1	0.000	0.375	0.037	0.037	89,146,256	No	13,140
LPFW22A-2P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22A-2N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Flow Order***		
LPFW22B-2P1	0.000	0.375	0.037	0.037	89,146,256	No	13,140

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22B**					***Sorted By:Flow Order***		
LPFW22B-2P2	0.000	0.375	0.037	0.037	159,916,032	No	13,140
LPFW22B-2P3	0.000	0.375	0.037	0.037	198,582,288	No	13,140
LPFW22B-2N	0.000	0.375	0.037	0.037	133,715,616	No	13,140
===>Grouped by Line: **ES?-2-2NDPT ES TO FWH 22C**					***Sorted By:Flow Order***		
LPFW22C-2P1	0.000	0.375	0.037	0.037	89,130,224	No	29,177
LPFW22C-2P2	0.000	0.375	0.037	0.037	159,900,000	No	29,177
LPFW22C-2N	0.000	0.375	0.037	0.037	133,699,576	No	29,177

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: 2ND POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.792

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:	**ES?-1-2NDPT ES TO FWH 22A**										***Sorted By: Flow Order***	
LPFW22A-1P1	0.000	358.4	161.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.1	0
LPFW22A-1P2	0.000	199.9	263.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22A-1P3	0.000	179.2	271.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22A-1P4	0.000	179.2	283.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22A-1P5	0.000	188.4	223.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22A-1N	0.000	239.0	239.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
===>Grouped by Line:	**ES?-1-2NDPT ES TO FWH 22B**										***Sorted By: Flow Order***	
LPFW22B-1P1	0.000	358.4	177.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-1P2	0.000	199.9	211.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-1P3	0.000	179.2	166.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-1P4	0.000	179.2	266.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-1P5	0.000	188.4	221.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-1N	0.000	239.0	176.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
===>Grouped by Line:	**ES?-1-2NDPT ES TO FWH 22C**										***Sorted By: Flow Order***	
LPFW22C-1N	0.000	239.0	201.0	0.0	0.0	0.375	ER	193,769	375.0	375.0	0.1	0
===>Grouped by Line:	**ES?-2-2NDPT ES TO FWH 22A**										***Sorted By: Flow Order***	
LPFW22A-2P1	0.000	358.4	217.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22A-2P2	0.000	199.9	248.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22A-2N	0.000	239.0	185.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
===>Grouped by Line:	**ES?-2-2NDPT ES TO FWH 22B**										***Sorted By: Flow Order***	
LPFW22B-2P1	0.000	358.4	102.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-2P2	0.000	199.9	214.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-2P3	0.000	69.7	93.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	0
LPFW22B-2N	0.000	239.0	185.0	0.0	0.0	0.375	ER	209,806	375.0	375.0	0.0	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:	**ES?-2-2NDPT ES TO FWH 22C**										***Sorted By: Flow Order***	
LPFW22C-2N	0.000	239.0	125.0	0.0	0.0	0.375	ER	193,769	375.0	375.0	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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 3:14:19PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.823

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES1-1-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-18N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-15 (BR/SE)	10	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-16	2	6.631	2.960	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-15 (D/S)	10	6.615	3.157	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-18	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-17	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-17P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-18X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-16P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-15P	60	2.397	1.143	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-2-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-22N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-19	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-22	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-21	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-20	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-21P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-20P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-22X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-19P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-3-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-14 (D/S)	12	12.130	5.453	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-VALVE 3EX-2	25	8.880	3.992	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14	12	8.647	4.128	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-9	4	7.298	3.282	261.1	6.822	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-8	4	7.295	3.280	261.1	6.884	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14 (BR/SE)	12	7.283	3.251	261.1	8.129	92.3	20.000	7.282	0.000	102.83	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:	***ES1-3-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-8P	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-7P	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-10	2	6.786	3.051	261.1	6.808	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-VALVE 3EX-1	22	6.726	3.022	261.1	14.172	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-12P	58	3.253	1.462	261.1	6.548	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-13P	58	3.252	1.462	261.1	6.563	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-9P	52	2.354	1.118	261.1	15.783	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14P US	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14P DS	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14P DS1	62	2.215	0.996	261.1	6.696	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4	14	0.028	0.025	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4 (D/S)	14	0.021	0.019	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-7	2	0.013	0.012	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-6	2	0.013	0.012	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-5	4	0.013	0.012	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4P US	54	0.012	0.011	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4 (BR/SE)	14	0.009	0.008	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-6P DS	52	0.008	0.007	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-5P	52	0.004	0.004	261.1	15.708	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-4-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-1N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-1	2	0.012	0.011	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-1P	64	0.005	0.005	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-1A	64	0.005	0.005	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-5-3RDPT ES to FWH 23A***								***Sorted By: Average Wear Rate***		
3EXA-2N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2A	54	6.153	2.753	261.1	9.132	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2P	54	4.986	2.825	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-3	4	4.744	2.686	261.1	8.847	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-11RP	67	2.519	2.091	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-11R (D/S)	7	0.011	0.010	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-11R	7	0.008	0.008	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-1-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-14N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-11 (BR/SE)	10	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	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:	***ES2-1-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-12	2	6.631	2.960	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-11 (D/S)	10	6.615	3.157	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-14	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-13	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-13P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-14X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-12P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-11P	60	2.397	1.143	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-2-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-18N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-15	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-18	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-17	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-16	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-17P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-16P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-18X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-15P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-3-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-4	14	14.240	6.401	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10 (D/S)	12	12.130	5.453	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4 (D/S)	14	10.159	4.850	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-VALVE 3EX-4	25	8.880	3.992	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10	12	8.647	4.128	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10 (BR/SE)	12	7.283	3.251	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-4A DS	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4A US	54	7.097	3.191	261.1	6.515	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-6	2	6.812	3.062	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-5	4	6.785	3.051	261.1	6.812	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-9	2	6.783	3.051	261.1	6.832	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-VALVE 3EX-3	22	6.726	3.022	261.1	14.172	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-8	3	6.166	2.772	261.1	6.776	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-7	1	5.834	2.622	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4 (BR/SE)	14	4.688	2.092	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-6P DS	51	4.065	1.828	261.1	6.548	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-6P US	51	4.063	1.827	261.1	6.588	92.3	28.000	7.282	0.000	102.83	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:	***ES2-3-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-9A	58	3.257	1.464	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-9P	58	3.254	1.463	261.1	6.532	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-7P	53	2.819	1.338	261.1	15.730	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-5P	52	2.357	1.119	261.1	15.806	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10P US	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10P DS1	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10P DS	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-4-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-1N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-1	2	6.033	2.696	261.1	8.733	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-4P US	64	2.629	1.175	261.1	8.355	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-1A	64	2.624	1.173	261.1	8.407	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-5-3RDPT ES to FWH 23B***								***Sorted By: Average Wear Rate***		
3EXB-2N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2	2	5.923	2.649	261.1	9.328	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-3	2	4.692	2.658	261.1	9.204	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2A	52	4.027	1.801	261.1	8.958	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2P DS	52	3.247	1.840	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2P US	52	3.165	1.794	261.1	9.088	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-3P US	57	2.700	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-3P DS	57	2.700	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-10R (D/S)	7	0.010	0.010	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-10R	7	0.008	0.008	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-1-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-18N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-15 (BR/SE)	10	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-16	2	6.631	2.960	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-15 (D/S)	10	6.615	3.157	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-18	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-17	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-17P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-18X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-16P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-15P	60	2.397	1.143	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-2-3RDPT ES to FWH 23C***								***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:	***ES3-2-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-22N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-19	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-22	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-21	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-20	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-21P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-20P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-22X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-19P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-3-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-4	14	14.240	6.401	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14 (D/S)	12	12.130	5.453	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-4 (D/S)	14	10.159	4.850	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-VALVE 3EX-6	25	8.880	3.992	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14	12	8.647	4.128	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-8	4	7.329	3.294	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-9	4	7.298	3.282	261.1	6.826	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14 (BR/SE)	12	7.283	3.251	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-8P	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-7P	54	7.102	3.193	261.1	6.466	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-7	2	6.812	3.062	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-5	2	6.812	3.062	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-10	2	6.784	3.051	261.1	6.816	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-6	2	6.778	3.048	261.1	6.913	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-VALVE 3EX-5	22	6.726	3.022	261.1	14.172	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-4 (BR/SE)	14	4.688	2.092	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-4P	52	4.625	2.079	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-6P	52	4.617	2.076	261.1	6.588	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-VALVE PCV-1161	23	4.504	2.027	261.1	15.684	92.3	24.000	7.282	0.000	102.83	HBD
3EXC-13P	58	3.257	1.464	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-9P	52	2.358	1.120	261.1	15.827	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-5P	52	2.347	1.114	261.1	15.708	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14P US	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14P DS	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14P DS1	62	2.210	0.994	261.1	6.905	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-13R	7	0.003	0.002	261.1	6.461	92.3	28.000	7.282	0.000	102.83	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:	***ES3-3-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-13R (D/S)	7	0.003	0.002	261.1	15.684	92.3	24.000	7.282	0.000	102.83	HBD
3EXC-12R (D/S)	18	0.002	0.002	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-12R	18	0.002	0.002	261.1	15.684	92.3	24.000	7.282	0.000	102.83	HBD
3EXC-12P	68	0.002	0.002	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-4-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-1N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-1	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-1A	64	2.634	1.178	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-4P-1 US	64	2.626	1.174	261.1	8.380	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-5-3RDPT ES to FWH 23C***								***Sorted By: Average Wear Rate***		
3EXC-2N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-11R (D/S)	7	5.570	2.486	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2P	54	4.986	2.825	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2A	54	4.882	2.768	261.1	8.940	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-3	4	4.862	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-11R	7	4.091	1.953	261.1	0.359	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-3P	57	2.700	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 3:14:19PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.823

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES1-1-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-18N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-18X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-18	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-17	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-17P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-16	2	6.631	2.960	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-16P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-15 (BR/SE)	10	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-15 (D/S)	10	6.615	3.157	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-15P	60	2.397	1.143	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-2-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-22N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-22X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-22	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-21	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-21P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-20	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-20P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-19	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-19P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-3-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-14	12	8.647	4.128	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14 (BR/SE)	12	7.283	3.251	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-14 (D/S)	12	12.130	5.453	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14P US	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14P DS1	62	2.215	0.996	261.1	6.696	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-14P DS	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	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:	***ES1-3-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-VALVE 3EX-1	22	6.726	3.022	261.1	14.172	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-13P	58	3.252	1.462	261.1	6.563	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-VALVE 3EX-2	25	8.880	3.992	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-12P	58	3.253	1.462	261.1	6.548	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-10	2	6.786	3.051	261.1	6.808	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-9P	52	2.354	1.118	261.1	15.783	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-9	4	7.298	3.282	261.1	6.822	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-8P	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-8	4	7.295	3.280	261.1	6.884	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-7P	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-7	2	0.013	0.012	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-6P DS	52	0.008	0.007	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-6	2	0.013	0.012	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-5P	52	0.004	0.004	261.1	15.708	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-5	4	0.013	0.012	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4P US	54	0.012	0.011	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4	14	0.028	0.025	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-4 (BR/SE)	14	0.009	0.008	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-4 (D/S)	14	0.021	0.019	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-4-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-1P	64	0.005	0.005	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-1A	64	0.005	0.005	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-1	2	0.012	0.011	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-1N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES1-5-3RDPT ES to FWH 23A***									***Sorted By: Flow Order***	
3EXA-11R	7	0.008	0.008	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXA-11R (D/S)	7	0.011	0.010	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-11RP	67	2.519	2.091	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-3	4	4.744	2.686	261.1	8.847	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2P	54	4.986	2.825	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2A	54	6.153	2.753	261.1	9.132	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXA-2N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-1-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-14N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-14X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	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:	***ES2-1-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-14	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-13	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-13P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-12	2	6.631	2.960	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-12P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-11 (BR/SE)	10	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-11 (D/S)	10	6.615	3.157	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-11P	60	2.397	1.143	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-2-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-18N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-18X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-18	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-17	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-17P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-16	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-16P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-15	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-15P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-3-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-10	12	8.647	4.128	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10 (BR/SE)	12	7.283	3.251	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-10 (D/S)	12	12.130	5.453	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10P US	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10P DS1	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10P DS	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-VALVE 3EX-3	22	6.726	3.022	261.1	14.172	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-9P	58	3.254	1.463	261.1	6.532	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-VALVE 3EX-4	25	8.880	3.992	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-9A	58	3.257	1.464	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-9	2	6.783	3.051	261.1	6.832	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-8	3	6.166	2.772	261.1	6.776	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-7P	53	2.819	1.338	261.1	15.730	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-7	1	5.834	2.622	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-6P US	51	4.063	1.827	261.1	6.588	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-6P DS	51	4.065	1.828	261.1	6.548	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-6	2	6.812	3.062	261.1	6.461	92.3	28.000	7.282	0.000	102.83	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:	***ES2-3-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-5P	52	2.357	1.119	261.1	15.806	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-5	4	6.785	3.051	261.1	6.812	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4A US	54	7.097	3.191	261.1	6.515	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4A DS	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4	14	14.240	6.401	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-4 (BR/SE)	14	4.688	2.092	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-4 (D/S)	14	10.159	4.850	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-4-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-4P US	64	2.629	1.175	261.1	8.355	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-1A	64	2.624	1.173	261.1	8.407	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-1	2	6.033	2.696	261.1	8.733	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-1N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES2-5-3RDPT ES to FWH 23B***									***Sorted By: Flow Order***	
3EXB-10R	7	0.008	0.008	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXB-10R (D/S)	7	0.010	0.010	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-3P US	57	2.700	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-3P DS	57	2.700	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-3	2	4.692	2.658	261.1	9.204	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2P US	52	3.165	1.794	261.1	9.088	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2P DS	52	3.247	1.840	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2A	52	4.027	1.801	261.1	8.958	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2	2	5.923	2.649	261.1	9.328	92.3	20.000	7.282	0.000	102.83	HBD
3EXB-2N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-1-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-18N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-18X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-18	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-17	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-17P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-16	2	6.631	2.960	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-16P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-15 (BR/SE)	10	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-15 (D/S)	10	6.615	3.157	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-15P	60	2.397	1.143	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-2-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-22N	31	10.041	4.482	261.1	8.129	92.3	20.000	7.282	0.000	102.83	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:	***ES3-2-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-22X	6	3.351	1.591	261.1	19.167	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-22	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-21	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-21P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-20	3	5.598	2.499	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-20P	53	5.021	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-19	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-19P	52	2.445	1.161	261.1	15.526	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-3-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-14	12	8.647	4.128	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14 (BR/SE)	12	7.283	3.251	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-14 (D/S)	12	12.130	5.453	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14P US	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14P DS1	62	2.210	0.994	261.1	6.905	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-14P DS	62	2.221	0.999	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-VALVE 3EX-5	22	6.726	3.022	261.1	14.172	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-13P	58	3.257	1.464	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-VALVE 3EX-6	25	8.880	3.992	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-13R	7	0.003	0.002	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-13R (D/S)	7	0.003	0.002	261.1	15.684	92.3	24.000	7.282	0.000	102.83	HBD
3EXC-VALVE PCV-1161	23	4.504	2.027	261.1	15.684	92.3	24.000	7.282	0.000	102.83	HBD
3EXC-12R	18	0.002	0.002	261.1	15.684	92.3	24.000	7.282	0.000	102.83	HBD
3EXC-12R (D/S)	18	0.002	0.002	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-12P	68	0.002	0.002	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-10	2	6.784	3.051	261.1	6.816	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-9P	52	2.358	1.120	261.1	15.827	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-9	4	7.298	3.282	261.1	6.826	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-8P	54	7.102	3.193	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-8	4	7.329	3.294	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-7P	54	7.102	3.193	261.1	6.466	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-7	2	6.812	3.062	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-6P	52	4.617	2.076	261.1	6.588	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-6	2	6.778	3.048	261.1	6.913	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-5P	52	2.347	1.114	261.1	15.708	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-5	2	6.812	3.062	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-4P	52	4.625	2.079	261.1	6.461	92.3	28.000	7.282	0.000	102.83	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:	***ES3-3-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-4	14	14.240	6.401	261.1	6.461	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-4 (BR/SE)	14	4.688	2.092	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-4 (D/S)	14	10.159	4.850	261.1	0.357	92.3	28.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-4-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-4P-1 US	64	2.626	1.174	261.1	8.380	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-1A	64	2.634	1.178	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-1	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-1N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
===>Grouped by Line:	***ES3-5-3RDPT ES to FWH 23C***									***Sorted By: Flow Order***	
3EXC-11R	7	4.091	1.953	261.1	0.359	92.3	28.000	7.282	0.000	102.83	HBD
3EXC-11R (D/S)	7	5.570	2.486	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-3P	57	2.700	2.241	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-3	4	4.862	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2P	54	4.986	2.825	261.1	8.294	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2A	54	4.882	2.768	261.1	8.940	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2	2	6.164	2.751	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD
3EXC-2N	30	6.695	2.988	261.1	8.129	92.3	20.000	7.282	0.000	102.83	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 3:14:19PM

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.823

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES1-1-3RDPT ES to FWH 23A**					***Sorted By:Remaining Life***		
3EXA-18N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXA-15 (BR/SE)	0.000	0.080	0.036	0.036	127,300	No	222,946
3EXA-16	0.000	0.081	0.033	0.033	141,896	No	222,946
3EXA-15 (D/S)	0.000	0.144	0.051	0.051	259,426	No	222,946
3EXA-17	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-18	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-17P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXA-18X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXA-16P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
3EXA-15P	0.000	0.252	0.051	0.051	1,538,828	No	222,946
===>Grouped by Line: **ES1-2-3RDPT ES to FWH 23A**					***Sorted By:Remaining Life***		
3EXA-22N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXA-19	0.000	0.093	0.033	0.033	190,528	No	222,946
3EXA-22	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-21	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-20	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-21P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXA-20P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXA-22X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXA-19P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
===>Grouped by Line: **ES1-3-3RDPT ES to FWH 23A**					***Sorted By:Remaining Life***		
3EXA-14 (D/S)	0.000	0.004	0.051	0.051	-65,769	No	222,946
3EXA-14 (BR/SE)	0.000	0.065	0.036	0.036	76,705	No	222,946
3EXA-VALVE 3EX-2	0.000	0.087	0.050	0.050	80,268	No	222,946
3EXA-14	0.000	0.092	0.051	0.051	88,645	No	222,946
3EXA-VALVE 3EX-1	0.000	0.141	0.050	0.050	264,853	No	222,946
3EXA-10	0.413	0.172	0.047	0.047	358,765	Yes	222,946
3EXA-9	0.417	0.234	0.047	0.047	500,127	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES1-3-3RDPT ES to FWH 23A**				***Sorted By:Remaining Life***		
3EXA-8	0.434	0.269	0.047	0.047	595,003	Yes	222,946
3EXA-7P	0.000	0.293	0.051	0.051	665,964	No	222,946
3EXA-8P	0.000	0.303	0.051	0.051	693,568	No	222,946
3EXA-13P	0.342	0.239	0.051	0.051	1,126,667	Yes	222,946
3EXA-12P	0.338	0.267	0.051	0.051	1,297,705	Yes	222,946
3EXA-14P US	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXA-9P	0.345	0.301	0.051	0.051	1,964,855	Yes	222,946
3EXA-14P DS1	0.381	0.293	0.051	0.051	2,128,677	No	222,946
3EXA-14P DS	0.000	0.318	0.051	0.051	2,342,610	Yes	222,946
3EXA-4	0.000	0.312	0.047	0.047	92,229,536	No	57,833
3EXA-6P DS	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-5P	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-4 (BR/SE)	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-4 (D/S)	0.000	0.312	0.047	0.047	121,756,080	No	57,833
3EXA-7	0.000	0.312	0.047	0.047	192,860,464	No	57,833
3EXA-6	0.000	0.312	0.047	0.047	192,860,464	No	57,833
3EXA-5	0.000	0.312	0.047	0.047	192,860,464	No	57,833
3EXA-4P US	0.000	0.312	0.047	0.047	221,482,032	No	57,833
===>Grouped by Line:	**ES1-4-3RDPT ES to FWH 23A**				***Sorted By:Remaining Life***		
3EXA-1N	0.000	0.080	0.033	0.033	135,774	No	222,946
3EXA-1P	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1A	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1	0.000	0.250	0.033	0.033	174,958,256	No	57,833
===>Grouped by Line:	**ES1-5-3RDPT ES to FWH 23A**				***Sorted By:Remaining Life***		
3EXA-2N	0.000	0.080	0.033	0.033	135,774	No	222,946
3EXA-2	0.000	0.093	0.033	0.033	190,528	No	222,946
3EXA-2P	0.000	0.176	0.039	0.039	425,832	No	129,394
3EXA-11RP	0.000	0.225	0.039	0.039	779,813	No	86,338
3EXA-3	0.388	0.293	0.033	0.033	845,739	Yes	129,394
3EXA-2A	0.411	0.306	0.039	0.039	851,109	Yes	222,946
3EXA-11R	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-11R (D/S)	0.000	0.250	0.033	0.033	193,612,800	No	57,833
===>Grouped by Line:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-14N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXB-11 (BR/SE)	0.000	0.080	0.036	0.036	127,300	No	222,946
3EXB-12	0.000	0.081	0.033	0.033	141,896	No	222,946
3EXB-11 (D/S)	0.000	0.144	0.051	0.051	259,426	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES2-1-3RDPT ES to FWH 23B**					***Sorted By:Remaining Life***		
3EXB-14	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-13	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-13P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXB-14X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXB-12P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
3EXB-11P	0.000	0.252	0.051	0.051	1,538,828	No	222,946
===>Grouped by Line: **ES2-2-3RDPT ES to FWH 23B**					***Sorted By:Remaining Life***		
3EXB-18N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXB-15	0.000	0.093	0.033	0.033	190,528	No	222,946
3EXB-18	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-17	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-16	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-17P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXB-16P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXB-18X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXB-15P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
===>Grouped by Line: **ES2-3-3RDPT ES to FWH 23B**					***Sorted By:Remaining Life***		
3EXB-10 (D/S)	0.000	0.004	0.051	0.051	-65,769	No	222,946
3EXB-10 (BR/SE)	0.000	0.065	0.036	0.036	76,705	No	222,946
3EXB-VALVE 3EX-4	0.000	0.087	0.050	0.050	80,268	No	222,946
3EXB-10	0.000	0.092	0.051	0.051	88,645	No	222,946
3EXB-4A DS	0.000	0.132	0.051	0.051	222,500	No	222,946
3EXB-VALVE 3EX-3	0.000	0.141	0.050	0.050	264,853	No	222,946
3EXB-4	0.000	0.252	0.055	0.055	270,791	No	222,946
3EXB-4 (D/S)	0.000	0.262	0.055	0.055	375,351	No	222,946
3EXB-7	0.000	0.164	0.047	0.047	392,232	No	222,946
3EXB-9	0.420	0.247	0.047	0.047	576,608	Yes	222,946
3EXB-4A US	0.328	0.270	0.051	0.051	602,972	No	222,946
3EXB-5	0.414	0.261	0.047	0.047	616,714	Yes	222,946
3EXB-4 (BR/SE)	0.000	0.192	0.039	0.039	642,158	No	222,946
3EXB-8	0.403	0.262	0.047	0.047	681,727	Yes	222,946
3EXB-6	0.000	0.288	0.047	0.047	691,702	Yes	222,946
3EXB-9P	0.333	0.221	0.051	0.051	1,021,616	Yes	222,946
3EXB-6P DS	0.338	0.268	0.051	0.051	1,039,541	Yes	222,946
3EXB-9A	0.000	0.230	0.051	0.051	1,070,940	No	222,946
3EXB-6P US	0.349	0.298	0.051	0.051	1,186,916	Yes	222,946
3EXB-10P DS1	0.000	0.202	0.051	0.051	1,324,416	Yes	222,946
3EXB-7P	0.322	0.258	0.051	0.051	1,360,273	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES2-3-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-5P	0.355	0.232	0.051	0.051	1,421,720	Yes	222,946
3EXB-10P US	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXB-10P DS	0.000	0.287	0.051	0.051	2,070,126	Yes	222,946
===>Grouped by Line:	**ES2-4-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-1N	0.000	0.080	0.033	0.033	135,774	No	222,946
3EXB-1	0.367	0.213	0.033	0.033	585,374	No	222,946
3EXB-1A	0.272	0.180	0.039	0.039	1,055,206	Yes	222,946
3EXB-4P US	0.262	0.205	0.039	0.039	1,239,883	Yes	222,946
===>Grouped by Line:	**ES2-5-3RDPT ES to FWH 23B**				***Sorted By:Remaining Life***		
3EXB-2N	0.000	0.080	0.033	0.033	135,774	No	222,946
3EXB-2	0.477	0.234	0.033	0.033	662,435	Yes	222,946
3EXB-2P DS	0.000	0.202	0.039	0.039	776,342	No	129,394
3EXB-3	0.454	0.324	0.033	0.033	958,093	Yes	129,394
3EXB-3P DS	0.000	0.356	0.039	0.039	1,239,296	No	86,338
3EXB-3P US	0.000	0.358	0.039	0.039	1,248,874	No	86,338
3EXB-2A	0.378	0.309	0.033	0.033	1,342,003	Yes	222,946
3EXB-2P US	0.402	0.315	0.039	0.039	1,349,528	Yes	129,394
3EXB-10R	0.000	0.312	0.047	0.047	100,000,000	No	13,140
3EXB-10R (D/S)	0.000	0.250	0.033	0.033	193,664,256	No	13,140
===>Grouped by Line:	**ES3-1-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-18N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXC-15 (BR/SE)	0.000	0.080	0.036	0.036	127,300	No	222,946
3EXC-16	0.000	0.081	0.033	0.033	141,896	No	222,946
3EXC-15 (D/S)	0.000	0.144	0.051	0.051	259,426	No	222,946
3EXC-18	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-17	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-17P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXC-18X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXC-16P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
3EXC-15P	0.000	0.252	0.051	0.051	1,538,828	No	222,946
===>Grouped by Line:	**ES3-2-3RDPT ES to FWH 23C**				***Sorted By:Remaining Life***		
3EXC-21	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-20	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-22N	0.000	0.194	0.033	0.033	314,665	No	222,946
3EXC-21P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXC-20P	0.000	0.122	0.033	0.033	347,650	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **ES3-2-3RDPT ES to FWH 23C**					***Sorted By:Remaining Life***		
3EXC-22X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXC-22	0.000	0.249	0.033	0.033	757,123	No	222,946
3EXC-19	0.000	0.315	0.033	0.033	896,611	Yes	222,946
3EXC-19P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
===>*Grouped by Line:* **ES3-3-3RDPT ES to FWH 23C**					***Sorted By:Remaining Life***		
3EXC-VALVE 3EX-6	0.000	0.087	0.050	0.050	80,268	No	222,946
3EXC-14	0.000	0.092	0.051	0.051	88,645	Yes	222,946
3EXC-8	0.000	0.126	0.047	0.047	211,058	No	222,946
3EXC-8P	0.000	0.132	0.051	0.051	222,500	No	222,946
3EXC-4	0.000	0.245	0.055	0.055	260,363	No	222,946
3EXC-7	0.000	0.139	0.047	0.047	264,655	No	222,946
3EXC-VALVE 3EX-5	0.000	0.141	0.050	0.050	264,853	No	222,946
3EXC-4 (D/S)	0.000	0.266	0.055	0.055	381,714	No	222,946
3EXC-VALVE PCV-1161	0.000	0.135	0.043	0.043	400,169	No	222,946
3EXC-14 (D/S)	0.000	0.329	0.051	0.051	446,867	Yes	222,946
3EXC-9	0.418	0.259	0.047	0.047	567,840	Yes	222,946
3EXC-10	0.415	0.256	0.047	0.047	602,411	Yes	222,946
3EXC-4P	0.000	0.199	0.055	0.055	610,450	Yes	222,946
3EXC-6	0.443	0.270	0.047	0.047	643,268	Yes	222,946
3EXC-7P	0.314	0.286	0.051	0.051	646,346	Yes	222,946
3EXC-5	0.000	0.274	0.047	0.047	651,654	Yes	222,946
3EXC-14 (BR/SE)	0.000	0.288	0.036	0.036	678,952	No	222,946
3EXC-4 (BR/SE)	0.000	0.216	0.039	0.039	739,308	No	222,946
3EXC-6P	0.349	0.266	0.051	0.051	906,851	Yes	222,946
3EXC-13P	0.000	0.230	0.051	0.051	1,070,940	No	222,946
3EXC-5P	0.000	0.253	0.051	0.051	1,588,721	No	222,946
3EXC-14P US	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXC-14P DS	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXC-9P	0.364	0.292	0.051	0.051	1,889,414	Yes	222,946
3EXC-14P DS1	0.440	0.305	0.051	0.051	2,243,905	No	222,946
3EXC-13R	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-13R (D/S)	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-12R	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-12R (D/S)	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-12P	0.000	0.312	0.050	0.050	100,000,000	No	73,373
===>*Grouped by Line:* **ES3-4-3RDPT ES to FWH 23C**					***Sorted By:Remaining Life***		
3EXC-1N	0.000	0.308	0.033	0.033	806,745	No	222,946
3EXC-1	0.000	0.310	0.033	0.033	882,117	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES3-4-3RDPT ES to FWH 23C**					***Sorted By:Remaining Life***		
3EXC-1A	0.000	0.183	0.039	0.039	1,070,806	No	222,946
3EXC-4P-1 US	0.267	0.233	0.039	0.039	1,449,799	Yes	222,946
===>Grouped by Line: **ES3-5-3RDPT ES to FWH 23C**					***Sorted By:Remaining Life***		
3EXC-3	0.000	0.178	0.033	0.033	461,377	No	129,394
3EXC-2N	0.000	0.286	0.033	0.033	742,099	No	222,946
3EXC-2A	0.000	0.293	0.039	0.039	804,370	Yes	129,394
3EXC-2	0.000	0.294	0.033	0.033	828,844	Yes	222,946
3EXC-11R	0.319	0.238	0.047	0.047	858,812	Yes	222,946
3EXC-11R (D/S)	0.000	0.279	0.033	0.033	866,283	Yes	222,946
3EXC-2P	0.000	0.337	0.039	0.039	923,170	Yes	129,394
3EXC-3P	0.000	0.366	0.039	0.039	1,278,527	Yes	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.823

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES1-1-3RDPT ES to FWH 23A**					***Sorted By:Flow Order***		
3EXA-18N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXA-18X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXA-18	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-17	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-17P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXA-16	0.000	0.081	0.033	0.033	141,896	No	222,946
3EXA-16P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
3EXA-15 (BR/SE)	0.000	0.080	0.036	0.036	127,300	No	222,946
3EXA-15 (D/S)	0.000	0.144	0.051	0.051	259,426	No	222,946
3EXA-15P	0.000	0.252	0.051	0.051	1,538,828	No	222,946
===>Grouped by Line: **ES1-2-3RDPT ES to FWH 23A**					***Sorted By:Flow Order***		
3EXA-22N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXA-22X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXA-22	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-21	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-21P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXA-20	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXA-20P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXA-19	0.000	0.093	0.033	0.033	190,528	No	222,946
3EXA-19P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
===>Grouped by Line: **ES1-3-3RDPT ES to FWH 23A**					***Sorted By:Flow Order***		
3EXA-14	0.000	0.092	0.051	0.051	88,645	No	222,946
3EXA-14 (BR/SE)	0.000	0.065	0.036	0.036	76,705	No	222,946
3EXA-14 (D/S)	0.000	0.004	0.051	0.051	-65,769	No	222,946
3EXA-14P US	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXA-14P DS1	0.381	0.293	0.051	0.051	2,128,677	No	222,946
3EXA-14P DS	0.000	0.318	0.051	0.051	2,342,610	Yes	222,946
3EXA-VALVE 3EX-1	0.000	0.141	0.050	0.050	264,853	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES1-3-3RDPT ES to FWH 23A**				***Sorted By:Flow Order***		
3EXA-13P	0.342	0.239	0.051	0.051	1,126,667	Yes	222,946
3EXA-VALVE 3EX-2	0.000	0.087	0.050	0.050	80,268	No	222,946
3EXA-12P	0.338	0.267	0.051	0.051	1,297,705	Yes	222,946
3EXA-10	0.413	0.172	0.047	0.047	358,765	Yes	222,946
3EXA-9P	0.345	0.301	0.051	0.051	1,964,855	Yes	222,946
3EXA-9	0.417	0.234	0.047	0.047	500,127	Yes	222,946
3EXA-8P	0.000	0.303	0.051	0.051	693,568	No	222,946
3EXA-8	0.434	0.269	0.047	0.047	595,003	Yes	222,946
3EXA-7P	0.000	0.293	0.051	0.051	665,964	No	222,946
3EXA-7	0.000	0.312	0.047	0.047	192,860,464	No	57,833
3EXA-6P DS	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-6	0.000	0.312	0.047	0.047	192,860,464	No	57,833
3EXA-5P	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-5	0.000	0.312	0.047	0.047	192,860,464	No	57,833
3EXA-4P US	0.000	0.312	0.047	0.047	221,482,032	No	57,833
3EXA-4	0.000	0.312	0.047	0.047	92,229,536	No	57,833
3EXA-4 (BR/SE)	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-4 (D/S)	0.000	0.312	0.047	0.047	121,756,080	No	57,833
===>Grouped by Line:	**ES1-4-3RDPT ES to FWH 23A**				***Sorted By:Flow Order***		
3EXA-1P	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1A	0.000	0.250	0.033	0.033	100,000,000	No	57,833
3EXA-1	0.000	0.250	0.033	0.033	174,958,256	No	57,833
3EXA-1N	0.000	0.080	0.033	0.033	135,774	No	222,946
===>Grouped by Line:	**ES1-5-3RDPT ES to FWH 23A**				***Sorted By:Flow Order***		
3EXA-11R	0.000	0.312	0.047	0.047	100,000,000	No	57,833
3EXA-11R (D/S)	0.000	0.250	0.033	0.033	193,612,800	No	57,833
3EXA-11RP	0.000	0.225	0.039	0.039	779,813	No	86,338
3EXA-3	0.388	0.293	0.033	0.033	845,739	Yes	129,394
3EXA-2P	0.000	0.176	0.039	0.039	425,832	No	129,394
3EXA-2A	0.411	0.306	0.039	0.039	851,109	Yes	222,946
3EXA-2	0.000	0.093	0.033	0.033	190,528	No	222,946
3EXA-2N	0.000	0.080	0.033	0.033	135,774	No	222,946
===>Grouped by Line:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-14N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXB-14X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXB-14	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-13	0.000	0.108	0.033	0.033	260,229	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES2-1-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-13P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXB-12	0.000	0.081	0.033	0.033	141,896	No	222,946
3EXB-12P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
3EXB-11 (BR/SE)	0.000	0.080	0.036	0.036	127,300	No	222,946
3EXB-11 (D/S)	0.000	0.144	0.051	0.051	259,426	No	222,946
3EXB-11P	0.000	0.252	0.051	0.051	1,538,828	No	222,946
===>Grouped by Line:	**ES2-2-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-18N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXB-18X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXB-18	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-17	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-17P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXB-16	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXB-16P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXB-15	0.000	0.093	0.033	0.033	190,528	No	222,946
3EXB-15P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
===>Grouped by Line:	**ES2-3-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-10	0.000	0.092	0.051	0.051	88,645	No	222,946
3EXB-10 (BR/SE)	0.000	0.065	0.036	0.036	76,705	No	222,946
3EXB-10 (D/S)	0.000	0.004	0.051	0.051	-65,769	No	222,946
3EXB-10P US	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXB-10P DS1	0.000	0.202	0.051	0.051	1,324,416	Yes	222,946
3EXB-10P DS	0.000	0.287	0.051	0.051	2,070,126	Yes	222,946
3EXB-VALVE 3EX-3	0.000	0.141	0.050	0.050	264,853	No	222,946
3EXB-9P	0.333	0.221	0.051	0.051	1,021,616	Yes	222,946
3EXB-VALVE 3EX-4	0.000	0.087	0.050	0.050	80,268	No	222,946
3EXB-9A	0.000	0.230	0.051	0.051	1,070,940	No	222,946
3EXB-9	0.420	0.247	0.047	0.047	576,608	Yes	222,946
3EXB-8	0.403	0.262	0.047	0.047	681,727	Yes	222,946
3EXB-7P	0.322	0.258	0.051	0.051	1,360,273	Yes	222,946
3EXB-7	0.000	0.164	0.047	0.047	392,232	No	222,946
3EXB-6P US	0.349	0.298	0.051	0.051	1,186,916	Yes	222,946
3EXB-6P DS	0.338	0.268	0.051	0.051	1,039,541	Yes	222,946
3EXB-6	0.000	0.288	0.047	0.047	691,702	Yes	222,946
3EXB-5P	0.355	0.232	0.051	0.051	1,421,720	Yes	222,946
3EXB-5	0.414	0.261	0.047	0.047	616,714	Yes	222,946
3EXB-4A US	0.328	0.270	0.051	0.051	602,972	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES2-3-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-4A DS	0.000	0.132	0.051	0.051	222,500	No	222,946
3EXB-4	0.000	0.252	0.055	0.055	270,791	No	222,946
3EXB-4 (BR/SE)	0.000	0.192	0.039	0.039	642,158	No	222,946
3EXB-4 (D/S)	0.000	0.262	0.055	0.055	375,351	No	222,946
===>Grouped by Line:	**ES2-4-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-4P US	0.262	0.205	0.039	0.039	1,239,883	Yes	222,946
3EXB-1A	0.272	0.180	0.039	0.039	1,055,206	Yes	222,946
3EXB-1	0.367	0.213	0.033	0.033	585,374	No	222,946
3EXB-1N	0.000	0.080	0.033	0.033	135,774	No	222,946
===>Grouped by Line:	**ES2-5-3RDPT ES to FWH 23B**				***Sorted By:Flow Order***		
3EXB-10R	0.000	0.312	0.047	0.047	100,000,000	No	13,140
3EXB-10R (D/S)	0.000	0.250	0.033	0.033	193,664,256	No	13,140
3EXB-3P US	0.000	0.358	0.039	0.039	1,248,874	No	86,338
3EXB-3P DS	0.000	0.356	0.039	0.039	1,239,296	No	86,338
3EXB-3	0.454	0.324	0.033	0.033	958,093	Yes	129,394
3EXB-2P US	0.402	0.315	0.039	0.039	1,349,528	Yes	129,394
3EXB-2P DS	0.000	0.202	0.039	0.039	776,342	No	129,394
3EXB-2A	0.378	0.309	0.033	0.033	1,342,003	Yes	222,946
3EXB-2	0.477	0.234	0.033	0.033	662,435	Yes	222,946
3EXB-2N	0.000	0.080	0.033	0.033	135,774	No	222,946
===>Grouped by Line:	**ES3-1-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-18N	0.000	-0.006	0.033	0.033	-66,096	No	222,946
3EXC-18X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXC-18	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-17	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-17P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXC-16	0.000	0.081	0.033	0.033	141,896	No	222,946
3EXC-16P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
3EXC-15 (BR/SE)	0.000	0.080	0.036	0.036	127,300	No	222,946
3EXC-15 (D/S)	0.000	0.144	0.051	0.051	259,426	No	222,946
3EXC-15P	0.000	0.252	0.051	0.051	1,538,828	No	222,946
===>Grouped by Line:	**ES3-2-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-22N	0.000	0.194	0.033	0.033	314,665	No	222,946
3EXC-22X	0.000	0.165	0.033	0.033	723,572	No	222,946
3EXC-22	0.000	0.249	0.033	0.033	757,123	No	222,946
3EXC-21	0.000	0.108	0.033	0.033	260,229	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES3-2-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-21P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXC-20	0.000	0.108	0.033	0.033	260,229	No	222,946
3EXC-20P	0.000	0.122	0.033	0.033	347,650	No	222,946
3EXC-19	0.000	0.315	0.033	0.033	896,611	Yes	222,946
3EXC-19P	0.000	0.188	0.033	0.033	1,165,572	No	222,946
===>Grouped by Line:	**ES3-3-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		
3EXC-14	0.000	0.092	0.051	0.051	88,645	Yes	222,946
3EXC-14 (BR/SE)	0.000	0.288	0.036	0.036	678,952	No	222,946
3EXC-14 (D/S)	0.000	0.329	0.051	0.051	446,867	Yes	222,946
3EXC-14P US	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXC-14P DS1	0.440	0.305	0.051	0.051	2,243,905	No	222,946
3EXC-14P DS	0.000	0.256	0.051	0.051	1,801,221	No	222,946
3EXC-VALVE 3EX-5	0.000	0.141	0.050	0.050	264,853	No	222,946
3EXC-13P	0.000	0.230	0.051	0.051	1,070,940	No	222,946
3EXC-VALVE 3EX-6	0.000	0.087	0.050	0.050	80,268	No	222,946
3EXC-13R	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-13R (D/S)	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-VALVE PCV-1161	0.000	0.135	0.043	0.043	400,169	No	222,946
3EXC-12R	0.000	0.250	0.043	0.043	100,000,000	No	73,373
3EXC-12R (D/S)	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-12P	0.000	0.312	0.050	0.050	100,000,000	No	73,373
3EXC-10	0.415	0.256	0.047	0.047	602,411	Yes	222,946
3EXC-9P	0.364	0.292	0.051	0.051	1,889,414	Yes	222,946
3EXC-9	0.418	0.259	0.047	0.047	567,840	Yes	222,946
3EXC-8P	0.000	0.132	0.051	0.051	222,500	No	222,946
3EXC-8	0.000	0.126	0.047	0.047	211,058	No	222,946
3EXC-7P	0.314	0.286	0.051	0.051	646,346	Yes	222,946
3EXC-7	0.000	0.139	0.047	0.047	264,655	No	222,946
3EXC-6P	0.349	0.266	0.051	0.051	906,851	Yes	222,946
3EXC-6	0.443	0.270	0.047	0.047	643,268	Yes	222,946
3EXC-5P	0.000	0.253	0.051	0.051	1,588,721	No	222,946
3EXC-5	0.000	0.274	0.047	0.047	651,654	Yes	222,946
3EXC-4P	0.000	0.199	0.055	0.055	610,450	Yes	222,946
3EXC-4	0.000	0.245	0.055	0.055	260,363	No	222,946
3EXC-4 (BR/SE)	0.000	0.216	0.039	0.039	739,308	No	222,946
3EXC-4 (D/S)	0.000	0.266	0.055	0.055	381,714	No	222,946
===>Grouped by Line:	**ES3-4-3RDPT ES to FWH 23C**				***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES3-4-3RDPT ES to FWH 23C**					***Sorted By:Flow Order***		
3EXC-4P-1 US	0.267	0.233	0.039	0.039	1,449,799	Yes	222,946
3EXC-1A	0.000	0.183	0.039	0.039	1,070,806	No	222,946
3EXC-1	0.000	0.310	0.033	0.033	882,117	Yes	222,946
3EXC-1N	0.000	0.308	0.033	0.033	806,745	No	222,946
===>Grouped by Line: **ES3-5-3RDPT ES to FWH 23C**					***Sorted By:Flow Order***		
3EXC-11R	0.319	0.238	0.047	0.047	858,812	Yes	222,946
3EXC-11R (D/S)	0.000	0.279	0.033	0.033	866,283	Yes	222,946
3EXC-3P	0.000	0.366	0.039	0.039	1,278,527	Yes	86,338
3EXC-3	0.000	0.178	0.033	0.033	461,377	No	129,394
3EXC-2P	0.000	0.337	0.039	0.039	923,170	Yes	129,394
3EXC-2A	0.000	0.293	0.039	0.039	804,370	Yes	129,394
3EXC-2	0.000	0.294	0.033	0.033	828,844	Yes	222,946
3EXC-2N	0.000	0.286	0.033	0.033	742,099	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

6

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: 3RD POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.823

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:	**ES1-3-3RDPT ES to FWH 23A**											***Sorted By: Flow Order***
3EXA-14P DS	0.000	53.2	28.0	53.2	28.0	0.321	MT	193,769	259.3	321.0	3.3	193,769
3EXA-13P	0.342	68.5	81.0	68.5	81.0	0.253		149,573	273.5	253.0	14.3	149,573
3EXA-12P	0.338	57.1	45.0	57.1	45.0	0.293	MT	119,088	280.9	293.0	25.7	119,088
3EXA-10	0.413	157.3	142.0	157.3	142.0	0.187	MT	180,272	255.7	187.0	15.4	180,272
3EXA-9P	0.345	54.3	37.0	54.3	37.0	0.307	GW	180,272	290.7	307.0	5.6	180,272
3EXA-9	0.417	169.7	97.0	169.7	97.0	0.250	MT	181,453	247.3	250.0	16.0	181,453
3EXA-8	0.434	128.0	107.0	128.0	107.0	0.327	MT	119,088	306.0	327.0	57.6	119,088
3EXA-6P DS	0.000	81.2	48.0	0.0	0.0	0.313	ER	165,113	312.5	312.5	0.1	0
3EXA-6	0.000	143.4	200.0	0.0	0.0	0.313	ER	165,113	312.5	312.5	0.1	0
3EXA-5P	0.000	49.2	94.0	0.0	0.0	0.313	ER	165,113	312.5	312.5	0.0	0
3EXA-5	0.000	143.4	205.0	0.0	0.0	0.313	ER	165,113	312.5	312.5	0.1	0
3EXA-4P US	0.000	149.5	133.0	0.0	0.0	0.313	ER	165,113	312.5	312.5	0.1	0
===>Grouped by Line:	**ES1-4-3RDPT ES to FWH 23A**											***Sorted By: Flow Order***
3EXA-1P	0.000	41.2	92.0	0.0	0.0	0.250	ER	165,113	250.0	250.0	0.0	0
3EXA-1A	0.000	46.3	86.0	0.0	0.0	0.250	ER	165,113	250.0	250.0	0.0	0
===>Grouped by Line:	**ES1-5-3RDPT ES to FWH 23A**											***Sorted By: Flow Order***
3EXA-11R	0.000	85.4	99.0	0.0	0.0	0.313	ER	165,113	312.5	312.5	0.1	0
3EXA-11R (D/S)	0.000	117.4	138.0	0.0	0.0	0.250	ER	165,113	250.0	250.0	0.1	0
3EXA-11RP	0.000	94.4	183.0	0.0	0.0	0.250	ER	136,608	250.0	250.0	24.8	0
3EXA-3	0.388	22.6	48.0	22.6	48.0	0.340	MT	119,088	365.4	340.0	47.4	119,088
3EXA-2A	0.411	108.0	56.0	108.0	56.0	0.355	MT	119,088	303.0	355.0	48.5	119,088
===>Grouped by Line:	**ES2-3-3RDPT ES to FWH 23B**											***Sorted By: Flow Order***
3EXB-10P DS1	0.000	53.2	74.0	53.2	74.0	0.205	MT	193,297	259.3	205.0	3.4	193,297
3EXB-10P DS	0.000	53.2	59.0	53.2	59.0	0.290	GW	193,297	259.3	290.0	3.4	193,297
3EXB-9P	0.333	72.0	93.0	72.0	93.0	0.232		165,113	261.0	232.0	10.8	165,113

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:	**ES2-3-3RDPT ES to FWH 23B**										***Sorted By: Flow Order***	
3EXB-9	0.420	119.1	119.0	119.1	119.0	0.301	MT	119,088	300.9	301.0	53.6	119,088
3EXB-8	0.403	108.2	92.0	108.2	92.0	0.311	MT	119,088	294.8	311.0	48.7	119,088
3EXB-7P	0.322	49.2	41.0	49.2	41.0	0.281	MT	119,088	272.8	281.0	22.5	119,088
3EXB-6P US	0.349	85.6	33.0	85.6	33.0	0.316	MT	149,573	263.4	316.0	17.9	149,573
3EXB-6P DS	0.338	90.0	57.0	90.0	57.0	0.281	MT	165,113	248.0	281.0	13.5	165,113
3EXB-6	0.000	168.8	252.0	168.8	252.0	0.293	MT	209,806	143.7	293.0	4.6	209,806
3EXB-5P	0.355	47.2	94.0	47.2	94.0	0.245		136,608	307.8	245.0	12.8	136,608
3EXB-5	0.414	119.1	99.0	119.1	99.0	0.315	MT	119,088	294.9	315.0	53.6	119,088
===>Grouped by Line:	**ES2-4-3RDPT ES to FWH 23B**										***Sorted By: Flow Order***	
3EXB-4P US	0.262	58.2	48.0	58.2	48.0	0.214	MT	165,113	203.8	214.0	8.7	165,113
3EXB-1A	0.272	46.1	71.0	46.1	71.0	0.201	MT	119,088	225.9	201.0	20.7	119,088
===>Grouped by Line:	**ES2-5-3RDPT ES to FWH 23B**										***Sorted By: Flow Order***	
3EXB-10R	0.000	94.5	118.0	0.0	0.0	0.313	ER	209,806	312.5	312.5	0.0	0
3EXB-10R (D/S)	0.000	129.1	254.0	0.0	0.0	0.250	ER	209,806	250.0	250.0	0.0	0
3EXB-3P US	0.000	101.2	188.0	0.0	0.0	0.375	MT	165,113	239.9	375.0	16.5	0
3EXB-3	0.454	43.2	104.0	43.2	104.0	0.350	MT	149,573	410.8	350.0	26.1	149,573
3EXB-2P US	0.402	29.2	69.0	29.2	69.0	0.333	MT	149,573	372.8	333.0	17.6	149,573
3EXB-2A	0.378	70.7	37.0	70.7	37.0	0.341	MT	119,088	307.3	341.0	31.8	119,088
3EXB-2	0.477	137.3	173.0	137.3	173.0	0.247	MT	180,225	339.7	247.0	13.4	180,225
===>Grouped by Line:	**ES3-2-3RDPT ES to FWH 23C**										***Sorted By: Flow Order***	
3EXC-19	0.000	152.7	148.0	152.7	148.0	0.319	MT	209,806	97.3	319.0	4.1	209,806
===>Grouped by Line:	**ES3-3-3RDPT ES to FWH 23C**										***Sorted By: Flow Order***	
3EXC-14	0.000	213.9	77.0	213.9	77.0	0.313	ER	0	92.4	312.5	220.1	209,806
3EXC-14 (D/S)	0.000	300.5	64.0	300.5	64.0	0.337	MT	209,806	12.0	337.0	8.2	209,806
3EXC-12R (D/S)	0.000	98.3	58.0	0.0	0.0	0.313	ER	149,573	312.5	312.5	0.0	0
3EXC-12P	0.000	74.5	39.0	0.0	0.0	0.313	ER	149,573	312.5	312.5	0.0	0
3EXC-10	0.415	119.1	105.0	119.1	105.0	0.310	MT	119,088	295.9	310.0	53.6	119,088
3EXC-9P	0.364	41.2	53.0	41.2	53.0	0.311	MT	119,088	322.8	311.0	18.8	119,088
3EXC-9	0.418	128.1	101.0	128.1	101.0	0.317	MT	119,088	289.9	317.0	57.7	119,088
3EXC-7P	0.314	44.6	22.0	44.6	22.0	0.291	MT	209,806	138.0	291.0	4.8	209,806
3EXC-6P	0.349	81.0	47.0	81.0	47.0	0.302	MT	119,088	268.0	302.0	36.5	119,088
3EXC-6	0.443	118.9	119.0	118.9	119.0	0.324	MT	119,088	324.1	324.0	53.5	119,088
3EXC-5	0.000	168.8	121.5	168.8	121.5	0.279	MT	209,806	143.7	279.0	4.6	209,806
3EXC-4P	0.000	81.2	76.5	81.2	76.5	0.236	MT	119,088	231.3	236.0	36.5	119,088

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:	**ES3-4-3RDPT ES to FWH 23C**										***Sorted By: Flow Order***	
3EXC-4P-1 US	0.267	41.1	50.0	41.1	50.0	0.242	MT	165,113	208.8	242.0	8.7	106,128
3EXC-1	0.000	147.2	72.0	147.2	72.0	0.320	MT	192,277	102.8	320.0	9.7	192,277
===>Grouped by Line:	**ES3-5-3RDPT ES to FWH 23C**										***Sorted By: Flow Order***	
3EXC-11R	0.319	97.2	126.0	97.2	126.0	0.245	MT	191,927	221.8	245.0	7.0	191,927
3EXC-11R (D/S)	0.000	132.9	137.0	132.9	137.0	0.288	MT	191,927	117.1	288.0	8.9	191,927
3EXC-3P	0.000	119.8	242.0	18.7	48.0	0.374	MT	192,077	231.3	374.0	7.9	192,077
3EXC-2P	0.000	69.4	57.0	69.4	57.0	0.341	MT	209,806	180.6	341.0	4.2	209,806
3EXC-2A	0.000	39.3	49.0	39.3	49.0	0.326		136,608	335.7	326.0	32.8	136,608
3EXC-2	0.000	143.5	172.0	143.5	172.0	0.307	GW	181,477	106.5	307.0	13.4	181,477

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 3:48:01PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.831

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES7-1-5THPT ES to FWH 25ABC***								***Sorted By: Average Wear Rate***		
5EX-VALVE-5EX-1	22	16.425	9.659	387.9	58.034	92.2	28.000	6.947	0.000	298.02	HBD
5EX-VALVE-5EX-3	25	14.802	8.697	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-VALVE-5EX-4	25	14.802	8.697	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-18 (D/S)	12	0.098	0.096	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-18 (BR/SE)	12	0.068	0.066	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
5EX-8	14	0.014	0.014	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8 (D/S)	14	0.011	0.011	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-15	2	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-14	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13	2	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-12	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13P US	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13P	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13P DS	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8P US	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8P DS	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-11P	54	0.007	0.007	387.9	40.579	92.2	28.000	6.947	0.000	298.02	HBD
5EX-16	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-11	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-17	3	0.006	0.006	387.9	41.506	92.2	28.000	6.947	0.000	298.02	HBD
5EX-16P DS	53	0.005	0.005	387.9	41.296	92.2	28.000	6.947	0.000	298.02	HBD
5EX-16P US	53	0.005	0.005	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8 (BR/SE)	14	0.005	0.005	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-14P	52	0.005	0.004	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-15P US	54	0.004	0.004	387.9	83.908	92.2	28.000	6.947	0.000	298.02	HBD
5EX-15P DS	54	0.004	0.004	387.9	83.908	92.2	28.000	6.947	0.000	298.02	HBD
5EX-17P	58	0.003	0.003	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-17P-1	58	0.003	0.003	387.9	40.204	92.2	28.000	6.947	0.000	298.02	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:	***ES7-2-5THPT ESHDR to FWH 25C***								***Sorted By: Average Wear Rate***		
5EX-VALVE 5EX-5-2	22	13.283	7.722	387.9	34.887	92.2	18.000	6.947	0.000	298.02	HBD
5EX-10N	30	0.010	0.007	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-9	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-10	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-9-10	52	0.004	0.004	387.9	33.428	92.2	18.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7-3-5THPT ESHDR 25CT to BT***								***Sorted By: Average Wear Rate***		
5EX-5	14	0.011	0.011	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-5 (D/S)	14	0.010	0.010	387.9	9.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-5 (BR/SE)	14	0.005	0.005	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-5P US	64	0.002	0.002	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-5P DS	64	0.002	0.002	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7-4-5THPT ESHDR to FWH 25B***								***Sorted By: Average Wear Rate***		
5EX-VALVE 5EX-5-1	22	13.283	7.722	387.9	34.887	92.2	18.000	6.947	0.000	298.02	HBD
5EX-7N	30	0.012	0.007	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-6	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-7	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-6-7	52	0.004	0.004	387.9	33.428	92.2	18.000	6.947	0.000	298.02	HBD
5EX-6P1	64	0.003	0.003	387.9	33.738	92.2	18.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7-5-5THPT ESHDR to FWH 25A***								***Sorted By: Average Wear Rate***		
5EX-VALVE 5EX-5	22	13.283	7.722	387.9	34.887	92.2	18.000	6.947	0.000	298.02	HBD
5EX-1N	30	0.010	0.007	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-1-2	54	0.007	0.007	387.9	33.428	92.2	18.000	6.947	0.000	298.02	HBD
5EX-3	2	0.007	0.006	387.9	34.550	92.2	18.000	6.947	0.000	298.02	HBD
5EX-2	4	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-1	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-4 (D/S)	7	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-3P US	57	0.005	0.005	387.9	34.633	92.2	18.000	6.947	0.000	298.02	HBD
5EX-2P	52	0.004	0.004	387.9	35.010	92.2	18.000	6.947	0.000	298.02	HBD
5EX-4	7	0.004	0.004	387.9	9.204	92.2	28.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7A-1-SEP TKA VNT to FWH25***								***Sorted By: Average Wear Rate***		
MOPS1	31	17.213	11.279	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS5	2	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS7	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS8	54	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS6	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	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:	***ES7A-1-SEP TKA VNT to FWH25***								***Sorted By: Average Wear Rate***		
MOPS2	3	0.006	0.006	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS3	3	0.006	0.006	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS4	53	0.006	0.005	387.9	41.324	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7A-2-SEP TKB VNT to FWH25***								***Sorted By: Average Wear Rate***		
MOPS9	31	17.752	11.632	387.9	43.429	92.2	20.000	6.947	0.000	298.02	HBD
MOPS10	61	0.008	0.008	387.9	41.324	92.2	20.000	6.947	0.000	298.02	HBD
MOPS12	54	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS16	54	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS11	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS13	2	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS15	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS17	1	0.006	0.006	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS14	52	0.005	0.005	387.9	41.324	92.2	20.000	6.947	0.000	298.02	HBD
MOPS18	51	0.003	0.003	387.9	69.242	92.2	20.000	6.947	0.000	298.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 3:48:01PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.831

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES7-1-5THPT ES to FWH 25ABC***									***Sorted By: Flow Order***	
5EX-18 (D/S)	12	0.098	0.096	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-VALVE-5EX-1	22	16.425	9.659	387.9	58.034	92.2	28.000	6.947	0.000	298.02	HBD
5EX-17P	58	0.003	0.003	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-VALVE-5EX-3	25	14.802	8.697	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-17P-1	58	0.003	0.003	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-VALVE-5EX-4	25	14.802	8.697	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-17	3	0.006	0.006	387.9	41.506	92.2	28.000	6.947	0.000	298.02	HBD
5EX-16P US	53	0.005	0.005	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-16P DS	53	0.005	0.005	387.9	41.296	92.2	28.000	6.947	0.000	298.02	HBD
5EX-16	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-15P US	54	0.004	0.004	387.9	83.908	92.2	28.000	6.947	0.000	298.02	HBD
5EX-15P DS	54	0.004	0.004	387.9	83.908	92.2	28.000	6.947	0.000	298.02	HBD
5EX-15	2	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-14P	52	0.005	0.004	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-14	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13P US	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13P	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13P DS	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-13	2	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-12	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-11P	54	0.007	0.007	387.9	40.579	92.2	28.000	6.947	0.000	298.02	HBD
5EX-11	4	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8P US	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8P DS	54	0.007	0.007	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8	14	0.014	0.014	387.9	40.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-8 (BR/SE)	14	0.005	0.005	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-8 (D/S)	14	0.011	0.011	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-18 (BR/SE)	12	0.068	0.066	387.9	40.953	92.2	20.000	6.947	0.000	298.02	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:	***ES7-2-5THPT ESHDR to FWH 25C***									***Sorted By: Flow Order***	
5EX-VALVE 5EX-5-2	22	13.283	7.722	387.9	34.887	92.2	18.000	6.947	0.000	298.02	HBD
5EX-9	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-9-10	52	0.004	0.004	387.9	33.428	92.2	18.000	6.947	0.000	298.02	HBD
5EX-10	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-10N	30	0.010	0.007	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7-3-5THPT ESHDR 25CT to BT***									***Sorted By: Flow Order***	
5EX-5P US	64	0.002	0.002	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-5P DS	64	0.002	0.002	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-5	14	0.011	0.011	387.9	25.799	92.2	28.000	6.947	0.000	298.02	HBD
5EX-5 (BR/SE)	14	0.005	0.005	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-5 (D/S)	14	0.010	0.010	387.9	9.204	92.2	28.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7-4-5THPT ESHDR to FWH 25B***									***Sorted By: Flow Order***	
5EX-6P1	64	0.003	0.003	387.9	33.738	92.2	18.000	6.947	0.000	298.02	HBD
5EX-VALVE 5EX-5-1	22	13.283	7.722	387.9	34.887	92.2	18.000	6.947	0.000	298.02	HBD
5EX-6	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-6-7	52	0.004	0.004	387.9	33.428	92.2	18.000	6.947	0.000	298.02	HBD
5EX-7	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-7N	30	0.012	0.007	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7-5-5THPT ESHDR to FWH 25A***									***Sorted By: Flow Order***	
5EX-4	7	0.004	0.004	387.9	9.204	92.2	28.000	6.947	0.000	298.02	HBD
5EX-4 (D/S)	7	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-3P US	57	0.005	0.005	387.9	34.633	92.2	18.000	6.947	0.000	298.02	HBD
5EX-3	2	0.007	0.006	387.9	34.550	92.2	18.000	6.947	0.000	298.02	HBD
5EX-2P	52	0.004	0.004	387.9	35.010	92.2	18.000	6.947	0.000	298.02	HBD
5EX-VALVE 5EX-5	22	13.283	7.722	387.9	34.887	92.2	18.000	6.947	0.000	298.02	HBD
5EX-2	4	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-1-2	54	0.007	0.007	387.9	33.428	92.2	18.000	6.947	0.000	298.02	HBD
5EX-1	2	0.006	0.006	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
5EX-1N	30	0.010	0.007	387.9	32.872	92.2	18.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7A-1-SEP TKA VNT to FWH25***									***Sorted By: Flow Order***	
MOPS1	31	17.213	11.279	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS2	3	0.006	0.006	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS3	3	0.006	0.006	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS4	53	0.006	0.005	387.9	41.324	92.2	20.000	6.947	0.000	298.02	HBD
MOPS5	2	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS6	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	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:	***ES7A-1-SEP TKA VNT to FWH25***									***Sorted By: Flow Order***	
MOPS7	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS8	54	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***ES7A-2-SEP TKB VNT to FWH25***									***Sorted By: Flow Order***	
MOPS9	31	17.752	11.632	387.9	43.429	92.2	20.000	6.947	0.000	298.02	HBD
MOPS10	61	0.008	0.008	387.9	41.324	92.2	20.000	6.947	0.000	298.02	HBD
MOPS11	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS12	54	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS13	2	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS14	52	0.005	0.005	387.9	41.324	92.2	20.000	6.947	0.000	298.02	HBD
MOPS15	4	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS16	54	0.007	0.007	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS17	1	0.006	0.006	387.9	40.953	92.2	20.000	6.947	0.000	298.02	HBD
MOPS18	51	0.003	0.003	387.9	69.242	92.2	20.000	6.947	0.000	298.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 3:48:01PM

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.831

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES7-1-5THPT ES to FWH 25ABC**					***Sorted By:Remaining Life***		
5EX-VALVE-5EX-1	0.000	-0.043	0.248	0.248	-168,866	No	222,946
5EX-VALVE-5EX-3	0.000	-0.002	0.248	0.248	-162,941	No	222,946
5EX-VALVE-5EX-4	0.000	-0.002	0.248	0.248	-162,941	No	222,946
5EX-18 (D/S)	0.000	0.374	0.232	0.232	13,026,319	No	86,338
5EX-18 (BR/SE)	0.000	0.374	0.166	0.166	27,765,994	No	86,338
5EX-8	0.000	0.375	0.269	0.269	68,049,800	No	73,373
5EX-8 (D/S)	0.000	0.375	0.269	0.269	82,845,208	No	73,373
5EX-17P-1	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-17P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-17	0.570	0.570	0.269	0.269	100,000,000	No	73,373
5EX-16P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-16P DS	0.539	0.539	0.267	0.267	100,000,000	No	73,373
5EX-16	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-15P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-14P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-14	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-13P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-12	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-11P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-11	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-8P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
===>Grouped by Line: **ES7-2-5THPT ESHDR to FWH 25C**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES7-2-5THPT ESHDR to FWH 25C**				***Sorted By:Remaining Life***		
5EX-VALVE 5EX-5-2	0.000	-0.026	0.160	0.160	-142,661	No	222,946
5EX-9	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-9-10	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-10	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-10N	0.000	0.312	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7-3-5THPT ESHDR 25CT to BT**				***Sorted By:Remaining Life***		
5EX-5	0.000	0.375	0.269	0.269	82,845,208	No	73,373
5EX-5 (D/S)	0.000	0.375	0.269	0.269	93,804,480	No	73,373
5EX-5P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
===>Grouped by Line:	**ES7-4-5THPT ESHDR to FWH 25B**				***Sorted By:Remaining Life***		
5EX-VALVE 5EX-5-1	0.000	-0.026	0.160	0.160	-142,661	No	222,946
5EX-6P1	0.000	0.375	0.172	0.172	100,000,000	No	73,373
5EX-6	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-6-7	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-7	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-7N	0.000	0.312	0.149	0.149	100,000,000	No	222,946
===>Grouped by Line:	**ES7-5-5THPT ESHDR to FWH 25A**				***Sorted By:Remaining Life***		
5EX-VALVE 5EX-5	0.000	-0.026	0.160	0.160	-142,661	No	222,946
5EX-4	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-4 (D/S)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-3P US	0.507	0.507	0.172	0.172	100,000,000	No	73,373
5EX-3	0.498	0.498	0.173	0.173	100,000,000	No	73,373
5EX-2P	0.513	0.513	0.172	0.172	100,000,000	No	73,373
5EX-2	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1-2	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-1	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1N	0.000	0.231	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7A-1-SEP TKA VNT to FWH25**				***Sorted By:Remaining Life***		
MOPS1	0.000	0.564	0.166	0.166	309,788	No	158,002
MOPS2	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS3	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS4	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS5	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS6	0.000	0.375	0.192	0.192	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES7A-1-SEP TKA VNT to FWH25**					***Sorted By:Remaining Life***		
MOPS7	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS8	0.000	0.375	0.191	0.191	100,000,000	No	86,338
===>Grouped by Line: **ES7A-2-SEP TKB VNT to FWH25**					***Sorted By:Remaining Life***		
MOPS9	0.633	0.468	0.166	0.166	227,648	No	158,002
MOPS10	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS11	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS12	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS13	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS14	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS15	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS16	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS17	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS18	0.000	0.375	0.191	0.191	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.831

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES7-1-5THPT ES to FWH 25ABC**					***Sorted By:Flow Order***		
5EX-18 (D/S)	0.000	0.374	0.232	0.232	13,026,319	No	86,338
5EX-VALVE-5EX-1	0.000	-0.043	0.248	0.248	-168,866	No	222,946
5EX-17P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-VALVE-5EX-3	0.000	-0.002	0.248	0.248	-162,941	No	222,946
5EX-17P-1	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-VALVE-5EX-4	0.000	-0.002	0.248	0.248	-162,941	No	222,946
5EX-17	0.570	0.570	0.269	0.269	100,000,000	No	73,373
5EX-16P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-16P DS	0.539	0.539	0.267	0.267	100,000,000	No	73,373
5EX-16	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-15P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-15	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-14P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-14	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-13P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-13	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-12	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-11P	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-11	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-8P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-8	0.000	0.375	0.269	0.269	68,049,800	No	73,373
5EX-8 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-8 (D/S)	0.000	0.375	0.269	0.269	82,845,208	No	73,373
5EX-18 (BR/SE)	0.000	0.374	0.166	0.166	27,765,994	No	86,338
===>Grouped by Line: **ES7-2-5THPT ESHDR to FWH 25C**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES7-2-5THPT ESHDR to FWH 25C**				***Sorted By:Flow Order***		
5EX-VALVE 5EX-5-2	0.000	-0.026	0.160	0.160	-142,661	No	222,946
5EX-9	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-9-10	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-10	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-10N	0.000	0.312	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7-3-5THPT ESHDR 25CT to BT**				***Sorted By:Flow Order***		
5EX-5P US	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5P DS	0.000	0.375	0.267	0.267	100,000,000	No	73,373
5EX-5	0.000	0.375	0.269	0.269	82,845,208	No	73,373
5EX-5 (BR/SE)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-5 (D/S)	0.000	0.375	0.269	0.269	93,804,480	No	73,373
===>Grouped by Line:	**ES7-4-5THPT ESHDR to FWH 25B**				***Sorted By:Flow Order***		
5EX-6P1	0.000	0.375	0.172	0.172	100,000,000	No	73,373
5EX-VALVE 5EX-5-1	0.000	-0.026	0.160	0.160	-142,661	No	222,946
5EX-6	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-6-7	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-7	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-7N	0.000	0.312	0.149	0.149	100,000,000	No	222,946
===>Grouped by Line:	**ES7-5-5THPT ESHDR to FWH 25A**				***Sorted By:Flow Order***		
5EX-4	0.000	0.375	0.269	0.269	100,000,000	No	73,373
5EX-4 (D/S)	0.000	0.312	0.173	0.173	100,000,000	No	73,373
5EX-3P US	0.507	0.507	0.172	0.172	100,000,000	No	73,373
5EX-3	0.498	0.498	0.173	0.173	100,000,000	No	73,373
5EX-2P	0.513	0.513	0.172	0.172	100,000,000	No	73,373
5EX-VALVE 5EX-5	0.000	-0.026	0.160	0.160	-142,661	No	222,946
5EX-2	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1-2	0.000	0.375	0.172	0.172	100,000,000	No	86,338
5EX-1	0.000	0.312	0.149	0.149	100,000,000	No	86,338
5EX-1N	0.000	0.231	0.149	0.149	100,000,000	No	147,418
===>Grouped by Line:	**ES7A-1-SEP TKA VNT to FWH25**				***Sorted By:Flow Order***		
MOPS1	0.000	0.564	0.166	0.166	309,788	No	158,002
MOPS2	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS3	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS4	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS5	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS6	0.000	0.375	0.192	0.192	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES7A-1-SEP TKA VNT to FWH25**					***Sorted By:Flow Order***		
MOPS7	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS8	0.000	0.375	0.191	0.191	100,000,000	No	86,338
===>Grouped by Line: **ES7A-2-SEP TKB VNT to FWH25**					***Sorted By:Flow Order***		
MOPS9	0.633	0.468	0.166	0.166	227,648	No	158,002
MOPS10	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS11	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS12	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS13	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS14	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS15	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS16	0.000	0.375	0.191	0.191	100,000,000	No	86,338
MOPS17	0.000	0.375	0.192	0.192	100,000,000	No	86,338
MOPS18	0.000	0.375	0.191	0.191	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: 5TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.831

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:	**ES7-1-5THPT ES to FWH 25ABC**											***Sorted By: Flow Order***
5EX-17P	0.000	33.8	74.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.0	0
5EX-17	0.570	65.1	71.0	0.0	0.0	0.570	ER	149,573	570.0	570.0	0.1	0
5EX-16P DS	0.539	81.7	80.0	0.0	0.0	0.539	ER	149,573	539.0	539.0	0.0	0
5EX-16	0.000	99.0	99.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-15P US	0.000	59.9	42.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.0	0
5EX-15P DS	0.000	59.9	102.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.0	0
5EX-15	0.000	106.5	110.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-14	0.000	106.5	136.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-13P US	0.000	230.8	46.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-13P	0.000	230.8	62.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-13P DS	0.000	230.8	64.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-13	0.000	106.5	63.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-12	0.000	106.5	84.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-11P	0.000	103.6	96.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-11	0.000	99.0	75.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
5EX-8P DS	0.000	103.2	44.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.1	0
===>Grouped by Line:	**ES7-5-5THPT ESHDR to FWH 25A**											***Sorted By: Flow Order***
5EX-4	0.000	64.3	78.0	0.0	0.0	0.375	ER	149,573	375.0	375.0	0.0	0
5EX-4 (D/S)	0.000	86.4	92.0	0.0	0.0	0.312	ER	149,573	312.0	312.0	0.0	0
5EX-3P US	0.507	79.6	67.0	0.0	0.0	0.507	ER	149,573	507.0	507.0	0.0	0
5EX-3	0.498	79.8	105.0	0.0	0.0	0.498	ER	149,573	498.0	498.0	0.1	0
5EX-2P	0.513	53.9	61.0	0.0	0.0	0.513	ER	149,573	513.0	513.0	0.0	0
5EX-1-2	0.000	72.6	107.0	0.0	0.0	0.375	ER	136,608	375.0	375.0	0.1	0
5EX-1	0.000	69.0	75.5	0.0	0.0	0.312	ER	136,608	312.0	312.0	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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:20:04PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.909

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES8-1-6THPT ES to HDR***								***Sorted By: Average Wear Rate***		
6EX-28N	31	22.758	12.106	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-27P	54	0.011	0.008	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-28	4	0.011	0.007	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-27	4	0.011	0.007	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-23	2	0.010	0.007	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-23P	54	0.009	0.006	444.8	69.447	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22P	52	0.007	0.005	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22R	18	0.007	0.005	444.8	49.777	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22R (D/S)	18	0.005	0.003	444.8	23.633	92.0	18.000	6.658	0.000	239.26	HBD
6EX-22A	68	0.004	0.003	444.8	23.633	92.0	18.000	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-2-6THPT ES to HDR***								***Sorted By: Average Wear Rate***		
6EX-26-1N	31	22.898	12.181	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-26P	54	0.011	0.008	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-26-1	4	0.011	0.007	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-25	2	0.011	0.007	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-26-2	1	0.009	0.006	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-24	1	0.009	0.006	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-25P	51	0.006	0.004	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-24P	52	0.006	0.004	444.8	69.447	92.0	12.750	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-3-6THPT ESHDR to FWH 26***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-3	25	17.296	9.195	444.8	49.189	92.0	18.000	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-4	25	17.296	9.195	444.8	49.189	92.0	18.000	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-1	22	15.993	8.502	444.8	49.958	92.0	18.000	6.658	0.000	239.26	HBD
6EX-14	14	0.020	0.014	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-22 (D/S)	12	0.017	0.012	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-14 (D/S)	14	0.016	0.012	444.8	32.168	92.0	18.000	6.658	0.000	239.26	HBD
6EX-22	12	0.012	0.009	444.8	23.633	92.0	18.000	6.658	0.000	239.26	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:	***ES8-3-6THPT ESHDR to FWH 26***								***Sorted By: Average Wear Rate***		
6EX-22 (BR/SE)	12	0.012	0.008	444.8	49.777	92.0	12.750	6.658	0.000	239.26	HBD
6EX-21C	54	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-21	4	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-20	4	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-19	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-18	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-17	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-16	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-19P	54	0.007	0.005	444.8	77.952	92.0	18.000	6.658	0.000	239.26	HBD
6EX-18P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-17P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-46P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-16P	52	0.006	0.005	444.8	49.827	92.0	18.000	6.658	0.000	239.26	HBD
6EX-14 (BR/SE)	14	0.006	0.004	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-20B	58	0.003	0.003	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-20A	58	0.003	0.003	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-21P	62	0.003	0.002	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-4-6THPT ESHDR to FWH 26C***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-5-2	22	13.443	7.090	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-11N	30	12.233	6.456	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-13P	54	0.008	0.006	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-15	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-13	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-12	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-11	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-13C	1	0.007	0.005	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-15P	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-12P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-14P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	239.26	HBD
6EX-14R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	239.26	HBD
6EX-14R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-5-6THPT ESHDR 26CT to BT***								***Sorted By: Average Wear Rate***		
6EX-10	14	0.016	0.012	444.8	32.168	92.0	18.000	6.658	0.000	239.26	HBD
6EX-10 (D/S)	14	0.012	0.009	444.8	14.562	92.0	18.000	6.658	0.000	239.26	HBD
6EX-10 (BR/SE)	14	0.006	0.004	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-10P	64	0.003	0.002	444.8	32.168	92.0	18.000	6.658	0.000	239.26	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:	***ES8-6-6THPT ESHDR to FWH 26B***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-5-1	22	13.443	7.090	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-6N	30	8.045	6.714	444.8	35.070	92.0	12.750	6.658	0.000	239.26	HBD
6EX-6P	54	0.008	0.006	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-6	4	0.008	0.006	444.8	34.678	92.0	12.750	6.658	0.000	239.26	HBD
6EX-9	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-8	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-7	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-8B	1	0.007	0.005	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-8BP	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-7P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-9P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	239.26	HBD
6EX-10R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	239.26	HBD
6EX-10R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-7-6THPT ESHDR to FWH 26A***								***Sorted By: Average Wear Rate***		
6EX-VALVE-6EX-5	22	13.443	7.090	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-1N	30	8.251	6.893	444.8	36.773	92.0	12.750	6.658	0.000	239.26	HBD
6EX-3P	54	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-1	4	0.008	0.006	444.8	34.678	92.0	12.750	6.658	0.000	239.26	HBD
6EX-5	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-4	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-3	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-2	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-5P	67	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-4P	54	0.006	0.004	444.8	49.250	92.0	12.750	6.658	0.000	239.26	HBD
6EX-1P	52	0.006	0.004	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-2P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-5A (D/S)	17	0.004	0.002	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-5A	17	0.003	0.002	444.8	14.562	92.0	18.000	6.658	0.000	239.26	HBD
6EX-51	64	0.003	0.002	444.8	14.562	92.0	18.000	6.658	0.000	239.26	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:20:04PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.909

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***ES8-1-6THPT ES to HDR***									***Sorted By: Flow Order***	
6EX-28N	31	22.758	12.106	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-28	4	0.011	0.007	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-27P	54	0.011	0.008	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-27	4	0.011	0.007	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-23P	54	0.009	0.006	444.8	69.447	92.0	12.750	6.658	0.000	239.26	HBD
6EX-23	2	0.010	0.007	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22P	52	0.007	0.005	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22R	18	0.007	0.005	444.8	49.777	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22R (D/S)	18	0.005	0.003	444.8	23.633	92.0	18.000	6.658	0.000	239.26	HBD
6EX-22A	68	0.004	0.003	444.8	23.633	92.0	18.000	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-2-6THPT ES to HDR***									***Sorted By: Flow Order***	
6EX-26-1N	31	22.898	12.181	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-26-1	4	0.011	0.007	444.8	51.109	92.0	12.750	6.658	0.000	239.26	HBD
6EX-26P	54	0.011	0.008	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-26-2	1	0.009	0.006	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-25P	51	0.006	0.004	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-25	2	0.011	0.007	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
6EX-24P	52	0.006	0.004	444.8	69.447	92.0	12.750	6.658	0.000	239.26	HBD
6EX-24	1	0.009	0.006	444.8	50.558	92.0	12.750	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-3-6THPT ESHDR to FWH 26***									***Sorted By: Flow Order***	
6EX-22	12	0.012	0.009	444.8	23.633	92.0	18.000	6.658	0.000	239.26	HBD
6EX-22 (BR/SE)	12	0.012	0.008	444.8	49.777	92.0	12.750	6.658	0.000	239.26	HBD
6EX-22 (D/S)	12	0.017	0.012	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-21P	62	0.003	0.002	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-21	4	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-21C	54	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-1	22	15.993	8.502	444.8	49.958	92.0	18.000	6.658	0.000	239.26	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:	***ES8-3-6THPT ESHDR to FWH 26***									***Sorted By: Flow Order***	
6EX-20B	58	0.003	0.003	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-3	25	17.296	9.195	444.8	49.189	92.0	18.000	6.658	0.000	239.26	HBD
6EX-20A	58	0.003	0.003	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-4	25	17.296	9.195	444.8	49.189	92.0	18.000	6.658	0.000	239.26	HBD
6EX-20	4	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-19P	54	0.007	0.005	444.8	77.952	92.0	18.000	6.658	0.000	239.26	HBD
6EX-19	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-18P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-18	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-17P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-17	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-16P	52	0.006	0.005	444.8	49.827	92.0	18.000	6.658	0.000	239.26	HBD
6EX-16	2	0.010	0.007	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-46P	52	0.007	0.005	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-14	14	0.020	0.014	444.8	49.196	92.0	18.000	6.658	0.000	239.26	HBD
6EX-14 (BR/SE)	14	0.006	0.004	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-14 (D/S)	14	0.016	0.012	444.8	32.168	92.0	18.000	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-4-6THPT ESHDR to FWH 26C***									***Sorted By: Flow Order***	
6EX-14R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	239.26	HBD
6EX-14R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	239.26	HBD
6EX-14P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	239.26	HBD
6EX-15	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-15P	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-13C	1	0.007	0.005	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-13	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-13P	54	0.008	0.006	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-5-2	22	13.443	7.090	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-12P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-12	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-11	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-11N	30	12.233	6.456	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-5-6THPT ESHDR 26CT to BT***									***Sorted By: Flow Order***	
6EX-10P	64	0.003	0.002	444.8	32.168	92.0	18.000	6.658	0.000	239.26	HBD
6EX-10	14	0.016	0.012	444.8	32.168	92.0	18.000	6.658	0.000	239.26	HBD
6EX-10 (BR/SE)	14	0.006	0.004	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-10 (D/S)	14	0.012	0.009	444.8	14.562	92.0	18.000	6.658	0.000	239.26	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:	***ES8-6-6THPT ESHDR to FWH 26B***									***Sorted By: Flow Order***	
6EX-10R	17	0.002	0.001	444.8	34.282	92.0	18.000	6.658	0.000	239.26	HBD
6EX-10R (D/S)	17	0.003	0.002	444.8	48.775	92.0	12.750	6.658	0.000	239.26	HBD
6EX-9P	64	0.003	0.002	444.8	49.250	92.0	12.750	6.658	0.000	239.26	HBD
6EX-9	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-8BP	52	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-8B	1	0.007	0.005	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-8	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-6P	54	0.008	0.006	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-5-1	22	13.443	7.090	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-7P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-7	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-6	4	0.008	0.006	444.8	34.678	92.0	12.750	6.658	0.000	239.26	HBD
6EX-6N	30	8.045	6.714	444.8	35.070	92.0	12.750	6.658	0.000	239.26	HBD
===>Grouped by Line:	***ES8-7-6THPT ESHDR to FWH 26A***									***Sorted By: Flow Order***	
6EX-51	64	0.003	0.002	444.8	14.562	92.0	18.000	6.658	0.000	239.26	HBD
6EX-5A	17	0.003	0.002	444.8	14.562	92.0	18.000	6.658	0.000	239.26	HBD
6EX-5A (D/S)	17	0.004	0.002	444.8	32.641	92.0	12.750	6.658	0.000	239.26	HBD
6EX-5P	67	0.006	0.004	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-5	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-4P	54	0.006	0.004	444.8	49.250	92.0	12.750	6.658	0.000	239.26	HBD
6EX-4	4	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-3P	54	0.009	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-3	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-1P	52	0.006	0.004	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-VALVE-6EX-5	22	13.443	7.090	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-2P	58	0.004	0.003	444.8	33.594	92.0	12.750	6.658	0.000	239.26	HBD
6EX-2	2	0.008	0.006	444.8	33.166	92.0	12.750	6.658	0.000	239.26	HBD
6EX-1	4	0.008	0.006	444.8	34.678	92.0	12.750	6.658	0.000	239.26	HBD
6EX-1N	30	8.251	6.893	444.8	36.773	92.0	12.750	6.658	0.000	239.26	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:20:04PM

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.909

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES8-1-6THPT ES to HDR**					***Sorted By:Remaining Life***		
6EX-28N	0.000	0.256	0.189	0.189	48,205	No	222,946
6EX-23	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-22P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-22R	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-22R (D/S)	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-22A	0.000	0.438	0.267	0.267	100,000,000	No	129,394
6EX-28	0.000	0.515	0.189	0.189	100,000,000	No	129,394
6EX-27	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-23P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-27P	0.000	0.530	0.189	0.189	100,000,000	No	129,394
===>Grouped by Line: **ES8-2-6THPT ES to HDR**					***Sorted By:Remaining Life***		
6EX-26-1N	0.000	0.252	0.189	0.189	45,392	No	222,946
6EX-26-1	0.000	0.365	0.189	0.189	100,000,000	No	129,394
6EX-26P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-26-2	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24	0.000	0.375	0.189	0.189	100,000,000	No	129,394
===>Grouped by Line: **ES8-3-6THPT ESHDR to FWH 26**					***Sorted By:Remaining Life***		
6EX-VALVE-6EX-3	0.000	-0.002	0.286	0.286	-162,820	No	222,946
6EX-VALVE-6EX-4	0.000	-0.002	0.286	0.286	-162,820	No	222,946
6EX-VALVE-6EX-1	0.000	0.031	0.286	0.286	-157,922	No	222,946
6EX-17	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-46P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-22	0.000	0.438	0.267	0.267	100,000,000	No	116,818

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES8-3-6THPT ESHDR to FWH 26**				***Sorted By:Remaining Life***		
6EX-22 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-21P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21C	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-20B	0.000	0.438	0.317	0.317	100,000,000	No	86,338
6EX-20A	0.000	0.438	0.317	0.317	100,000,000	No	86,338
6EX-20	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-14 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-14	0.000	0.438	0.267	0.267	104,155,784	No	116,818
6EX-22 (D/S)	0.000	0.438	0.267	0.267	122,303,552	No	116,818
6EX-14 (D/S)	0.000	0.438	0.267	0.267	128,556,808	No	116,818
===>Grouped by Line:	**ES8-4-6THPT ESHDR to FWH 26C**				***Sorted By:Remaining Life***		
6EX-VALVE-6EX-5-2	0.000	0.033	0.202	0.202	-135,359	No	222,946
6EX-11N	0.000	1.933	0.189	0.189	2,366,519	No	222,946
6EX-14R	0.000	0.692	0.267	0.267	100,000,000	No	116,818
6EX-14R (D/S)	0.000	0.570	0.189	0.189	100,000,000	No	116,818
6EX-14P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13C	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-12P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-12	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-11	0.000	0.375	0.189	0.189	100,000,000	No	116,818
===>Grouped by Line:	**ES8-5-6THPT ESHDR 26CT to BT**				***Sorted By:Remaining Life***		
6EX-10P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-10 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-10 (D/S)	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-10	0.000	0.438	0.267	0.267	128,556,808	No	116,818
===>Grouped by Line:	**ES8-6-6THPT ESHDR to FWH 26B**				***Sorted By:Remaining Life***		
6EX-VALVE-6EX-5-1	0.000	0.033	0.202	0.202	-135,359	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES8-6-6THPT ESHDR to FWH 26B**					***Sorted By:Remaining Life***		
6EX-6N	0.531	0.461	0.189	0.189	354,615	No	97,487
6EX-10R	0.000	0.683	0.267	0.267	100,000,000	No	116,818
6EX-10R (D/S)	0.000	0.568	0.189	0.189	100,000,000	No	116,818
6EX-9P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-9	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8BP	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8B	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-7P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-7	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6	0.000	0.506	0.189	0.189	100,000,000	No	116,818
===>Grouped by Line: **ES8-7-6THPT ESHDR to FWH 26A**					***Sorted By:Remaining Life***		
6EX-VALVE-6EX-5	0.000	0.033	0.202	0.202	-135,359	No	222,946
6EX-1N	0.661	0.535	0.189	0.189	439,209	No	97,487
6EX-51	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A (D/S)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-5P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-5	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-1P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-2P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-2	0.000	0.517	0.189	0.189	100,000,000	No	116,818
6EX-1	0.000	0.479	0.189	0.189	100,000,000	No	116,818

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.909

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES8-1-6THPT ES to HDR**					***Sorted By:Flow Order***		
6EX-28N	0.000	0.256	0.189	0.189	48,205	No	222,946
6EX-28	0.000	0.515	0.189	0.189	100,000,000	No	129,394
6EX-27P	0.000	0.530	0.189	0.189	100,000,000	No	129,394
6EX-27	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-23P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-23	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-22P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-22R	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-22R (D/S)	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-22A	0.000	0.438	0.267	0.267	100,000,000	No	129,394
===>Grouped by Line: **ES8-2-6THPT ES to HDR**					***Sorted By:Flow Order***		
6EX-26-1N	0.000	0.252	0.189	0.189	45,392	No	222,946
6EX-26-1	0.000	0.365	0.189	0.189	100,000,000	No	129,394
6EX-26P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-26-2	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-25	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24P	0.000	0.375	0.189	0.189	100,000,000	No	129,394
6EX-24	0.000	0.375	0.189	0.189	100,000,000	No	129,394
===>Grouped by Line: **ES8-3-6THPT ESHDR to FWH 26**					***Sorted By:Flow Order***		
6EX-22	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-22 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-22 (D/S)	0.000	0.438	0.267	0.267	122,303,552	No	116,818
6EX-21P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-21C	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-VALVE-6EX-1	0.000	0.031	0.286	0.286	-157,922	No	222,946
6EX-20B	0.000	0.438	0.317	0.317	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**ES8-3-6THPT ESHDR to FWH 26**				***Sorted By:Flow Order***		
6EX-VALVE-6EX-3	0.000	-0.002	0.286	0.286	-162,820	No	222,946
6EX-20A	0.000	0.438	0.317	0.317	100,000,000	No	86,338
6EX-VALVE-6EX-4	0.000	-0.002	0.286	0.286	-162,820	No	222,946
6EX-20	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-19	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-18	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-17	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-16	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-46P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-14	0.000	0.438	0.267	0.267	104,155,784	No	116,818
6EX-14 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-14 (D/S)	0.000	0.438	0.267	0.267	128,556,808	No	116,818
===>Grouped by Line:	**ES8-4-6THPT ESHDR to FWH 26C**				***Sorted By:Flow Order***		
6EX-14R	0.000	0.692	0.267	0.267	100,000,000	No	116,818
6EX-14R (D/S)	0.000	0.570	0.189	0.189	100,000,000	No	116,818
6EX-14P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-15P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13C	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-13P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-VALVE-6EX-5-2	0.000	0.033	0.202	0.202	-135,359	No	222,946
6EX-12P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-12	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-11	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-11N	0.000	1.933	0.189	0.189	2,366,519	No	222,946
===>Grouped by Line:	**ES8-5-6THPT ESHDR 26CT to BT**				***Sorted By:Flow Order***		
6EX-10P	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-10	0.000	0.438	0.267	0.267	128,556,808	No	116,818
6EX-10 (BR/SE)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-10 (D/S)	0.000	0.438	0.267	0.267	100,000,000	No	116,818
===>Grouped by Line:	**ES8-6-6THPT ESHDR to FWH 26B**				***Sorted By:Flow Order***		
6EX-10R	0.000	0.683	0.267	0.267	100,000,000	No	116,818

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES8-6-6THPT ESHDR to FWH 26B**					***Sorted By:Flow Order***		
6EX-10R (D/S)	0.000	0.568	0.189	0.189	100,000,000	No	116,818
6EX-9P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-9	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8BP	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8B	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-8	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-VALVE-6EX-5-1	0.000	0.033	0.202	0.202	-135,359	No	222,946
6EX-7P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-7	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-6	0.000	0.506	0.189	0.189	100,000,000	No	116,818
6EX-6N	0.531	0.461	0.189	0.189	354,615	No	97,487
===>Grouped by Line: **ES8-7-6THPT ESHDR to FWH 26A**					***Sorted By:Flow Order***		
6EX-51	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A	0.000	0.438	0.267	0.267	100,000,000	No	116,818
6EX-5A (D/S)	0.000	0.330	0.189	0.189	100,000,000	No	116,818
6EX-5P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-5	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-4	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-3	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-1P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-VALVE-6EX-5	0.000	0.033	0.202	0.202	-135,359	No	222,946
6EX-2P	0.000	0.375	0.189	0.189	100,000,000	No	116,818
6EX-2	0.000	0.517	0.189	0.189	100,000,000	No	116,818
6EX-1	0.000	0.479	0.189	0.189	100,000,000	No	116,818
6EX-1N	0.661	0.535	0.189	0.189	439,209	No	97,487

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: 6TH POINT EXTRAC STM
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.909

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:	**ES8-3-6THPT ESHDR to FWH 26**											***Sorted By: Flow Order***
6EX-20B	0.000	127.0	91.0	0.0	0.0	0.438	ER	136,608	438.0	438.0	0.0	0
6EX-20A	0.000	127.0	163.0	0.0	0.0	0.438	ER	136,608	438.0	438.0	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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 4:26:12PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.020

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***SG51-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS46-Valve-MS-71-A	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS46-VALVE-HCV-5046	24	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-PCV-1214	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-PCV-1214A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-MS-131-A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-5	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6-1	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-4 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-7 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-7	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2P-3	52	3.442	0.979	511.5	4.145	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1P US	52	3.388	0.964	511.5	4.083	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1P DS	52	3.361	0.956	511.5	4.048	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1P-1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-5P	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6P1	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6P US	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-3FE	6	3.023	0.860	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6-1P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-4P US	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-4P DS	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-3	3	2.116	0.602	511.5	1.709	0.0	3.500	6.336	6.720	354.75	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:	***SG51-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS46-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4	16	1.545	0.440	511.5	1.750	0.0	3.500	6.336	6.720	354.75	ARD
MS46-2P-2	68	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-3P	53	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4P-1 US	56	0.605	0.172	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4P-1 DS	56	0.605	0.172	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS46-7P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS46-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
===>Grouped by Line:	***SG52-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS45-VALVE-MS-71-B	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS45-VALVE-HCV-5047	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-PCV-1215	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-PCV-1215A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-MS-131-B	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-3FE	6	5.162	1.469	511.5	3.040	0.0	3.500	6.336	6.720	354.75	ARD
MS45-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-6	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-5 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-7 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-7	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-1P-1	52	3.415	0.972	511.5	4.110	0.0	2.375	6.336	6.720	354.75	ARD
MS45-1P	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-6P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-5P	66	2.557	0.727	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-3	3	2.116	0.602	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-4	1	1.995	0.568	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-2P-3	68	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS45-3P	53	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS45-5	16	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-4P	51	1.330	0.378	511.5	1.706	0.0	3.500	6.336	6.720	354.75	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:	***SG52-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS45-3P-1	56	1.032	0.294	511.5	3.040	0.0	3.500	6.336	6.720	354.75	ARD
MS45-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS45-7P2	57	0.005	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS45-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
===>Grouped by Line:	***SG53-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS47-VALVE-MS-71C	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS47-VALVE-HCV-5048	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-VALVE-PCV-1216	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-VALVE-PCV-1216A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-VALVE-MS-131C	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-5	2	5.563	1.583	511.5	4.556	0.0	2.375	6.336	6.720	354.75	ARD
MS47-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-10	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-7	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-8	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-6	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-4 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-9 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-9	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-1P-1	52	3.335	0.949	511.5	4.006	0.0	2.375	6.336	6.720	354.75	ARD
MS47-8VP	52	3.309	0.941	511.5	3.972	0.0	2.375	6.336	6.720	354.75	ARD
MS47-1P	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS47-5P US	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-7P1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-3FE	6	3.023	0.860	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-6P	51	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-9P	62	2.557	0.727	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-4P DS	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS47-3	3	2.116	0.602	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-2P-2	68	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-3P	53	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	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:	***SG53-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS47-4	16	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-4P-1	56	0.605	0.172	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS47-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS47-10P1	52	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
===>Grouped by Line:	***SG54-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS48-VALVE-MS-71D	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS48-VALVE-HCV-5049	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-PCV-1217	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-PCV-1217A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-MS-131D	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-10	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-5	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-7	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-8	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-6	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-4 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-9 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-9	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1P-1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1P	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS48-10P1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1P-2	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-5P	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-7P1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-8VP	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-3FE	6	3.023	0.860	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-6P	51	2.812	0.800	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS48-9P	65	2.557	0.727	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-4P	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	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:	***SG54-1-CONT PEN to SGBFTK***								***Sorted By: Average Wear Rate***		
MS48-3	2	2.237	0.636	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-2P-2	68	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-3P	52	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS48-4	16	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-4P-1	56	0.605	0.172	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS48-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS48-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS48-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 4:26:12PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.020

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***SG51-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS46-1P-1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1P US	52	3.388	0.964	511.5	4.083	0.0	2.375	6.336	6.720	354.75	ARD
MS46-1P DS	52	3.361	0.956	511.5	4.048	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2P-3	52	3.442	0.979	511.5	4.145	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-PCV-1214	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-PCV-1214A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-2P-2	68	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-3	3	2.116	0.602	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-3P	53	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS46-3FE	6	3.023	0.860	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4P-1 US	56	0.605	0.172	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4P-1 DS	56	0.605	0.172	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4	16	1.545	0.440	511.5	1.750	0.0	3.500	6.336	6.720	354.75	ARD
MS46-4 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-4P US	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-4P DS	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-5	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-5P	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-MS-131-A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6P1	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6P US	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	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:	***SG51-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS46-6-1	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-6-1P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-7	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-7 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-VALVE-HCV-5046	24	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS46-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS46-7P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS46-Valve-MS-71-A	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
===>Grouped by Line:	***SG52-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS45-1P-1	52	3.415	0.972	511.5	4.110	0.0	2.375	6.336	6.720	354.75	ARD
MS45-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-1P	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-PCV-1215	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-PCV-1215A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-2P-3	68	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS45-3	3	2.116	0.602	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-3P	53	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS45-3FE	6	5.162	1.469	511.5	3.040	0.0	3.500	6.336	6.720	354.75	ARD
MS45-3P-1	56	1.032	0.294	511.5	3.040	0.0	3.500	6.336	6.720	354.75	ARD
MS45-4	1	1.995	0.568	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-4P	51	1.330	0.378	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS45-5	16	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS45-5 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-MS-131-B	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-5P	66	2.557	0.727	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-6	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-6P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-7	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-7 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-VALVE-HCV-5047	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	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:	***SG52-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS45-7R	7	0.002	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS45-7R (D/S)	7	0.006	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS45-7P2	57	0.005	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS45-VALVE-MS-71-B	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
===>Grouped by Line:	***SG53-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS47-1P-1	52	3.335	0.949	511.5	4.006	0.0	2.375	6.336	6.720	354.75	ARD
MS47-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-1P	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-VALVE-PCV-1216	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-VALVE-PCV-1216A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-2P-2	68	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-3	3	2.116	0.602	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-3P	53	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS47-3FE	6	3.023	0.860	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-4P-1	56	0.605	0.172	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-4	16	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS47-4 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-4P DS	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS47-5	2	5.563	1.583	511.5	4.556	0.0	2.375	6.336	6.720	354.75	ARD
MS47-5P US	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-6	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-6P	51	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-VALVE-MS-131C	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-7	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-7P1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-8	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-8VP	52	3.309	0.941	511.5	3.972	0.0	2.375	6.336	6.720	354.75	ARD
MS47-9	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-9 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-9P	62	2.557	0.727	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-10	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	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:	***SG53-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS47-VALVE-HCV-5048	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-10P1	52	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS47-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS47-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS47-VALVE-MS-71C	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
===>Grouped by Line:	***SG54-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS48-1P-1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1P	52	3.196	0.909	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-1P-2	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-PCV-1217	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2P	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-PCV-1217A	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2P-1	58	2.812	0.800	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2R	18	3.579	1.018	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-2R (D/S)	18	1.814	0.516	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-2P-2	68	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-3	2	2.237	0.636	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-3P	52	1.511	0.430	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS48-3FE	6	3.023	0.860	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-4P-1	56	0.605	0.172	511.5	1.706	0.0	3.500	6.336	6.720	354.75	ARD
MS48-4	16	1.511	0.430	511.5	1.709	0.0	3.500	6.336	6.720	354.75	ARD
MS48-4 (D/S)	16	3.963	1.127	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-4P	66	2.557	0.727	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS48-5	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-5P	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-6	1	4.218	1.200	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-6P	51	2.812	0.800	511.5	3.833	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-MS-131D	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-7	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-7P1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-8	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-8VP	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-9	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	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:	***SG54-1-CONT PEN to SGBFTK***									***Sorted By: Flow Order***	
MS48-9 (D/S)	15	3.835	1.091	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-9P	65	2.557	0.727	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-10	2	4.730	1.346	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-10P1	52	3.196	0.909	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-VALVE-HCV-5049	22	6.391	1.818	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-10R	17	0.003	0.001	511.5	3.826	0.0	2.375	6.336	6.720	354.75	ARD
MS48-10R (D/S)	17	0.007	0.002	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS48-10P2	67	0.004	0.001	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD
MS48-VALVE-MS-71D	20	19.252	5.478	511.5	15.718	0.0	1.315	6.336	6.720	354.75	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 4:26:12PM

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.020

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS46-Valve-MS-71-A	0.000	-0.311	0.040	0.040	-175,811	No	222,946
MS46-VALVE-MS-131-A	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS46-VALVE-HCV-5046	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS46-VALVE-PCV-1214	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS46-VALVE-PCV-1214A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS46-6-1	0.000	0.111	0.072	0.072	283,194	No	222,946
MS46-7	0.000	0.120	0.083	0.083	296,440	No	222,946
MS46-7 (D/S)	0.000	0.120	0.083	0.083	296,440	No	222,946
MS46-2R	0.000	0.127	0.083	0.083	373,585	No	222,946
MS46-1P-1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS46-6P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS46-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS46-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS46-6-1P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS46-1P DS	0.244	0.170	0.083	0.083	794,139	Yes	222,946
MS46-1P US	0.248	0.174	0.083	0.083	822,016	Yes	222,946
MS46-4P DS	0.000	0.153	0.083	0.083	836,455	No	222,946
MS46-1	0.000	0.240	0.083	0.083	1,016,556	No	222,946
MS46-3FE	0.000	0.223	0.123	0.123	1,018,938	No	222,946
MS46-2P-3	0.256	0.197	0.083	0.083	1,019,247	No	222,946
MS46-6P US	0.000	0.200	0.083	0.083	1,119,684	No	222,946
MS46-2	0.000	0.267	0.083	0.083	1,192,322	No	222,946
MS46-5P	0.000	0.213	0.083	0.083	1,244,933	No	222,946
MS46-4 (D/S)	0.000	0.256	0.083	0.083	1,336,885	Yes	222,946
MS46-4P US	0.000	0.202	0.083	0.083	1,429,623	No	222,946
MS46-5	0.000	0.315	0.083	0.083	1,504,744	Yes	222,946
MS46-3	0.000	0.245	0.123	0.123	1,768,949	Yes	222,946
MS46-6	0.000	0.349	0.072	0.072	2,025,265	No	222,946
MS46-2R (D/S)	0.000	0.254	0.123	0.123	2,220,624	No	222,946
MS46-3P	0.000	0.257	0.123	0.123	2,732,034	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS46-4	0.317	0.264	0.123	0.123	2,811,256	Yes	222,946
MS46-2P-2	0.000	0.265	0.123	0.123	2,894,997	Yes	222,946
MS46-4P-1 DS	0.000	0.275	0.123	0.123	7,732,475	Yes	222,946
MS46-4P-1 US	0.000	0.285	0.123	0.123	8,270,503	No	222,946
MS46-7R	0.000	0.803	0.090	0.090	100,000,000	No	222,946
MS46-7R (D/S)	0.000	0.341	0.050	0.050	100,000,000	No	222,946
MS46-7P2	0.000	0.257	0.050	0.050	100,000,000	No	222,946
===>Grouped by Line: **SG52-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS45-VALVE-MS-71-B	0.000	-0.311	0.040	0.040	-175,811	No	222,946
MS45-VALVE-MS-131-B	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS45-VALVE-HCV-5047	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS45-VALVE-PCV-1215	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS45-VALVE-PCV-1215A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS45-2	0.000	0.098	0.083	0.083	92,110	No	222,946
MS45-5 (D/S)	0.000	0.117	0.083	0.083	261,601	No	222,946
MS45-3FE	0.000	0.169	0.123	0.123	272,002	No	222,946
MS45-7	0.000	0.120	0.083	0.083	296,440	No	222,946
MS45-7 (D/S)	0.000	0.120	0.083	0.083	296,440	No	222,946
MS45-6	0.000	0.184	0.083	0.083	654,635	No	222,946
MS45-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS45-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS45-6P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS45-5P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS45-1P-1	0.252	0.178	0.083	0.083	849,350	Yes	222,946
MS45-1P	0.000	0.180	0.083	0.083	927,042	Yes	222,946
MS45-1	0.000	0.240	0.083	0.083	1,016,556	No	222,946
MS45-2R	0.000	0.213	0.083	0.083	1,110,794	No	222,946
MS45-4	0.000	0.249	0.123	0.123	1,947,513	No	222,946
MS45-3	0.000	0.289	0.123	0.123	2,414,912	Yes	222,946
MS45-5	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS45-2R (D/S)	0.000	0.304	0.123	0.123	3,076,888	Yes	222,946
MS45-2P-3	0.000	0.283	0.123	0.123	3,249,955	Yes	222,946
MS45-4P	0.000	0.266	0.123	0.123	3,313,065	No	222,946
MS45-3P	0.000	0.322	0.123	0.123	4,044,396	Yes	222,946
MS45-3P-1	0.000	0.269	0.123	0.123	4,341,411	Yes	222,946
MS45-7R	0.000	0.807	0.090	0.090	100,000,000	No	222,946
MS45-7R (D/S)	0.000	0.342	0.050	0.050	100,000,000	No	222,946
MS45-7P2	0.000	0.241	0.050	0.050	100,000,000	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG53-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS47-VALVE-MS-71C	0.000	-0.311	0.040	0.040	-175,811	No	222,946
MS47-VALVE-MS-131C	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS47-VALVE-HCV-5048	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS47-VALVE-PCV-1216	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS47-VALVE-PCV-1216A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS47-2	0.000	0.098	0.083	0.083	92,110	No	222,946
MS47-10	0.000	0.098	0.083	0.083	92,110	No	222,946
MS47-7	0.000	0.098	0.072	0.072	167,866	No	222,946
MS47-8	0.000	0.098	0.072	0.072	167,866	No	222,946
MS47-4 (D/S)	0.000	0.117	0.083	0.083	261,601	No	222,946
MS47-6	0.000	0.111	0.072	0.072	283,194	No	222,946
MS47-2R	0.000	0.127	0.083	0.083	373,585	No	222,946
MS47-9	0.000	0.120	0.072	0.072	389,873	No	222,946
MS47-9 (D/S)	0.000	0.120	0.072	0.072	389,873	No	222,946
MS47-7P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS47-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS47-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS47-6P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS47-9P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS47-8VP	0.236	0.176	0.083	0.083	863,091	Yes	222,946
MS47-1P	0.000	0.176	0.083	0.083	888,504	Yes	222,946
MS47-5	0.299	0.240	0.072	0.072	933,376	No	222,946
MS47-1P-1	0.240	0.190	0.083	0.083	987,280	No	222,946
MS47-4P DS	0.000	0.166	0.083	0.083	991,252	Yes	222,946
MS47-3FE	0.000	0.223	0.123	0.123	1,018,938	No	222,946
MS47-5P US	0.000	0.192	0.083	0.083	1,047,808	Yes	222,946
MS47-1	0.000	0.353	0.083	0.083	1,752,167	No	222,946
MS47-3	0.000	0.276	0.123	0.123	2,220,005	Yes	222,946
MS47-2R (D/S)	0.000	0.254	0.123	0.123	2,220,624	No	222,946
MS47-3P	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS47-4	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS47-2P-2	0.000	0.265	0.123	0.123	2,894,997	No	222,946
MS47-4P-1	0.000	0.290	0.123	0.123	8,525,131	Yes	222,946
MS47-10P1	0.000	0.218	0.088	0.088	100,000,000	No	222,946
MS47-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS47-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS47-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946
===>Grouped by Line: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Remaining Life***		
MS48-VALVE-MS-71D	0.000	-0.311	0.040	0.040	-175,811	No	222,946
MS48-VALVE-HCV-5049	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS48-VALVE-MS-131D	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS48-VALVE-PCV-1217	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS48-VALVE-PCV-1217A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS48-7	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-8	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-10	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-2	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-5	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-6	0.000	0.111	0.083	0.083	198,256	No	222,946
MS48-4 (D/S)	0.000	0.117	0.083	0.083	261,601	No	222,946
MS48-9	0.000	0.120	0.083	0.083	296,440	No	222,946
MS48-9 (D/S)	0.000	0.120	0.083	0.083	296,440	No	222,946
MS48-2R	0.000	0.127	0.083	0.083	373,585	No	222,946
MS48-7P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-10P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-1P-1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-1P-2	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-5P	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS48-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS48-6P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS48-9P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS48-4P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS48-1P	0.000	0.176	0.083	0.083	888,504	Yes	222,946
MS48-3FE	0.000	0.223	0.123	0.123	1,018,938	No	222,946
MS48-8VP	0.000	0.192	0.083	0.083	1,046,067	Yes	222,946
MS48-1	0.000	0.302	0.083	0.083	1,420,166	No	222,946
MS48-3	0.000	0.235	0.123	0.123	1,547,962	Yes	222,946
MS48-2R (D/S)	0.000	0.254	0.123	0.123	2,220,624	No	222,946
MS48-2P-2	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS48-4	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS48-3P	0.000	0.277	0.123	0.123	3,139,440	Yes	222,946
MS48-4P-1	0.000	0.255	0.123	0.123	6,742,732	Yes	222,946
MS48-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS48-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS48-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.020

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS46-1P-1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS46-1	0.000	0.240	0.083	0.083	1,016,556	No	222,946
MS46-1P US	0.248	0.174	0.083	0.083	822,016	Yes	222,946
MS46-1P DS	0.244	0.170	0.083	0.083	794,139	Yes	222,946
MS46-2	0.000	0.267	0.083	0.083	1,192,322	No	222,946
MS46-2P-3	0.256	0.197	0.083	0.083	1,019,247	No	222,946
MS46-VALVE-PCV-1214	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS46-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS46-VALVE-PCV-1214A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS46-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS46-2R	0.000	0.127	0.083	0.083	373,585	No	222,946
MS46-2R (D/S)	0.000	0.254	0.123	0.123	2,220,624	No	222,946
MS46-2P-2	0.000	0.265	0.123	0.123	2,894,997	Yes	222,946
MS46-3	0.000	0.245	0.123	0.123	1,768,949	Yes	222,946
MS46-3P	0.000	0.257	0.123	0.123	2,732,034	Yes	222,946
MS46-3FE	0.000	0.223	0.123	0.123	1,018,938	No	222,946
MS46-4P-1 US	0.000	0.285	0.123	0.123	8,270,503	No	222,946
MS46-4P-1 DS	0.000	0.275	0.123	0.123	7,732,475	Yes	222,946
MS46-4	0.317	0.264	0.123	0.123	2,811,256	Yes	222,946
MS46-4 (D/S)	0.000	0.256	0.083	0.083	1,336,885	Yes	222,946
MS46-4P US	0.000	0.202	0.083	0.083	1,429,623	No	222,946
MS46-4P DS	0.000	0.153	0.083	0.083	836,455	No	222,946
MS46-5	0.000	0.315	0.083	0.083	1,504,744	Yes	222,946
MS46-5P	0.000	0.213	0.083	0.083	1,244,933	No	222,946
MS46-VALVE-MS-131-A	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS46-6P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS46-6	0.000	0.349	0.072	0.072	2,025,265	No	222,946
MS46-6P US	0.000	0.200	0.083	0.083	1,119,684	No	222,946
MS46-6-1	0.000	0.111	0.072	0.072	283,194	No	222,946
MS46-6-1P	0.000	0.146	0.083	0.083	689,178	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG51-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS46-7	0.000	0.120	0.083	0.083	296,440	No	222,946
MS46-7 (D/S)	0.000	0.120	0.083	0.083	296,440	No	222,946
MS46-VALVE-HCV-5046	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS46-7R	0.000	0.803	0.090	0.090	100,000,000	No	222,946
MS46-7R (D/S)	0.000	0.341	0.050	0.050	100,000,000	No	222,946
MS46-7P2	0.000	0.257	0.050	0.050	100,000,000	No	222,946
MS46-Valve-MS-71-A	0.000	-0.311	0.040	0.040	-175,811	No	222,946
===>Grouped by Line: **SG52-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS45-1P-1	0.252	0.178	0.083	0.083	849,350	Yes	222,946
MS45-1	0.000	0.240	0.083	0.083	1,016,556	No	222,946
MS45-1P	0.000	0.180	0.083	0.083	927,042	Yes	222,946
MS45-2	0.000	0.098	0.083	0.083	92,110	No	222,946
MS45-VALVE-PCV-1215	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS45-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS45-VALVE-PCV-1215A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS45-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS45-2R	0.000	0.213	0.083	0.083	1,110,794	No	222,946
MS45-2R (D/S)	0.000	0.304	0.123	0.123	3,076,888	Yes	222,946
MS45-2P-3	0.000	0.283	0.123	0.123	3,249,955	Yes	222,946
MS45-3	0.000	0.289	0.123	0.123	2,414,912	Yes	222,946
MS45-3P	0.000	0.322	0.123	0.123	4,044,396	Yes	222,946
MS45-3FE	0.000	0.169	0.123	0.123	272,002	No	222,946
MS45-3P-1	0.000	0.269	0.123	0.123	4,341,411	Yes	222,946
MS45-4	0.000	0.249	0.123	0.123	1,947,513	No	222,946
MS45-4P	0.000	0.266	0.123	0.123	3,313,065	No	222,946
MS45-5	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS45-5 (D/S)	0.000	0.117	0.083	0.083	261,601	No	222,946
MS45-VALVE-MS-131-B	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS45-5P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS45-6	0.000	0.184	0.083	0.083	654,635	No	222,946
MS45-6P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS45-7	0.000	0.120	0.083	0.083	296,440	No	222,946
MS45-7 (D/S)	0.000	0.120	0.083	0.083	296,440	No	222,946
MS45-VALVE-HCV-5047	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS45-7R	0.000	0.807	0.090	0.090	100,000,000	No	222,946
MS45-7R (D/S)	0.000	0.342	0.050	0.050	100,000,000	No	222,946
MS45-7P2	0.000	0.241	0.050	0.050	100,000,000	No	222,946
MS45-VALVE-MS-71-B	0.000	-0.311	0.040	0.040	-175,811	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG53-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS47-1P-1	0.240	0.190	0.083	0.083	987,280	No	222,946
MS47-1	0.000	0.353	0.083	0.083	1,752,167	No	222,946
MS47-1P	0.000	0.176	0.083	0.083	888,504	Yes	222,946
MS47-2	0.000	0.098	0.083	0.083	92,110	No	222,946
MS47-VALVE-PCV-1216	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS47-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS47-VALVE-PCV-1216A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS47-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS47-2R	0.000	0.127	0.083	0.083	373,585	No	222,946
MS47-2R (D/S)	0.000	0.254	0.123	0.123	2,220,624	No	222,946
MS47-2P-2	0.000	0.265	0.123	0.123	2,894,997	No	222,946
MS47-3	0.000	0.276	0.123	0.123	2,220,005	Yes	222,946
MS47-3P	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS47-3FE	0.000	0.223	0.123	0.123	1,018,938	No	222,946
MS47-4P-1	0.000	0.290	0.123	0.123	8,525,131	Yes	222,946
MS47-4	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS47-4 (D/S)	0.000	0.117	0.083	0.083	261,601	No	222,946
MS47-4P DS	0.000	0.166	0.083	0.083	991,252	Yes	222,946
MS47-5	0.299	0.240	0.072	0.072	933,376	No	222,946
MS47-5P US	0.000	0.192	0.083	0.083	1,047,808	Yes	222,946
MS47-6	0.000	0.111	0.072	0.072	283,194	No	222,946
MS47-6P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS47-VALVE-MS-131C	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS47-7	0.000	0.098	0.072	0.072	167,866	No	222,946
MS47-7P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS47-8	0.000	0.098	0.072	0.072	167,866	No	222,946
MS47-8VP	0.236	0.176	0.083	0.083	863,091	Yes	222,946
MS47-9	0.000	0.120	0.072	0.072	389,873	No	222,946
MS47-9 (D/S)	0.000	0.120	0.072	0.072	389,873	No	222,946
MS47-9P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS47-10	0.000	0.098	0.083	0.083	92,110	No	222,946
MS47-VALVE-HCV-5048	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS47-10P1	0.000	0.218	0.088	0.088	100,000,000	No	222,946
MS47-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS47-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS47-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946
MS47-VALVE-MS-71C	0.000	-0.311	0.040	0.040	-175,811	No	222,946
===>Grouped by Line: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **SG54-1-CONT PEN to SGBFTK**					***Sorted By:Flow Order***		
MS48-1P-1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-1	0.000	0.302	0.083	0.083	1,420,166	No	222,946
MS48-1P	0.000	0.176	0.083	0.083	888,504	Yes	222,946
MS48-2	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-1P-2	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-VALVE-PCV-1217	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS48-2P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS48-VALVE-PCV-1217A	0.000	0.055	0.072	0.072	-74,334	No	222,946
MS48-2P-1	0.000	0.146	0.083	0.083	689,178	No	222,946
MS48-2R	0.000	0.127	0.083	0.083	373,585	No	222,946
MS48-2R (D/S)	0.000	0.254	0.123	0.123	2,220,624	No	222,946
MS48-2P-2	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS48-3	0.000	0.235	0.123	0.123	1,547,962	Yes	222,946
MS48-3P	0.000	0.277	0.123	0.123	3,139,440	Yes	222,946
MS48-3FE	0.000	0.223	0.123	0.123	1,018,938	No	222,946
MS48-4P-1	0.000	0.255	0.123	0.123	6,742,732	Yes	222,946
MS48-4	0.000	0.262	0.123	0.123	2,821,466	No	222,946
MS48-4 (D/S)	0.000	0.117	0.083	0.083	261,601	No	222,946
MS48-4P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS48-5	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-5P	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-6	0.000	0.111	0.083	0.083	198,256	No	222,946
MS48-6P	0.000	0.146	0.083	0.083	689,178	No	222,946
MS48-VALVE-MS-131D	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS48-7	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-7P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-8	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-8VP	0.000	0.192	0.083	0.083	1,046,067	Yes	222,946
MS48-9	0.000	0.120	0.083	0.083	296,440	No	222,946
MS48-9 (D/S)	0.000	0.120	0.083	0.083	296,440	No	222,946
MS48-9P	0.000	0.153	0.083	0.083	836,455	No	222,946
MS48-10	0.000	0.098	0.083	0.083	92,110	No	222,946
MS48-10P1	0.000	0.137	0.083	0.083	512,446	No	222,946
MS48-VALVE-HCV-5049	0.000	0.055	0.089	0.089	-91,657	No	222,946
MS48-10R	0.000	0.218	0.094	0.094	100,000,000	No	222,946
MS48-10R (D/S)	0.000	0.179	0.052	0.052	100,000,000	No	222,946
MS48-10P2	0.000	0.179	0.050	0.050	100,000,000	No	222,946
MS48-VALVE-MS-71D	0.000	-0.311	0.040	0.040	-175,811	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

5

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: BLOWDOWN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.020

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:	**SG51-1-CONT PEN to SGBFTK**											***Sorted By: Flow Order***
MS46-1P US	0.248	55.2	43.0	55.2	43.0	0.205	MT	106,128	192.8	205.0	31.1	106,128
MS46-1P DS	0.244	54.7	43.0	54.7	43.0	0.201	MT	106,128	189.3	201.0	30.8	106,128
MS46-2P-2	0.000	24.6	39.0	24.6	39.0	0.279	MT	106,128	275.4	279.0	13.9	106,128
MS46-3	0.000	34.5	49.0	34.5	49.0	0.264	MT	106,128	265.5	264.0	19.4	106,128
MS46-3P	0.000	24.6	37.0	24.6	37.0	0.271	MT	106,128	275.4	271.0	13.9	106,128
MS46-4P-1 DS	0.000	14.2	37.0	14.2	37.0	0.276	MT	165,113	285.8	276.0	1.1	165,113
MS46-4	0.317	36.4	50.0	36.4	50.0	0.267	MT	165,113	280.6	267.0	2.9	165,113
MS46-4 (D/S)	0.000	93.4	109.0	93.4	109.0	0.263	MT	165,113	124.6	263.0	7.5	165,113
MS46-5	0.000	114.0	114.0	114.0	114.0	0.321	GW	181,477	104.0	321.0	6.4	181,477
===>Grouped by Line:	**SG52-1-CONT PEN to SGBFTK**											***Sorted By: Flow Order***
MS45-1P-1	0.252	55.6	43.0	55.6	43.0	0.209	MT	106,128	196.4	209.0	31.3	106,128
MS45-1P	0.000	52.0	39.0	52.0	39.0	0.209	MT	106,128	166.0	209.0	29.3	106,128
MS45-2R (D/S)	0.000	44.4	53.0	44.4	53.0	0.306	GW	193,769	255.6	306.0	1.7	193,769
MS45-2P-3	0.000	37.0	50.0	37.0	50.0	0.284	GW	193,769	263.0	284.0	1.4	193,769
MS45-3	0.000	51.8	42.0	51.8	42.0	0.291	GW	193,769	248.2	291.0	2.0	193,769
MS45-3P	0.000	37.0	35.0	37.0	35.0	0.323	GW	193,769	263.0	323.0	1.4	193,769
MS45-3P-1	0.000	19.9	35.0	19.9	35.0	0.275	MT	125,459	280.1	275.0	6.4	125,459
===>Grouped by Line:	**SG53-1-CONT PEN to SGBFTK**											***Sorted By: Flow Order***
MS47-1P	0.000	52.0	43.0	52.0	43.0	0.205	MT	106,128	166.0	205.0	29.3	106,128
MS47-3	0.000	34.5	31.0	34.5	31.0	0.295	MT	106,128	265.5	295.0	19.4	106,128
MS47-4P-1	0.000	14.8	32.0	14.8	32.0	0.291	GW	193,769	285.2	291.0	0.6	193,769
MS47-4P DS	0.000	58.9	54.0	58.9	54.0	0.172	MT	149,573	159.1	172.0	6.2	149,573
MS47-5P US	0.000	73.6	33.0	73.6	33.0	0.200	MT	149,573	144.4	200.0	7.8	149,573
MS47-8VP	0.236	60.5	36.0	60.5	36.0	0.200	MT	119,088	175.5	200.0	23.8	119,088
===>Grouped by Line:	**SG54-1-CONT PEN to SGBFTK**											***Sorted By: Flow Order***

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:	**SG54-1-CONT PEN to SGBFTK**											***Sorted By: Flow Order***
MS48-1P	0.000	52.0	35.0	52.0	35.0	0.205	MT	106,128	166.0	205.0	29.3	106,128
MS48-3	0.000	36.4	49.0	36.4	49.0	0.256	MT	106,128	263.6	256.0	20.5	106,128
MS48-3P	0.000	24.6	32.0	24.6	32.0	0.291	MT	106,128	275.4	291.0	13.9	106,128
MS48-4P-1	0.000	14.8	53.0	14.8	53.0	0.256	GW	193,769	285.2	256.0	0.6	193,769
MS48-8VP	0.000	58.4	36.0	58.4	36.0	0.215	MT	119,088	159.6	215.0	22.9	119,088

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:20:43PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.540

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD83-1-HDR HDP to BFP21T***								***Sorted By: Average Wear Rate***		
CD-82T	14	6.814	2.852	377.7	15.770	0.0	30.000	6.828	0.000	90.02	ARD
CD-81T (D/S)	12	5.080	2.126	377.7	15.770	0.0	30.000	6.828	0.000	90.02	ARD
CD-81T	12	5.080	2.126	377.7	15.770	0.0	30.000	6.828	0.000	90.02	ARD
CD-82T (D/S)	14	4.625	1.936	377.7	7.885	0.0	30.000	6.828	0.000	90.02	ARD
CD-82T (BR/SE)	14	3.978	1.665	377.7	12.729	0.0	24.000	6.828	0.000	90.02	ARD
===>Grouped by Line:	***CD83-2-HDR to BFP21***								***Sorted By: Average Wear Rate***		
CD-72FE	6	7.525	3.150	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-VALVE-CD-21	22	5.567	2.330	377.7	12.318	0.0	24.000	6.828	0.000	90.02	ARD
CD-9	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-66	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-67	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-68	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-69	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-70	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-71	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-38	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-8	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-73	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-7	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-64	3	3.979	1.665	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-74	1	3.751	1.570	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P US	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P DS	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-7P	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65R (D/S)	17	2.959	1.238	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD
CD-65N	30	2.861	2.752	377.7	22.881	0.0	18.000	6.828	0.000	90.02	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:	***CD83-2-HDR to BFP21***								***Sorted By: Average Wear Rate***		
CD-66P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-67P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-69P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-70P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-71P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-38P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-8P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-73P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-64P	53	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65R	17	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-68P	58	2.501	1.047	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-9P	64	2.273	0.952	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P-1 US	56	1.505	0.630	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P-1 DS	56	1.505	0.630	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
===>Grouped by Line:	***CD83-3-HDR to BFP22***								***Sorted By: Average Wear Rate***		
CD-76FE	6	7.525	3.150	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-75N	30	6.575	2.752	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD
CD-VALVE-CD-21-1	22	5.567	2.330	377.7	12.318	0.0	24.000	6.828	0.000	90.02	ARD
CD-84T	12	4.661	1.951	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-6	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-76	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-10	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-84T (BR/SE)	12	3.865	1.618	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-76P US	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-82R (D/S)	7	3.637	1.522	377.7	12.729	0.0	24.000	6.828	0.000	90.02	ARD
CD-83T (D/S)	15	3.410	1.427	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-83T	15	3.410	1.427	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75R (D/S)	17	2.959	1.238	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD
CD-82R	7	2.943	1.232	377.7	7.885	0.0	30.000	6.828	0.000	90.02	ARD
CD-82P US	57	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-10P DS	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75P US	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75R	17	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	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:	***CD83-3-HDR to BFP22***								***Sorted By: Average Wear Rate***		
CD-76P DS	56	1.505	0.630	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:20:43PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.540

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD83-1-HDR HDP to BFP21T***									***Sorted By: Flow Order***	
CD-81T (D/S)	12	5.080	2.126	377.7	15.770	0.0	30.000	6.828	0.000	90.02	ARD
CD-82T	14	6.814	2.852	377.7	15.770	0.0	30.000	6.828	0.000	90.02	ARD
CD-82T (BR/SE)	14	3.978	1.665	377.7	12.729	0.0	24.000	6.828	0.000	90.02	ARD
CD-82T (D/S)	14	4.625	1.936	377.7	7.885	0.0	30.000	6.828	0.000	90.02	ARD
CD-81T	12	5.080	2.126	377.7	15.770	0.0	30.000	6.828	0.000	90.02	ARD
===>Grouped by Line:	***CD83-2-HDR to BFP21***									***Sorted By: Flow Order***	
CD-9P	64	2.273	0.952	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-9	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-66P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-66	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-67P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-67	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-VALVE-CD-21	22	5.567	2.330	377.7	12.318	0.0	24.000	6.828	0.000	90.02	ARD
CD-68P	58	2.501	1.047	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-68	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-69P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-69	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-70P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-70	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-71P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-71	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-38P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-38	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-8P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-8	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P US	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	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:	***CD83-2-HDR to BFP21***									***Sorted By: Flow Order***	
CD-72P DS	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-72FE	6	7.525	3.150	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P-1 US	56	1.505	0.630	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-72P-1 DS	56	1.505	0.630	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-73	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-73P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-7	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-7P	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-74	1	3.751	1.570	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-64	3	3.979	1.665	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-64P	53	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65R	17	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-65R (D/S)	17	2.959	1.238	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD
CD-65N	30	2.861	2.752	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD
===>Grouped by Line:	***CD83-3-HDR to BFP22***									***Sorted By: Flow Order***	
CD-82R	7	2.943	1.232	377.7	7.885	0.0	30.000	6.828	0.000	90.02	ARD
CD-82R (D/S)	7	3.637	1.522	377.7	12.729	0.0	24.000	6.828	0.000	90.02	ARD
CD-82P US	57	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-83T	15	3.410	1.427	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-83T (D/S)	15	3.410	1.427	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-84T	12	4.661	1.951	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-84T (BR/SE)	12	3.865	1.618	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-VALVE-CD-21-1	22	5.567	2.330	377.7	12.318	0.0	24.000	6.828	0.000	90.02	ARD
CD-6	4	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-76P US	54	3.638	1.522	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-76FE	6	7.525	3.150	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-76P DS	56	1.505	0.630	377.7	19.891	0.0	24.000	6.828	0.000	90.02	ARD
CD-76	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-10P DS	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-10	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75P US	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75	2	4.206	1.760	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75P	52	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	ARD
CD-75R	17	2.842	1.189	377.7	12.731	0.0	24.000	6.828	0.000	90.02	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:	***CD83-3-HDR to BFP22***									***Sorted By: Flow Order***	
CD-75R (D/S)	17	2.959	1.238	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD
CD-75N	30	6.575	2.752	377.7	22.881	0.0	18.000	6.828	0.000	90.02	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:20:43PM

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.540

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD83-1-HDR HDP to BFP21T**					***Sorted By:Remaining Life***		
CD-82T	0.000	0.628	0.561	0.561	205,076	No	222,946
CD-81T	0.000	0.632	0.561	0.561	290,281	No	222,946
CD-81T (D/S)	0.000	0.634	0.561	0.561	298,522	No	222,946
CD-82T (D/S)	0.000	0.629	0.561	0.561	304,037	No	222,946
CD-82T (BR/SE)	0.000	0.649	0.449	0.449	1,051,130	No	222,946
===>Grouped by Line: **CD83-2-HDR to BFP21**					***Sorted By:Remaining Life***		
CD-72FE	0.000	0.496	0.523	0.523	-69,383	No	222,946
CD-VALVE-CD-21	0.000	0.546	0.559	0.559	-47,702	No	222,946
CD-8	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-67	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-68	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-72	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-7	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-65	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-70	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-38	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-66	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-74	0.000	0.593	0.523	0.523	389,436	No	222,946
CD-72P US	0.000	0.595	0.523	0.523	418,252	No	222,946
CD-7P	0.000	0.595	0.523	0.523	418,252	No	222,946
CD-71	0.000	0.616	0.523	0.523	465,429	Yes	222,946
CD-65P	0.000	0.591	0.523	0.523	504,490	Yes	222,946
CD-9	0.000	0.628	0.523	0.523	525,143	Yes	222,946
CD-69	0.000	0.651	0.523	0.523	638,084	Yes	222,946
CD-64	0.000	0.645	0.523	0.523	643,563	Yes	222,946
CD-65R (D/S)	0.000	0.487	0.392	0.392	669,629	No	222,946
CD-73	0.000	0.658	0.523	0.523	674,838	Yes	222,946
CD-8P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-73P	0.000	0.616	0.523	0.523	684,509	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD83-2-HDR to BFP21**					***Sorted By:Remaining Life***		
CD-64P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-65R	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-71P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-67P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-69P	0.000	0.621	0.523	0.523	725,644	Yes	222,946
CD-72P DS	0.000	0.651	0.523	0.523	737,717	No	222,946
CD-66P	0.000	0.628	0.523	0.523	776,986	Yes	222,946
CD-68P	0.000	0.624	0.523	0.523	850,488	No	222,946
CD-9P	0.000	0.630	0.523	0.523	988,803	No	222,946
CD-38P	0.000	0.657	0.523	0.523	990,565	Yes	222,946
CD-70P	0.000	0.676	0.523	0.523	1,125,998	Yes	222,946
CD-65N	0.000	0.855	0.392	0.392	1,474,138	No	57,833
CD-72P-1 US	0.000	0.658	0.523	0.523	1,880,539	Yes	222,946
CD-72P-1 DS	0.000	0.669	0.523	0.523	2,040,482	Yes	222,946
===>Grouped by Line: **CD83-3-HDR to BFP22**					***Sorted By:Remaining Life***		
CD-76FE	0.000	0.496	0.523	0.523	-69,383	No	222,946
CD-VALVE-CD-21-1	0.000	0.546	0.559	0.559	-47,702	No	222,946
CD-75N	0.000	0.395	0.392	0.392	8,367	No	222,946
CD-82R	0.000	0.596	0.561	0.561	244,829	Yes	222,946
CD-76	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-76P US	0.000	0.598	0.523	0.523	433,795	Yes	222,946
CD-83T	0.000	0.601	0.523	0.523	481,647	No	222,946
CD-83T (D/S)	0.000	0.601	0.523	0.523	481,647	No	222,946
CD-84T	0.000	0.646	0.523	0.523	555,264	Yes	222,946
CD-75R (D/S)	0.000	0.471	0.392	0.392	560,472	Yes	222,946
CD-75P US	0.000	0.602	0.523	0.523	582,445	Yes	222,946
CD-6	0.000	0.647	0.523	0.523	620,814	Yes	222,946
CD-10P DS	0.000	0.611	0.523	0.523	648,728	Yes	222,946
CD-75P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-10	0.000	0.663	0.523	0.523	700,434	Yes	222,946
CD-84T (BR/SE)	0.000	0.672	0.523	0.523	808,711	Yes	222,946
CD-75	0.000	0.693	0.523	0.523	849,085	Yes	222,946
CD-82P US	0.000	0.644	0.523	0.523	891,766	Yes	222,946
CD-75R	0.000	0.668	0.523	0.523	1,068,521	Yes	222,946
CD-82R (D/S)	0.000	0.655	0.449	0.449	1,184,003	Yes	222,946
CD-76P DS	0.000	0.650	0.523	0.523	1,765,622	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.540

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD83-1-HDR HDP to BFP21T**					***Sorted By:Flow Order***		
CD-81T (D/S)	0.000	0.634	0.561	0.561	298,522	No	222,946
CD-82T	0.000	0.628	0.561	0.561	205,076	No	222,946
CD-82T (BR/SE)	0.000	0.649	0.449	0.449	1,051,130	No	222,946
CD-82T (D/S)	0.000	0.629	0.561	0.561	304,037	No	222,946
CD-81T	0.000	0.632	0.561	0.561	290,281	No	222,946
===>Grouped by Line: **CD83-2-HDR to BFP21**					***Sorted By:Flow Order***		
CD-9P	0.000	0.630	0.523	0.523	988,803	No	222,946
CD-9	0.000	0.628	0.523	0.523	525,143	Yes	222,946
CD-66P	0.000	0.628	0.523	0.523	776,986	Yes	222,946
CD-66	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-67P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-67	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-VALVE-CD-21	0.000	0.546	0.559	0.559	-47,702	No	222,946
CD-68P	0.000	0.624	0.523	0.523	850,488	No	222,946
CD-68	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-69P	0.000	0.621	0.523	0.523	725,644	Yes	222,946
CD-69	0.000	0.651	0.523	0.523	638,084	Yes	222,946
CD-70P	0.000	0.676	0.523	0.523	1,125,998	Yes	222,946
CD-70	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-71P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-71	0.000	0.616	0.523	0.523	465,429	Yes	222,946
CD-38P	0.000	0.657	0.523	0.523	990,565	Yes	222,946
CD-38	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-8P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-8	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-72	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-72P US	0.000	0.595	0.523	0.523	418,252	No	222,946
CD-72P DS	0.000	0.651	0.523	0.523	737,717	No	222,946
CD-72FE	0.000	0.496	0.523	0.523	-69,383	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD83-2-HDR to BFP21**					***Sorted By:Flow Order***		
CD-72P-1 US	0.000	0.658	0.523	0.523	1,880,539	Yes	222,946
CD-72P-1 DS	0.000	0.669	0.523	0.523	2,040,482	Yes	222,946
CD-73	0.000	0.658	0.523	0.523	674,838	Yes	222,946
CD-73P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-7	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-7P	0.000	0.595	0.523	0.523	418,252	No	222,946
CD-74	0.000	0.593	0.523	0.523	389,436	No	222,946
CD-64	0.000	0.645	0.523	0.523	643,563	Yes	222,946
CD-64P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-65	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-65P	0.000	0.591	0.523	0.523	504,490	Yes	222,946
CD-65R	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-65R (D/S)	0.000	0.487	0.392	0.392	669,629	No	222,946
CD-65N	0.000	0.855	0.392	0.392	1,474,138	No	57,833
===>Grouped by Line: **CD83-3-HDR to BFP22**					***Sorted By:Flow Order***		
CD-82R	0.000	0.596	0.561	0.561	244,829	Yes	222,946
CD-82R (D/S)	0.000	0.655	0.449	0.449	1,184,003	Yes	222,946
CD-82P US	0.000	0.644	0.523	0.523	891,766	Yes	222,946
CD-83T	0.000	0.601	0.523	0.523	481,647	No	222,946
CD-83T (D/S)	0.000	0.601	0.523	0.523	481,647	No	222,946
CD-84T	0.000	0.646	0.523	0.523	555,264	Yes	222,946
CD-84T (BR/SE)	0.000	0.672	0.523	0.523	808,711	Yes	222,946
CD-VALVE-CD-21-1	0.000	0.546	0.559	0.559	-47,702	No	222,946
CD-6	0.000	0.647	0.523	0.523	620,814	Yes	222,946
CD-76P US	0.000	0.598	0.523	0.523	433,795	Yes	222,946
CD-76FE	0.000	0.496	0.523	0.523	-69,383	No	222,946
CD-76P DS	0.000	0.650	0.523	0.523	1,765,622	No	222,946
CD-76	0.000	0.581	0.523	0.523	289,750	No	222,946
CD-10P DS	0.000	0.611	0.523	0.523	648,728	Yes	222,946
CD-10	0.000	0.663	0.523	0.523	700,434	Yes	222,946
CD-75P US	0.000	0.602	0.523	0.523	582,445	Yes	222,946
CD-75	0.000	0.693	0.523	0.523	849,085	Yes	222,946
CD-75P	0.000	0.616	0.523	0.523	684,509	No	222,946
CD-75R	0.000	0.668	0.523	0.523	1,068,521	Yes	222,946
CD-75R (D/S)	0.000	0.471	0.392	0.392	560,472	Yes	222,946
CD-75N	0.000	0.395	0.392	0.392	8,367	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: CND DWNSTRM HDPD
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.540

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:	**CD83-2-HDR to BFP21**											***Sorted By: Flow Order***
CD-9	0.000	76.3	115.0	76.3	115.0	0.659	MT	119,088	611.7	659.0	30.7	119,088
CD-66P	0.000	51.6	80.0	51.6	80.0	0.649	MT	119,088	636.4	649.0	20.8	119,088
CD-69P	0.000	66.6	95.0	66.6	95.0	0.627	GW	181,477	621.4	627.0	5.7	181,477
CD-69	0.000	68.0	68.0	68.0	68.0	0.690	MT	106,128	620.0	690.0	39.0	106,128
CD-70P	0.000	45.9	41.0	45.9	41.0	0.702	MT	106,128	642.1	702.0	26.4	106,128
CD-71	0.000	76.3	76.0	76.3	76.0	0.647	MT	119,088	611.7	647.0	30.7	119,088
CD-38P	0.000	51.6	68.0	51.6	68.0	0.678	MT	119,088	636.4	678.0	20.8	119,088
CD-72P-1 US	0.000	35.3	88.0	35.3	88.0	0.661	GW	181,477	652.7	661.0	3.0	181,477
CD-72P-1 DS	0.000	28.8	41.0	28.8	41.0	0.679	MT	125,459	659.2	679.0	9.5	125,459
CD-73	0.000	80.4	70.0	80.4	70.0	0.685	MT	125,459	607.6	685.0	26.7	125,459
CD-64	0.000	64.3	59.0	64.3	59.0	0.682	MT	106,128	623.7	682.0	36.9	106,128
CD-65P	0.000	51.6	82.0	51.6	82.0	0.612	MT	119,088	636.4	612.0	20.8	119,088
===>Grouped by Line:	**CD83-3-HDR to BFP22**											***Sorted By: Flow Order***
CD-82R	0.000	70.8	41.0	70.8	41.0	0.600	MT	193,769	555.2	600.0	4.1	193,769
CD-82R (D/S)	0.000	87.5	50.0	87.5	50.0	0.660	MT	193,769	599.5	660.0	5.1	193,769
CD-82P US	0.000	59.1	68.0	59.1	68.0	0.657	MT	136,608	628.9	657.0	13.2	136,608
CD-84T	0.000	97.0	85.0	97.0	85.0	0.668	MT	136,608	591.0	668.0	21.6	136,608
CD-84T (BR/SE)	0.000	80.4	65.0	80.4	65.0	0.690	MT	136,608	607.6	690.0	17.9	136,608
CD-6	0.000	87.5	73.0	87.5	73.0	0.667	MT	136,608	600.5	667.0	19.5	136,608
CD-76P US	0.000	75.7	110.0	75.7	110.0	0.615		136,608	612.3	615.0	16.9	136,608
CD-10P DS	0.000	59.1	64.0	59.1	64.0	0.624	MT	136,608	628.9	624.0	13.2	136,608
CD-10	0.000	87.5	60.0	87.5	60.0	0.683	MT	136,608	600.5	683.0	19.5	136,608
CD-75P US	0.000	59.1	73.0	59.1	73.0	0.615	MT	136,608	628.9	615.0	13.2	136,608
CD-75	0.000	104.4	70.5	104.4	70.5	0.696	MT	209,806	583.6	696.0	2.6	209,806
CD-75R	0.000	59.1	37.0	59.1	37.0	0.681	MT	136,608	628.9	681.0	13.2	136,608
CD-75R (D/S)	0.000	61.6	87.0	61.6	87.0	0.485		136,608	500.4	485.0	13.7	136,608

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/23/2010 8:32:09AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.632

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD80A-1-FWH 22A to HEADER***								***Sorted By: Average Wear Rate***		
CD-101N	31	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-8	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-102	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-103	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-104	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-105	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-106	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-104P	54	3.795	1.826	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-106P	54	3.795	1.826	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-107	18	3.320	1.598	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-101P	61	3.202	1.541	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-102P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-105P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-107 (D/S)	18	2.262	1.088	204.3	8.066	0.0	20.000	7.015	0.000	119.25	HBD
CD-107P	9	1.658	0.805	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-2-FWH 22B to HEADER***								***Sorted By: Average Wear Rate***		
CD-108N	31	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-8-1	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-109	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-110	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-111	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-112	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-108P	61	3.202	1.541	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-109P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-112P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-111P	58	2.609	1.255	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-3-FWH 22C to 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:	***CD80A-3-FWH 22C to HEADER***								***Sorted By: Average Wear Rate***		
CD-113N	31	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-8-2	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-114	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-115	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-116	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-117	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-116P	54	3.795	1.826	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-113P	61	3.202	1.541	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-114P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-117P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-116P-1	58	2.609	1.255	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-4-FWH 22 OUTLET HEADER***								***Sorted By: Average Wear Rate***		
CD-118T (D/S)	12	4.558	2.193	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-118T (BR/SE)	12	4.032	1.940	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-120	18	3.113	1.498	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-118T	12	3.091	1.487	204.3	8.066	0.0	20.000	7.015	0.000	119.25	HBD
CD-120 (D/S)	18	2.644	1.272	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-118P	62	2.223	1.070	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-119P	9	1.542	0.749	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-5-FWH 22 to FWH 23 HEAD***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-1110	23	6.955	3.346	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-135	14	6.079	2.925	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-130	14	6.079	2.925	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-130 (D/S)	14	6.065	2.918	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-132	19	5.564	2.677	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-135 (D/S)	14	4.847	2.332	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-121 (D/S)	12	4.532	2.180	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-134 (D/S)	12	4.532	2.180	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-134	12	4.521	2.176	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-131 (D/S)	7	4.451	2.142	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-132 (D/S)	19	4.411	2.123	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-135 (BR/SE)	14	4.150	1.997	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-123	2	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-125	2	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-128	2	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-129	4	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	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:	***CD80A-5-FWH 22 to FWH 23 HEAD***								***Sorted By: Average Wear Rate***		
CD-133	2	4.080	1.963	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-121 (BR/SE)	12	4.032	1.940	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-124	3	3.868	1.861	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-131	7	3.860	1.857	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-126	1	3.647	1.755	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-121	12	3.614	1.739	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-129P	54	3.537	1.702	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-122 (D/S)	15	3.316	1.595	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-122	15	3.316	1.595	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-131P-1	58	3.060	1.472	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-124P	53	2.763	1.330	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-125P	52	2.763	1.330	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-128P	52	2.763	1.330	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-132P	69	2.757	1.327	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-126P	51	2.432	1.170	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-122P	65	2.210	1.064	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-121P	62	2.210	1.064	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-130P	62	2.206	1.061	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-127P	9	1.550	0.753	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-6-FWH 23 INLET HEADER***								***Sorted By: Average Wear Rate***		
CD-137	14	4.847	2.332	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-137 (BR/SE)	14	4.150	1.997	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-137 (D/S)	14	3.011	1.462	204.3	5.577	0.0	24.000	7.015	0.000	119.25	HBD
CD-136 (D/S)	15	2.644	1.272	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-136	15	2.644	1.272	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-136P	65	1.763	0.848	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-7-HEADER to FWH 23A***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-16	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-141N	30	4.743	2.282	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-139	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-140	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-138 (BR/SE)	14	4.150	1.997	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-141	1	3.913	1.883	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-138	14	3.011	1.462	204.3	5.577	0.0	24.000	7.015	0.000	119.25	HBD
CD-139P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-140P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	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:	***CD80A-7-HEADER to FWH 23A***								***Sorted By: Average Wear Rate***		
CD-138P	64	2.372	1.141	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-137P	64	1.095	0.532	204.3	5.577	0.0	24.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-8-HEADER to FWH 23B***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-16-1	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-144N	30	4.743	2.282	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-142	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-143	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-144	1	3.913	1.883	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-142P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-143P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-141P	64	2.372	1.141	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-9-HEADER to FWH 23C***								***Sorted By: Average Wear Rate***		
CD-VALVE-CD-16-2	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-147N	30	4.743	2.282	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-145	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-146	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-147	1	3.913	1.883	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-145P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-146P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-144P	64	2.372	1.141	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 8:32:09AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.632

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD80A-1-FWH 22A to HEADER***									***Sorted By: Flow Order***	
CD-101N	31	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-101P	61	3.202	1.541	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-102	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-102P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-8	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-103	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-104	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-104P	54	3.795	1.826	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-105	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-105P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-106	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-106P	54	3.795	1.826	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-107P	9	1.658	0.805	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-107	18	3.320	1.598	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-107 (D/S)	18	2.262	1.088	204.3	8.066	0.0	20.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-2-FWH 22B to HEADER***									***Sorted By: Flow Order***	
CD-108N	31	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-108P	61	3.202	1.541	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-109	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-109P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-110	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-111	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-8-1	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-111P	58	2.609	1.255	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-112	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-112P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-3-FWH 22C to 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:	***CD80A-3-FWH 22C to HEADER***									***Sorted By: Flow Order***	
CD-113N	31	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-113P	61	3.202	1.541	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-114	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-114P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-115	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-116	4	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-116P	54	3.795	1.826	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-8-2	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-116P-1	58	2.609	1.255	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-117	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-117P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-4-FWH 22 OUTLET HEADER***									***Sorted By: Flow Order***	
CD-118T	12	3.091	1.487	204.3	8.066	0.0	20.000	7.015	0.000	119.25	HBD
CD-118T (BR/SE)	12	4.032	1.940	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-118T (D/S)	12	4.558	2.193	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-118P	62	2.223	1.070	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-119P	9	1.542	0.749	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-120	18	3.113	1.498	204.3	16.155	0.0	20.000	7.015	0.000	119.25	HBD
CD-120 (D/S)	18	2.644	1.272	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-5-FWH 22 to FWH 23 HEAD***									***Sorted By: Flow Order***	
CD-121 (BR/SE)	12	4.032	1.940	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-121	12	3.614	1.739	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-121 (D/S)	12	4.532	2.180	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-121P	62	2.210	1.064	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-122	15	3.316	1.595	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-122 (D/S)	15	3.316	1.595	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-122P	65	2.210	1.064	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-123	2	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-124	3	3.868	1.861	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-124P	53	2.763	1.330	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-125	2	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-125P	52	2.763	1.330	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-126	1	3.647	1.755	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-126P	51	2.432	1.170	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-127P	9	1.550	0.753	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-128	2	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	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:	***CD80A-5-FWH 22 to FWH 23 HEAD***									***Sorted By: Flow Order***	
CD-128P	52	2.763	1.330	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-129	4	4.089	1.968	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-129P	54	3.537	1.702	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-130	14	6.079	2.925	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-130 (D/S)	14	6.065	2.918	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-130P	62	2.206	1.061	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-131	7	3.860	1.857	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-131 (D/S)	7	4.451	2.142	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-1110	23	6.955	3.346	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-131P-1	58	3.060	1.472	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-132	19	5.564	2.677	204.3	24.124	0.0	20.000	7.015	0.000	119.25	HBD
CD-132 (D/S)	19	4.411	2.123	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-132P	69	2.757	1.327	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-133	2	4.080	1.963	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-134	12	4.521	2.176	204.3	16.679	0.0	24.000	7.015	0.000	119.25	HBD
CD-134 (D/S)	12	4.532	2.180	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-135	14	6.079	2.925	204.3	16.746	0.0	24.000	7.015	0.000	119.25	HBD
CD-135 (BR/SE)	14	4.150	1.997	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-135 (D/S)	14	4.847	2.332	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-6-FWH 23 INLET HEADER***									***Sorted By: Flow Order***	
CD-136 (D/S)	15	2.644	1.272	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-136P	65	1.763	0.848	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-137	14	4.847	2.332	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
CD-137 (D/S)	14	3.011	1.462	204.3	5.577	0.0	24.000	7.015	0.000	119.25	HBD
CD-137 (BR/SE)	14	4.150	1.997	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-136	15	2.644	1.272	204.3	11.170	0.0	24.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-7-HEADER to FWH 23A***									***Sorted By: Flow Order***	
CD-137P	64	1.095	0.532	204.3	5.577	0.0	24.000	7.015	0.000	119.25	HBD
CD-138	14	3.011	1.462	204.3	5.577	0.0	24.000	7.015	0.000	119.25	HBD
CD-138 (BR/SE)	14	4.150	1.997	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-138P	64	2.372	1.141	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-139	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-139P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-16	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-140	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-140P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	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:	***CD80A-7-HEADER to FWH 23A***									***Sorted By: Flow Order***	
CD-141	1	3.913	1.883	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-141N	30	4.743	2.282	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-8-HEADER to FWH 23B***									***Sorted By: Flow Order***	
CD-141P	64	2.372	1.141	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-142	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-142P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-16-1	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-143	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-143P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-144	1	3.913	1.883	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-144N	30	4.743	2.282	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
===>Grouped by Line:	***CD80A-9-HEADER to FWH 23C***									***Sorted By: Flow Order***	
CD-144P	64	2.372	1.141	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-145	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-145P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-VALVE-CD-16-2	22	5.929	2.853	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-146	2	4.388	2.111	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-146P	52	2.965	1.426	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-147	1	3.913	1.883	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD
CD-147N	30	4.743	2.282	204.3	16.572	0.0	14.000	7.015	0.000	119.25	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 8:32:09AM

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.632

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-1-FWH 22A to HEADER**					***Sorted By:Remaining Life***		
CD-VALVE-CD-8	0.000	0.287	0.326	0.326	-95,723	No	222,946
CD-102	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-105	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-106	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-106P	0.000	0.341	0.305	0.305	175,100	No	222,946
CD-107	0.000	0.353	0.305	0.305	266,305	No	222,946
CD-101P	0.000	0.361	0.305	0.305	316,844	Yes	222,946
CD-101N	0.000	0.415	0.305	0.305	338,258	No	222,946
CD-102P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-105P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-104P	0.000	0.382	0.305	0.305	368,655	Yes	222,946
CD-103	0.000	0.485	0.305	0.305	746,322	Yes	222,946
CD-107 (D/S)	0.000	0.536	0.436	0.436	811,625	No	222,946
CD-104	0.000	0.503	0.305	0.305	821,009	Yes	222,946
CD-107P	0.000	0.396	0.305	0.305	988,741	No	222,946
===>Grouped by Line: **CD80A-2-FWH 22B to HEADER**					***Sorted By:Remaining Life***		
CD-VALVE-CD-8-1	0.000	0.287	0.326	0.326	-95,723	No	222,946
CD-108N	0.000	0.287	0.305	0.305	-53,553	No	222,946
CD-109	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-110	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-111	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-112	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-108P	0.000	0.357	0.305	0.305	293,329	No	222,946
CD-109P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-112P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-111P	0.000	0.372	0.305	0.305	465,299	No	222,946
===>Grouped by Line: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Remaining Life***		
CD-VALVE-CD-8-2	0.000	0.287	0.326	0.326	-95,723	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Remaining Life***		
CD-113N	0.000	0.287	0.305	0.305	-53,553	No	222,946
CD-114	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-117	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-116P	0.000	0.341	0.305	0.305	175,100	No	222,946
CD-113P	0.000	0.357	0.305	0.305	293,329	No	222,946
CD-114P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-117P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-116P-1	0.000	0.372	0.305	0.305	465,299	No	222,946
CD-115	0.000	0.456	0.305	0.305	626,157	Yes	222,946
CD-116	0.000	0.458	0.305	0.305	634,456	Yes	222,946
===>Grouped by Line: **CD80A-4-FWH 22 OUTLET HEADER**					***Sorted By:Remaining Life***		
CD-120	0.000	0.515	0.436	0.436	463,110	No	222,946
CD-118T (D/S)	0.000	0.552	0.436	0.436	463,712	Yes	222,946
CD-118T (BR/SE)	0.000	0.423	0.305	0.305	531,067	Yes	222,946
CD-120 (D/S)	0.000	0.621	0.523	0.523	674,626	No	222,946
CD-118T	0.000	0.553	0.436	0.436	691,689	Yes	222,946
CD-118P	0.000	0.537	0.436	0.436	833,689	No	222,946
CD-119P	0.000	0.555	0.436	0.436	1,393,413	No	222,946
===>Grouped by Line: **CD80A-5-FWH 22 to FWH 23 HEAD**					***Sorted By:Remaining Life***		
CD-VALVE-CD-1110	0.000	0.417	0.466	0.466	-98,790	No	222,946
CD-130	0.000	0.533	0.523	0.523	31,626	No	222,946
CD-135	0.000	0.533	0.523	0.523	31,626	No	222,946
CD-130 (D/S)	0.000	0.534	0.523	0.523	32,736	No	222,946
CD-132	0.000	0.452	0.436	0.436	54,959	No	222,946
CD-135 (BR/SE)	0.000	0.332	0.305	0.305	120,377	No	222,946
CD-121 (BR/SE)	0.000	0.335	0.305	0.305	137,545	No	222,946
CD-135 (D/S)	0.000	0.565	0.523	0.523	157,370	No	222,946
CD-131 (D/S)	0.000	0.481	0.436	0.436	184,533	No	222,946
CD-121 (D/S)	0.000	0.573	0.523	0.523	200,638	No	222,946
CD-134 (D/S)	0.000	0.573	0.523	0.523	200,638	No	222,946
CD-134	0.000	0.573	0.523	0.523	202,127	No	222,946
CD-132 (D/S)	0.000	0.576	0.523	0.523	218,764	No	222,946
CD-123	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-125	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-128	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-129	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-133	0.000	0.584	0.523	0.523	274,069	No	222,946
CD-124	0.000	0.590	0.523	0.523	314,462	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**CD80A-5-FWH 22 to FWH 23 HEAD**				***Sorted By:Remaining Life***		
CD-131	0.000	0.590	0.523	0.523	316,207	No	222,946
CD-126	0.000	0.595	0.523	0.523	361,602	No	222,946
CD-121	0.000	0.596	0.523	0.523	369,319	No	222,946
CD-129P	0.000	0.598	0.523	0.523	387,381	No	222,946
CD-122	0.000	0.604	0.523	0.523	444,096	No	222,946
CD-122 (D/S)	0.000	0.604	0.523	0.523	444,096	No	222,946
CD-131P-1	0.000	0.516	0.436	0.436	479,019	No	222,946
CD-124P	0.000	0.618	0.523	0.523	625,582	No	222,946
CD-125P	0.000	0.618	0.523	0.523	625,582	No	222,946
CD-128P	0.000	0.618	0.523	0.523	625,582	No	222,946
CD-132P	0.000	0.618	0.523	0.523	628,025	No	222,946
CD-126P	0.000	0.626	0.523	0.523	774,071	No	222,946
CD-121P	0.000	0.632	0.523	0.523	897,812	No	222,946
CD-122P	0.000	0.632	0.523	0.523	897,812	No	222,946
CD-130P	0.000	0.632	0.523	0.523	900,865	No	222,946
CD-127P	0.000	0.649	0.523	0.523	1,464,087	No	222,946
===>Grouped by Line:	**CD80A-6-FWH 23 INLET HEADER**				***Sorted By:Remaining Life***		
CD-137 (BR/SE)	0.000	0.332	0.305	0.305	120,377	No	222,946
CD-137	0.000	0.565	0.523	0.523	157,370	No	222,946
CD-137 (D/S)	0.000	0.611	0.523	0.523	531,146	No	222,946
CD-136	0.000	0.621	0.523	0.523	674,626	No	222,946
CD-136 (D/S)	0.000	0.621	0.523	0.523	674,626	No	222,946
CD-136P	0.000	0.643	0.523	0.523	1,243,608	No	222,946
===>Grouped by Line:	**CD80A-7-HEADER to FWH 23A**				***Sorted By:Remaining Life***		
CD-VALVE-CD-16	0.000	0.287	0.305	0.305	-53,771	No	222,946
CD-141N	0.000	0.317	0.305	0.305	47,128	No	222,946
CD-139	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-140	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-138 (BR/SE)	0.000	0.332	0.305	0.305	120,377	No	222,946
CD-141	0.000	0.338	0.305	0.305	155,409	No	222,946
CD-139P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-140P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-138	0.000	0.611	0.523	0.523	531,146	No	222,946
CD-138P	0.000	0.378	0.305	0.305	557,594	No	222,946
CD-137P	0.000	0.660	0.523	0.523	2,264,129	No	222,946
===>Grouped by Line:	**CD80A-8-HEADER to FWH 23B**				***Sorted By:Remaining Life***		
CD-VALVE-CD-16-1	0.000	0.287	0.305	0.305	-53,771	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-8-HEADER to FWH 23B**					***Sorted By:Remaining Life***		
CD-144N	0.000	0.317	0.305	0.305	47,128	No	222,946
CD-142	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-143	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-144	0.000	0.338	0.305	0.305	155,409	No	222,946
CD-142P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-143P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-141P	0.000	0.378	0.305	0.305	557,594	No	222,946
===>Grouped by Line: **CD80A-9-HEADER to FWH 23C**					***Sorted By:Remaining Life***		
CD-VALVE-CD-16-2	0.000	0.287	0.305	0.305	-53,771	No	222,946
CD-145	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-145P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-144P	0.000	0.378	0.305	0.305	557,594	No	222,946
CD-146	0.000	0.462	0.305	0.305	651,000	Yes	222,946
CD-146P	0.000	0.412	0.305	0.305	658,303	Yes	222,946
CD-147	0.000	0.497	0.305	0.305	891,659	Yes	222,946
CD-147N	0.000	0.577	0.305	0.305	1,045,183	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.632

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-1-FWH 22A to HEADER**					***Sorted By:Flow Order***		
CD-101N	0.000	0.415	0.305	0.305	338,258	No	222,946
CD-101P	0.000	0.361	0.305	0.305	316,844	Yes	222,946
CD-102	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-102P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-VALVE-CD-8	0.000	0.287	0.326	0.326	-95,723	No	222,946
CD-103	0.000	0.485	0.305	0.305	746,322	Yes	222,946
CD-104	0.000	0.503	0.305	0.305	821,009	Yes	222,946
CD-104P	0.000	0.382	0.305	0.305	368,655	Yes	222,946
CD-105	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-105P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-106	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-106P	0.000	0.341	0.305	0.305	175,100	No	222,946
CD-107P	0.000	0.396	0.305	0.305	988,741	No	222,946
CD-107	0.000	0.353	0.305	0.305	266,305	No	222,946
CD-107 (D/S)	0.000	0.536	0.436	0.436	811,625	No	222,946
===>Grouped by Line: **CD80A-2-FWH 22B to HEADER**					***Sorted By:Flow Order***		
CD-108N	0.000	0.287	0.305	0.305	-53,553	No	222,946
CD-108P	0.000	0.357	0.305	0.305	293,329	No	222,946
CD-109	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-109P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-110	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-111	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-VALVE-CD-8-1	0.000	0.287	0.326	0.326	-95,723	No	222,946
CD-111P	0.000	0.372	0.305	0.305	465,299	No	222,946
CD-112	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-112P	0.000	0.363	0.305	0.305	353,863	No	222,946
===>Grouped by Line: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Flow Order***		
CD-113N	0.000	0.287	0.305	0.305	-53,553	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-3-FWH 22C to HEADER**					***Sorted By:Flow Order***		
CD-113P	0.000	0.357	0.305	0.305	293,329	No	222,946
CD-114	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-114P	0.000	0.363	0.305	0.305	353,863	No	222,946
CD-115	0.000	0.456	0.305	0.305	626,157	Yes	222,946
CD-116	0.000	0.458	0.305	0.305	634,456	Yes	222,946
CD-116P	0.000	0.341	0.305	0.305	175,100	No	222,946
CD-VALVE-CD-8-2	0.000	0.287	0.326	0.326	-95,723	No	222,946
CD-116P-1	0.000	0.372	0.305	0.305	465,299	No	222,946
CD-117	0.000	0.326	0.305	0.305	88,825	No	222,946
CD-117P	0.000	0.363	0.305	0.305	353,863	No	222,946
===>Grouped by Line: **CD80A-4-FWH 22 OUTLET HEADER**					***Sorted By:Flow Order***		
CD-118T	0.000	0.553	0.436	0.436	691,689	Yes	222,946
CD-118T (BR/SE)	0.000	0.423	0.305	0.305	531,067	Yes	222,946
CD-118T (D/S)	0.000	0.552	0.436	0.436	463,712	Yes	222,946
CD-118P	0.000	0.537	0.436	0.436	833,689	No	222,946
CD-119P	0.000	0.555	0.436	0.436	1,393,413	No	222,946
CD-120	0.000	0.515	0.436	0.436	463,110	No	222,946
CD-120 (D/S)	0.000	0.621	0.523	0.523	674,626	No	222,946
===>Grouped by Line: **CD80A-5-FWH 22 to FWH 23 HEAD**					***Sorted By:Flow Order***		
CD-121 (BR/SE)	0.000	0.335	0.305	0.305	137,545	No	222,946
CD-121	0.000	0.596	0.523	0.523	369,319	No	222,946
CD-121 (D/S)	0.000	0.573	0.523	0.523	200,638	No	222,946
CD-121P	0.000	0.632	0.523	0.523	897,812	No	222,946
CD-122	0.000	0.604	0.523	0.523	444,096	No	222,946
CD-122 (D/S)	0.000	0.604	0.523	0.523	444,096	No	222,946
CD-122P	0.000	0.632	0.523	0.523	897,812	No	222,946
CD-123	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-124	0.000	0.590	0.523	0.523	314,462	No	222,946
CD-124P	0.000	0.618	0.523	0.523	625,582	No	222,946
CD-125	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-125P	0.000	0.618	0.523	0.523	625,582	No	222,946
CD-126	0.000	0.595	0.523	0.523	361,602	No	222,946
CD-126P	0.000	0.626	0.523	0.523	774,071	No	222,946
CD-127P	0.000	0.649	0.523	0.523	1,464,087	No	222,946
CD-128	0.000	0.584	0.523	0.523	272,419	No	222,946
CD-128P	0.000	0.618	0.523	0.523	625,582	No	222,946
CD-129	0.000	0.584	0.523	0.523	272,419	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-5-FWH 22 to FWH 23 HEAD**					***Sorted By:Flow Order***		
CD-129P	0.000	0.598	0.523	0.523	387,381	No	222,946
CD-130	0.000	0.533	0.523	0.523	31,626	No	222,946
CD-130 (D/S)	0.000	0.534	0.523	0.523	32,736	No	222,946
CD-130P	0.000	0.632	0.523	0.523	900,865	No	222,946
CD-131	0.000	0.590	0.523	0.523	316,207	No	222,946
CD-131 (D/S)	0.000	0.481	0.436	0.436	184,533	No	222,946
CD-VALVE-CD-1110	0.000	0.417	0.466	0.466	-98,790	No	222,946
CD-131P-1	0.000	0.516	0.436	0.436	479,019	No	222,946
CD-132	0.000	0.452	0.436	0.436	54,959	No	222,946
CD-132 (D/S)	0.000	0.576	0.523	0.523	218,764	No	222,946
CD-132P	0.000	0.618	0.523	0.523	628,025	No	222,946
CD-133	0.000	0.584	0.523	0.523	274,069	No	222,946
CD-134	0.000	0.573	0.523	0.523	202,127	No	222,946
CD-134 (D/S)	0.000	0.573	0.523	0.523	200,638	No	222,946
CD-135	0.000	0.533	0.523	0.523	31,626	No	222,946
CD-135 (BR/SE)	0.000	0.332	0.305	0.305	120,377	No	222,946
CD-135 (D/S)	0.000	0.565	0.523	0.523	157,370	No	222,946
===>Grouped by Line: **CD80A-6-FWH 23 INLET HEADER**					***Sorted By:Flow Order***		
CD-136 (D/S)	0.000	0.621	0.523	0.523	674,626	No	222,946
CD-136P	0.000	0.643	0.523	0.523	1,243,608	No	222,946
CD-137	0.000	0.565	0.523	0.523	157,370	No	222,946
CD-137 (D/S)	0.000	0.611	0.523	0.523	531,146	No	222,946
CD-137 (BR/SE)	0.000	0.332	0.305	0.305	120,377	No	222,946
CD-136	0.000	0.621	0.523	0.523	674,626	No	222,946
===>Grouped by Line: **CD80A-7-HEADER to FWH 23A**					***Sorted By:Flow Order***		
CD-137P	0.000	0.660	0.523	0.523	2,264,129	No	222,946
CD-138	0.000	0.611	0.523	0.523	531,146	No	222,946
CD-138 (BR/SE)	0.000	0.332	0.305	0.305	120,377	No	222,946
CD-138P	0.000	0.378	0.305	0.305	557,594	No	222,946
CD-139	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-139P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-VALVE-CD-16	0.000	0.287	0.305	0.305	-53,771	No	222,946
CD-140	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-140P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-141	0.000	0.338	0.305	0.305	155,409	No	222,946
CD-141N	0.000	0.317	0.305	0.305	47,128	No	222,946
===>Grouped by Line: **CD80A-8-HEADER to FWH 23B**					***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80A-8-HEADER to FWH 23B**					***Sorted By:Flow Order***		
CD-141P	0.000	0.378	0.305	0.305	557,594	No	222,946
CD-142	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-142P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-VALVE-CD-16-1	0.000	0.287	0.305	0.305	-53,771	No	222,946
CD-143	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-143P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-144	0.000	0.338	0.305	0.305	155,409	No	222,946
CD-144N	0.000	0.317	0.305	0.305	47,128	No	222,946
===>Grouped by Line: **CD80A-9-HEADER to FWH 23C**					***Sorted By:Flow Order***		
CD-144P	0.000	0.378	0.305	0.305	557,594	No	222,946
CD-145	0.000	0.326	0.305	0.305	88,517	No	222,946
CD-145P	0.000	0.363	0.305	0.305	353,408	No	222,946
CD-VALVE-CD-16-2	0.000	0.287	0.305	0.305	-53,771	No	222,946
CD-146	0.000	0.462	0.305	0.305	651,000	Yes	222,946
CD-146P	0.000	0.412	0.305	0.305	658,303	Yes	222,946
CD-147	0.000	0.497	0.305	0.305	891,659	Yes	222,946
CD-147N	0.000	0.577	0.305	0.305	1,045,183	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: CND FWH 22 TO FWH 23
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.632

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:	**CD80A-1-FWH 22A to HEADER**										***Sorted By: Flow Order***	
CD-101P	0.000	76.1	75.0	76.1	75.0	0.366	MT	192,577	361.9	366.0	5.4	192,577
CD-103	0.000	104.5	108.0	104.5	108.0	0.492	GW	193,077	333.5	492.0	7.2	193,077
CD-104	0.000	104.5	114.0	104.5	114.0	0.510	GW	193,077	333.5	510.0	7.2	193,077
CD-104P	0.000	90.3	107.0	90.3	107.0	0.388	GW	193,077	347.7	388.0	6.2	193,077
===>Grouped by Line:	**CD80A-3-FWH 22C to HEADER**										***Sorted By: Flow Order***	
CD-115	0.000	108.5	108.5	108.5	108.5	0.459	MT	209,806	329.5	459.0	3.2	209,806
CD-116	0.000	108.5	125.0	108.5	125.0	0.461	MT	209,806	329.5	461.0	3.2	209,806
===>Grouped by Line:	**CD80A-4-FWH 22 OUTLET HEADER**										***Sorted By: Flow Order***	
CD-118T	0.000	73.7	74.0	73.7	74.0	0.558	GW	193,769	520.3	558.0	5.0	193,769
CD-118T (BR/SE)	0.000	96.2	39.0	96.2	39.0	0.429	GW	193,769	341.8	429.0	6.5	193,769
CD-118T (D/S)	0.000	108.7	68.0	108.7	68.0	0.559	MT	193,769	485.3	559.0	7.3	193,769
===>Grouped by Line:	**CD80A-9-HEADER to FWH 23C**										***Sorted By: Flow Order***	
CD-146	0.000	104.6	93.0	104.6	93.0	0.469	GW	193,477	333.4	469.0	7.1	193,477
CD-146P	0.000	70.6	78.0	70.6	78.0	0.417	GW	193,477	367.4	417.0	4.8	193,477
CD-147	0.000	93.3	66.0	93.3	66.0	0.503	GW	193,477	344.7	503.0	6.3	193,477
CD-147N	0.000	113.0	67.0	113.0	67.0	0.585	GW	193,477	325.0	585.0	7.7	193,477

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/23/2010 8:51:56AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.439

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD80-1-FWH 23A to FWH 24A***								***Sorted By: Average Wear Rate***		
CD-11N	31	6.358	3.075	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-41N	30	5.086	2.460	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-11	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-12	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-2	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-5	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-1	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-17	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-41	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-12P	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-2P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-5P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-1P	51	2.797	1.353	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-17P	51	2.797	1.353	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
===>Grouped by Line:	***CD80-2-FWH 23B to FWH 24B***								***Sorted By: Average Wear Rate***		
CD-14N	31	6.358	3.075	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-42N	30	5.086	2.460	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-14	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-13	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-3	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-4	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-19	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-42	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-13P US	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-4P	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-19P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
===>Grouped by Line:	***CD80-3-FWH 23C to FWH 24C***								***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:	***CD80-3-FWH 23C to FWH 24C***								***Sorted By: Average Wear Rate***		
CD-16N	31	6.358	3.075	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-43N	30	5.086	2.460	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-16	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-15	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-39	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-40	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-22	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-43	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-15P US	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-40P	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-22P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 8:51:56AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.439

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD80-1-FWH 23A to FWH 24A***									***Sorted By: Flow Order***	
CD-11N	31	6.358	3.075	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-11	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-12	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-12P	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-1	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-1P	51	2.797	1.353	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-2	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-2P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-17	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-17P	51	2.797	1.353	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-5	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-5P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-41	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-41N	30	5.086	2.460	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
===>Grouped by Line:	***CD80-2-FWH 23B to FWH 24B***									***Sorted By: Flow Order***	
CD-14N	31	6.358	3.075	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-14	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-13	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-13P US	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-3	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-4	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-4P	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-19	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-19P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-42	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-42N	30	5.086	2.460	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
===>Grouped by Line:	***CD80-3-FWH 23C to FWH 24C***									***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:	***CD80-3-FWH 23C to FWH 24C***									***Sorted By: Flow Order***	
CD-16N	31	6.358	3.075	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-16	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-15	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-15P US	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-39	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-40	4	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-40P	54	4.069	1.968	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-22	2	4.705	2.276	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-22P	52	3.179	1.538	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-43	1	4.196	2.030	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD
CD-43N	30	5.086	2.460	255.5	16.955	0.0	14.000	7.015	0.000	116.92	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 8:51:56AM

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.439

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80-1-FWH 23A to FWH 24A**					***Sorted By:Remaining Life***		
CD-41N	0.000	0.309	0.305	0.305	12,904	No	222,946
CD-5	0.000	0.318	0.305	0.305	51,321	No	222,946
CD-41	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-17	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-1	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-11	0.000	0.373	0.305	0.305	261,045	Yes	222,946
CD-5P	0.000	0.357	0.305	0.305	297,190	No	222,946
CD-12P	0.000	0.381	0.305	0.305	339,559	Yes	222,946
CD-12	0.000	0.396	0.305	0.305	351,543	Yes	222,946
CD-17P	0.000	0.367	0.305	0.305	400,567	No	222,946
CD-1P	0.000	0.367	0.305	0.305	400,567	No	222,946
CD-2	0.000	0.415	0.305	0.305	424,554	Yes	222,946
CD-2P	0.000	0.381	0.305	0.305	433,774	Yes	222,946
CD-11N	0.000	0.498	0.305	0.305	551,046	No	222,946
===>Grouped by Line: **CD80-2-FWH 23B to FWH 24B**					***Sorted By:Remaining Life***		
CD-3	0.000	0.318	0.305	0.305	51,321	No	222,946
CD-4P	0.000	0.334	0.305	0.305	131,356	No	222,946
CD-42	0.000	0.383	0.305	0.305	338,041	Yes	222,946
CD-13P US	0.000	0.384	0.305	0.305	352,561	Yes	222,946
CD-42N	0.000	0.417	0.305	0.305	399,700	No	222,946
CD-13	0.000	0.413	0.305	0.305	414,104	Yes	222,946
CD-4	0.000	0.427	0.305	0.305	470,744	Yes	222,946
CD-14N	0.000	0.493	0.305	0.305	534,740	No	222,946
CD-14	0.000	0.445	0.305	0.305	537,278	Yes	222,946
CD-19P	0.000	0.404	0.305	0.305	563,713	Yes	222,946
CD-19	0.000	0.460	0.305	0.305	597,185	Yes	222,946
===>Grouped by Line: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Remaining Life***		
CD-43	0.000	0.331	0.305	0.305	113,409	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Remaining Life***		
CD-22P	0.000	0.357	0.305	0.305	297,190	No	222,946
CD-15P US	0.000	0.382	0.305	0.305	343,660	Yes	222,946
CD-22	0.000	0.421	0.305	0.305	447,067	Yes	222,946
CD-43N	0.000	0.436	0.305	0.305	464,934	No	222,946
CD-15	0.000	0.429	0.305	0.305	475,691	Yes	222,946
CD-40	0.000	0.431	0.305	0.305	486,279	Yes	222,946
CD-16	0.000	0.441	0.305	0.305	521,881	Yes	222,946
CD-40P	0.000	0.422	0.305	0.305	522,410	Yes	222,946
CD-39	0.000	0.448	0.305	0.305	551,716	Yes	222,946
CD-16N	0.000	0.519	0.305	0.305	608,799	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.439

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80-1-FWH 23A to FWH 24A**					***Sorted By:Flow Order***		
CD-11N	0.000	0.498	0.305	0.305	551,046	No	222,946
CD-11	0.000	0.373	0.305	0.305	261,045	Yes	222,946
CD-12	0.000	0.396	0.305	0.305	351,543	Yes	222,946
CD-12P	0.000	0.381	0.305	0.305	339,559	Yes	222,946
CD-1	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-1P	0.000	0.367	0.305	0.305	400,567	No	222,946
CD-2	0.000	0.415	0.305	0.305	424,554	Yes	222,946
CD-2P	0.000	0.381	0.305	0.305	433,774	Yes	222,946
CD-17	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-17P	0.000	0.367	0.305	0.305	400,567	No	222,946
CD-5	0.000	0.318	0.305	0.305	51,321	No	222,946
CD-5P	0.000	0.357	0.305	0.305	297,190	No	222,946
CD-41	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-41N	0.000	0.309	0.305	0.305	12,904	No	222,946
===>Grouped by Line: **CD80-2-FWH 23B to FWH 24B**					***Sorted By:Flow Order***		
CD-14N	0.000	0.493	0.305	0.305	534,740	No	222,946
CD-14	0.000	0.445	0.305	0.305	537,278	Yes	222,946
CD-13	0.000	0.413	0.305	0.305	414,104	Yes	222,946
CD-13P US	0.000	0.384	0.305	0.305	352,561	Yes	222,946
CD-3	0.000	0.318	0.305	0.305	51,321	No	222,946
CD-4	0.000	0.427	0.305	0.305	470,744	Yes	222,946
CD-4P	0.000	0.334	0.305	0.305	131,356	No	222,946
CD-19	0.000	0.460	0.305	0.305	597,185	Yes	222,946
CD-19P	0.000	0.404	0.305	0.305	563,713	Yes	222,946
CD-42	0.000	0.383	0.305	0.305	338,041	Yes	222,946
CD-42N	0.000	0.417	0.305	0.305	399,700	No	222,946
===>Grouped by Line: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Flow Order***		
CD-16N	0.000	0.519	0.305	0.305	608,799	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD80-3-FWH 23C to FWH 24C**					***Sorted By:Flow Order***		
CD-16	0.000	0.441	0.305	0.305	521,881	Yes	222,946
CD-15	0.000	0.429	0.305	0.305	475,691	Yes	222,946
CD-15P US	0.000	0.382	0.305	0.305	343,660	Yes	222,946
CD-39	0.000	0.448	0.305	0.305	551,716	Yes	222,946
CD-40	0.000	0.431	0.305	0.305	486,279	Yes	222,946
CD-40P	0.000	0.422	0.305	0.305	522,410	Yes	222,946
CD-22	0.000	0.421	0.305	0.305	447,067	Yes	222,946
CD-22P	0.000	0.357	0.305	0.305	297,190	No	222,946
CD-43	0.000	0.331	0.305	0.305	113,409	No	222,946
CD-43N	0.000	0.436	0.305	0.305	464,934	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: CND FWH 23 TO FWH 24
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.439

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:	**CD80-1-FWH 23A to FWH 24A**											***Sorted By: Flow Order***
CD-11	0.000	104.5	129.0	104.5	129.0	0.388		165,113	333.5	388.0	15.3	165,113
CD-12	0.000	83.0	81.0	83.0	81.0	0.433	MT	119,088	355.0	433.0	36.7	119,088
CD-12P	0.000	64.0	48.0	64.0	48.0	0.413	MT	119,088	366.2	413.0	31.8	106,128
CD-2	0.000	74.0	99.0	74.0	99.0	0.461	MT	106,128	364.0	461.0	45.8	106,128
CD-2P	0.000	50.0	58.0	50.0	58.0	0.412	MT	106,128	388.0	412.0	30.9	106,128
===>Grouped by Line:	**CD80-2-FWH 23B to FWH 24B**											***Sorted By: Flow Order***
CD-14	0.000	100.2	159.0	100.2	159.0	0.464	MT	149,573	337.8	464.0	19.5	149,573
CD-13	0.000	100.2	121.0	100.2	121.0	0.432	MT	149,573	337.8	432.0	19.5	149,573
CD-13P US	0.000	86.7	44.0	86.7	44.0	0.401	MT	149,573	351.3	401.0	16.9	149,573
CD-4	0.000	74.0	61.0	74.0	61.0	0.473	MT	106,128	364.0	473.0	45.8	106,128
CD-19	0.000	108.8	66.0	108.8	66.0	0.471	GW	181,477	329.2	471.0	10.9	181,477
CD-19P	0.000	75.8	39.0	75.8	39.0	0.409	GW	193,769	362.2	409.0	5.1	193,769
CD-42	0.000	97.0	128.0	97.0	128.0	0.393	GW	181,477	341.0	393.0	9.7	181,477
===>Grouped by Line:	**CD80-3-FWH 23C to FWH 24C**											***Sorted By: Flow Order***
CD-16	0.000	100.2	108.0	100.2	108.0	0.460	MT	149,573	337.8	460.0	19.5	149,573
CD-15	0.000	100.2	101.0	100.2	101.0	0.448	MT	149,573	337.8	448.0	19.5	149,573
CD-15P US	0.000	86.7	39.0	86.7	39.0	0.399	MT	149,573	351.3	399.0	16.9	149,573
CD-39	0.000	112.0	104.0	112.0	104.0	0.456	GW	193,177	326.0	456.0	7.7	193,177
CD-40	0.000	112.0	112.0	112.0	112.0	0.439	GW	193,177	326.0	439.0	7.7	193,177
CD-40P	0.000	96.9	62.0	96.9	62.0	0.429	GW	193,177	341.1	429.0	6.7	193,177
CD-22	0.000	108.8	124.0	108.8	124.0	0.432	GW	181,477	329.2	432.0	10.9	181,477

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:21:19PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.340

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD81-1-FWH 24A to FWH 25A***								***Sorted By: Average Wear Rate***		
CD-37N	31	5.874	2.809	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-56N	30	4.699	2.247	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-37	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-18	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-46	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-47	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-48	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-28	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-56	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-18P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-48P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-46P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-47P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-28P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
===>Grouped by Line:	***CD81-2-FWH 24B to FWH 25B***								***Sorted By: Average Wear Rate***		
CD-21N	31	5.874	2.809	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-44N	30	4.699	2.247	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-21	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-20	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-49	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-51	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-52	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-29	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-50	3	4.112	1.966	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-57	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-44	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-20P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-52P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	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:	***CD81-2-FWH 24B to FWH 25B***								***Sorted By: Average Wear Rate***		
CD-29P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-50P	53	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-51P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
===>Grouped by Line:	***CD81-3-FWH 24C to FWH 25C***								***Sorted By: Average Wear Rate***		
CD-24N	31	5.874	2.809	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-45N	30	4.699	2.247	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-24	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-23	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-53	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-54	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-55	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-30	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-45	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-23P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-53P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-54P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-55P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-30P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:21:19PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.340

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD81-1-FWH 24A to FWH 25A***									***Sorted By: Flow Order***	
CD-37N	31	5.874	2.809	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-37	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-18	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-18P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-46	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-46P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-47	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-47P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-48	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-48P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-28	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-28P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-56	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-56N	30	4.699	2.247	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
===>Grouped by Line:	***CD81-2-FWH 24B to FWH 25B***									***Sorted By: Flow Order***	
CD-21N	31	5.874	2.809	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-21	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-20	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-20P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-49	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-50	3	4.112	1.966	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-50P	53	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-51	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-51P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-52	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-52P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-57	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	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:	***CD81-2-FWH 24B to FWH 25B***									***Sorted By: Flow Order***	
CD-29	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-29P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-44	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-44N	30	4.699	2.247	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
===>Grouped by Line:	***CD81-3-FWH 24C to FWH 25C***									***Sorted By: Flow Order***	
CD-24N	31	5.874	2.809	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-24	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-23	4	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-23P	54	3.760	1.798	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-53	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-53P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-54	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-54P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-55	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-55P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-30	2	4.347	2.079	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-30P	52	2.937	1.405	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-45	1	3.877	1.854	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD
CD-45N	30	4.699	2.247	300.5	17.360	0.0	14.000	7.015	0.000	114.14	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:21:19PM

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.340

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD81-1-FWH 24A to FWH 25A**					***Sorted By:Remaining Life***		
CD-37N	0.000	0.288	0.305	0.305	-50,187	No	222,946
CD-28	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-48	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-47	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-48P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-37	0.000	0.381	0.305	0.305	320,913	Yes	222,946
CD-18P	0.000	0.373	0.305	0.305	330,048	Yes	222,946
CD-28P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-47P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-46	0.000	0.396	0.305	0.305	384,123	Yes	222,946
CD-18	0.000	0.408	0.305	0.305	433,222	Yes	222,946
CD-46P	0.000	0.376	0.305	0.305	443,774	Yes	222,946
CD-56	0.000	0.424	0.305	0.305	562,456	Yes	222,946
CD-56N	0.000	0.506	0.305	0.305	782,097	No	222,946
===>Grouped by Line: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Remaining Life***		
CD-44N	0.000	0.318	0.305	0.305	52,505	No	222,946
CD-49	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-52	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-29	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-57	0.000	0.339	0.305	0.305	162,535	No	222,946
CD-44	0.000	0.339	0.305	0.305	162,535	No	222,946
CD-20P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-52P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-29P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-21N	0.000	0.373	0.305	0.305	213,569	Yes	222,946
CD-51	0.000	0.386	0.305	0.305	340,514	Yes	222,946
CD-21	0.000	0.412	0.305	0.305	452,752	Yes	222,946
CD-50	0.000	0.408	0.305	0.305	459,246	Yes	222,946
CD-51P	0.000	0.387	0.305	0.305	514,618	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**CD81-2-FWH 24B to FWH 25B**				***Sorted By:Remaining Life***		
CD-50P	0.000	0.409	0.305	0.305	645,968	No	222,946
CD-20	0.000	0.465	0.305	0.305	674,625	Yes	222,946
===>Grouped by Line:	**CD81-3-FWH 24C to FWH 25C**				***Sorted By:Remaining Life***		
CD-54	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-55	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-45	0.000	0.339	0.305	0.305	162,535	No	222,946
CD-53P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-54P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-53	0.000	0.409	0.305	0.305	438,641	Yes	222,946
CD-24N	0.000	0.446	0.305	0.305	439,926	No	222,946
CD-24	0.000	0.412	0.305	0.305	451,283	Yes	222,946
CD-23P	0.000	0.408	0.305	0.305	504,007	Yes	222,946
CD-30P	0.000	0.395	0.305	0.305	562,272	Yes	222,946
CD-55P	0.000	0.404	0.305	0.305	618,402	Yes	222,946
CD-23	0.000	0.473	0.305	0.305	708,337	Yes	222,946
CD-30	0.000	0.477	0.305	0.305	724,620	Yes	222,946
CD-45N	0.000	0.496	0.305	0.305	744,023	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.340

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD81-1-FWH 24A to FWH 25A**					***Sorted By:Flow Order***		
CD-37N	0.000	0.288	0.305	0.305	-50,187	No	222,946
CD-37	0.000	0.381	0.305	0.305	320,913	Yes	222,946
CD-18	0.000	0.408	0.305	0.305	433,222	Yes	222,946
CD-18P	0.000	0.373	0.305	0.305	330,048	Yes	222,946
CD-46	0.000	0.396	0.305	0.305	384,123	Yes	222,946
CD-46P	0.000	0.376	0.305	0.305	443,774	Yes	222,946
CD-47	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-47P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-48	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-48P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-28	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-28P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-56	0.000	0.424	0.305	0.305	562,456	Yes	222,946
CD-56N	0.000	0.506	0.305	0.305	782,097	No	222,946
===>Grouped by Line: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Flow Order***		
CD-21N	0.000	0.373	0.305	0.305	213,569	Yes	222,946
CD-21	0.000	0.412	0.305	0.305	452,752	Yes	222,946
CD-20	0.000	0.465	0.305	0.305	674,625	Yes	222,946
CD-20P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-49	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-50	0.000	0.408	0.305	0.305	459,246	Yes	222,946
CD-50P	0.000	0.409	0.305	0.305	645,968	No	222,946
CD-51	0.000	0.386	0.305	0.305	340,514	Yes	222,946
CD-51P	0.000	0.387	0.305	0.305	514,618	Yes	222,946
CD-52	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-52P	0.000	0.342	0.305	0.305	182,184	No	222,946
CD-57	0.000	0.339	0.305	0.305	162,535	No	222,946
CD-29	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-29P	0.000	0.342	0.305	0.305	182,184	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD81-2-FWH 24B to FWH 25B**					***Sorted By:Flow Order***		
CD-44	0.000	0.339	0.305	0.305	162,535	No	222,946
CD-44N	0.000	0.318	0.305	0.305	52,505	No	222,946
===>Grouped by Line: **CD81-3-FWH 24C to FWH 25C**					***Sorted By:Flow Order***		
CD-24N	0.000	0.446	0.305	0.305	439,926	No	222,946
CD-24	0.000	0.412	0.305	0.305	451,283	Yes	222,946
CD-23	0.000	0.473	0.305	0.305	708,337	Yes	222,946
CD-23P	0.000	0.408	0.305	0.305	504,007	Yes	222,946
CD-53	0.000	0.409	0.305	0.305	438,641	Yes	222,946
CD-53P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-54	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-54P	0.000	0.363	0.305	0.305	363,734	No	222,946
CD-55	0.000	0.327	0.305	0.305	94,563	No	222,946
CD-55P	0.000	0.404	0.305	0.305	618,402	Yes	222,946
CD-30	0.000	0.477	0.305	0.305	724,620	Yes	222,946
CD-30P	0.000	0.395	0.305	0.305	562,272	Yes	222,946
CD-45	0.000	0.339	0.305	0.305	162,535	No	222,946
CD-45N	0.000	0.496	0.305	0.305	744,023	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: CND FWH 24 TO FWH 25
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.340

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:	**CD81-1-FWH 24A to FWH 25A**											***Sorted By: Flow Order***
CD-37	0.000	76.7	92.0	76.7	92.0	0.415	MT	119,088	361.3	415.0	33.9	119,088
CD-18	0.000	68.4	54.0	68.4	54.0	0.450	MT	106,128	369.6	450.0	42.3	106,128
CD-18P	0.000	66.3	38.0	66.3	38.0	0.402	MT	119,088	371.7	402.0	29.3	119,088
CD-46	0.000	76.7	91.0	76.7	91.0	0.430	MT	119,088	361.3	430.0	33.9	119,088
CD-46P	0.000	51.8	61.0	51.8	61.0	0.399	MT	119,088	386.2	399.0	22.9	119,088
CD-56	0.000	82.6	115.0	82.6	115.0	0.440	MT	149,573	355.4	440.0	16.0	149,573
===>Grouped by Line:	**CD81-2-FWH 24B to FWH 25B**											***Sorted By: Flow Order***
CD-21N	0.000	118.9	87.0	118.9	87.0	0.404	MT	136,608	319.1	404.0	30.6	136,608
CD-21	0.000	88.0	88.0	88.0	88.0	0.435	MT	136,608	350.0	435.0	22.6	136,608
CD-20	0.000	100.7	67.0	100.7	67.0	0.475	GW	181,477	337.3	475.0	10.0	181,477
CD-50	0.000	64.7	71.0	64.7	71.0	0.448	MT	106,128	373.3	448.0	40.0	106,128
CD-51	0.000	68.4	75.0	68.4	75.0	0.428	MT	106,128	369.6	428.0	42.3	106,128
CD-51P	0.000	46.2	64.0	46.2	64.0	0.416	MT	106,128	391.8	416.0	28.6	106,128
===>Grouped by Line:	**CD81-3-FWH 24C to FWH 25C**											***Sorted By: Flow Order***
CD-24	0.000	100.7	141.0	100.7	141.0	0.422	GW	181,477	337.3	422.0	10.0	181,477
CD-23	0.000	100.7	54.0	100.7	54.0	0.483	GW	181,477	337.3	483.0	10.0	181,477
CD-23P	0.000	87.0	37.0	87.0	37.0	0.417	GW	181,477	351.0	417.0	8.6	181,477
CD-53	0.000	100.7	112.0	100.7	112.0	0.419	GW	181,477	337.3	419.0	10.0	181,477
CD-55P	0.000	51.8	41.0	51.8	41.0	0.427	MT	119,088	386.2	427.0	22.9	119,088
CD-30	0.000	107.5	74.0	107.5	74.0	0.480	MT	209,806	330.5	480.0	3.1	209,806
CD-30P	0.000	51.8	46.0	51.8	46.0	0.418	MT	119,088	386.2	418.0	22.9	119,088

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:21:26PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.383

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD82-1-FWH 25A to HDR***								***Sorted By: Average Wear Rate***		
CD-32N	31	5.206	2.291	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-VALVE-CD-18	22	5.144	2.263	382.4	17.949	0.0	14.000	6.777	0.000	106.45	HBD
CD-32	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-60	2	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61R	18	2.915	1.283	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-60P	52	2.603	1.145	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31P-1 US	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31P-1 DS	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61R (D/S)	18	1.485	0.660	382.4	6.156	0.0	24.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-2-FWH 25B to HDR***								***Sorted By: Average Wear Rate***		
CD-34N	31	5.206	2.291	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-VALVE-CD-18-1	22	5.144	2.263	382.4	17.949	0.0	14.000	6.777	0.000	106.45	HBD
CD-34	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-62	2	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-62P	52	2.603	1.145	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33P-1 US	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33P-1 DS	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-3-FWH 25C to HDR***								***Sorted By: Average Wear Rate***		
CD-36N	31	5.206	2.291	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-VALVE-CD-18-2	22	5.144	2.263	382.4	17.949	0.0	14.000	6.777	0.000	106.45	HBD
CD-36	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	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:	***CD82-3-FWH 25C to HDR***								***Sorted By: Average Wear Rate***		
CD-35	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-63	2	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-58	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-35P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-58P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-35P-1	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-4-HDR 25BT to 25CT***								***Sorted By: Average Wear Rate***		
CD-62T (BR/SE)	12	3.540	1.558	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-62T (D/S)	12	3.173	1.396	382.4	12.331	0.0	24.000	6.777	0.000	106.45	HBD
CD-62T	12	2.029	0.901	382.4	6.156	0.0	24.000	6.777	0.000	106.45	HBD
CD-62P-1	62	1.548	0.681	382.4	12.331	0.0	24.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-5-HDR 25CT to HDP OUT***								***Sorted By: Average Wear Rate***		
CD-59T (D/S)	12	3.979	1.751	382.4	18.488	0.0	24.000	6.777	0.000	106.45	HBD
CD-59	4	3.591	1.580	382.4	18.488	0.0	24.000	6.777	0.000	106.45	HBD
CD-59T (BR/SE)	12	3.540	1.558	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-80T (BR/SE)	12	3.299	1.452	382.4	18.485	0.0	24.000	6.777	0.000	106.45	HBD
CD-59T	12	3.173	1.396	382.4	12.331	0.0	24.000	6.777	0.000	106.45	HBD
CD-59P	54	3.105	1.366	382.4	18.488	0.0	24.000	6.777	0.000	106.45	HBD
CD-80T	12	2.944	1.295	382.4	11.450	0.0	30.000	6.777	0.000	106.45	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:21:26PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.383

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***CD82-1-FWH 25A to HDR***									***Sorted By: Flow Order***	
CD-32N	31	5.206	2.291	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-32	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-VALVE-CD-18	22	5.144	2.263	382.4	17.949	0.0	14.000	6.777	0.000	106.45	HBD
CD-31P-1 US	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-31P-1 DS	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-60	2	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-60P	52	2.603	1.145	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61R	18	2.915	1.283	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-61R (D/S)	18	1.485	0.660	382.4	6.156	0.0	24.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-2-FWH 25B to HDR***									***Sorted By: Flow Order***	
CD-34N	31	5.206	2.291	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-34	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-VALVE-CD-18-1	22	5.144	2.263	382.4	17.949	0.0	14.000	6.777	0.000	106.45	HBD
CD-33P-1 US	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-33P-1 DS	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-62	2	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-62P	52	2.603	1.145	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-3-FWH 25C to HDR***									***Sorted By: Flow Order***	
CD-36N	31	5.206	2.291	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-36	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-35	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	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:	***CD82-3-FWH 25C to HDR***									***Sorted By: Flow Order***	
CD-35P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-VALVE-CD-18-2	22	5.144	2.263	382.4	17.949	0.0	14.000	6.777	0.000	106.45	HBD
CD-35P-1	58	2.291	1.008	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-63	2	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-58	4	3.853	1.695	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-58P	54	3.332	1.466	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-4-HDR 25BT to 25CT***									***Sorted By: Flow Order***	
CD-62T	12	2.029	0.901	382.4	6.156	0.0	24.000	6.777	0.000	106.45	HBD
CD-62T (BR/SE)	12	3.540	1.558	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-62T (D/S)	12	3.173	1.396	382.4	12.331	0.0	24.000	6.777	0.000	106.45	HBD
CD-62P-1	62	1.548	0.681	382.4	12.331	0.0	24.000	6.777	0.000	106.45	HBD
===>Grouped by Line:	***CD82-5-HDR 25CT to HDP OUT***									***Sorted By: Flow Order***	
CD-59T (BR/SE)	12	3.540	1.558	382.4	18.295	0.0	14.000	6.777	0.000	106.45	HBD
CD-59T	12	3.173	1.396	382.4	12.331	0.0	24.000	6.777	0.000	106.45	HBD
CD-59T (D/S)	12	3.979	1.751	382.4	18.488	0.0	24.000	6.777	0.000	106.45	HBD
CD-59	4	3.591	1.580	382.4	18.488	0.0	24.000	6.777	0.000	106.45	HBD
CD-59P	54	3.105	1.366	382.4	18.488	0.0	24.000	6.777	0.000	106.45	HBD
CD-80T (BR/SE)	12	3.299	1.452	382.4	18.485	0.0	24.000	6.777	0.000	106.45	HBD
CD-80T	12	2.944	1.295	382.4	11.450	0.0	30.000	6.777	0.000	106.45	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:21:26PM

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.383

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD82-1-FWH 25A to HDR**					***Sorted By:Remaining Life***		
CD-VALVE-CD-18	0.000	0.307	0.326	0.326	-71,438	No	222,946
CD-60	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-32	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-31	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-61P	0.000	0.353	0.305	0.305	288,464	No	222,946
CD-31P	0.000	0.353	0.305	0.305	288,464	No	222,946
CD-61	0.000	0.396	0.305	0.305	468,813	Yes	222,946
CD-60P	0.000	0.372	0.305	0.305	511,114	No	222,946
CD-31P-1 US	0.000	0.380	0.305	0.305	649,910	No	222,946
CD-32N	0.000	0.479	0.305	0.305	667,332	No	222,946
CD-31P-1 DS	0.000	0.417	0.305	0.305	975,375	No	222,946
CD-61R	0.000	0.528	0.305	0.305	1,523,918	Yes	222,946
CD-61R (D/S)	0.000	0.645	0.523	0.523	1,623,966	Yes	222,946
===>Grouped by Line: **CD82-2-FWH 25B to HDR**					***Sorted By:Remaining Life***		
CD-VALVE-CD-18-1	0.000	0.307	0.326	0.326	-71,438	No	222,946
CD-34N	0.000	0.306	0.305	0.305	2,198	No	222,946
CD-62	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-62P	0.000	0.372	0.305	0.305	511,114	No	222,946
CD-33P	0.000	0.413	0.305	0.305	644,606	Yes	222,946
CD-33P-1 DS	0.000	0.380	0.305	0.305	649,910	No	222,946
CD-33	0.000	0.439	0.305	0.305	695,257	Yes	222,946
CD-34	0.000	0.442	0.305	0.305	710,761	Yes	222,946
CD-33P-1 US	0.000	0.399	0.305	0.305	816,923	Yes	222,946
===>Grouped by Line: **CD82-3-FWH 25C to HDR**					***Sorted By:Remaining Life***		
CD-VALVE-CD-18-2	0.000	0.307	0.326	0.326	-71,438	No	222,946
CD-63	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-35P	0.000	0.367	0.305	0.305	372,120	Yes	222,946
CD-58P	0.000	0.381	0.305	0.305	451,915	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **CD82-3-FWH 25C to HDR**					***Sorted By:Remaining Life***		
CD-58	0.000	0.412	0.305	0.305	551,501	Yes	222,946
CD-36	0.000	0.429	0.305	0.305	642,249	Yes	222,946
CD-35	0.000	0.430	0.305	0.305	647,417	Yes	222,946
CD-35P-1	0.000	0.380	0.305	0.305	649,910	No	222,946
CD-36N	0.000	0.477	0.305	0.305	658,067	No	222,946
===>*Grouped by Line:* **CD82-4-HDR 25BT to 25CT**					***Sorted By:Remaining Life***		
CD-62T (BR/SE)	0.000	0.412	0.305	0.305	600,291	Yes	222,946
CD-62T (D/S)	0.000	0.672	0.523	0.523	936,092	No	222,946
CD-62T	0.000	0.674	0.523	0.523	1,466,551	No	222,946
CD-62P-1	0.000	0.649	0.523	0.523	1,619,303	No	222,946
===>*Grouped by Line:* **CD82-5-HDR 25CT to HDP OUT**					***Sorted By:Remaining Life***		
CD-80T	0.000	0.636	0.561	0.561	502,639	No	222,946
CD-59T (BR/SE)	0.000	0.401	0.305	0.305	539,262	Yes	222,946
CD-59T (D/S)	0.000	0.661	0.523	0.523	692,731	Yes	222,946
CD-59P	0.000	0.640	0.523	0.523	751,524	Yes	222,946
CD-59T	0.000	0.666	0.523	0.523	901,230	Yes	222,946
CD-59	0.000	0.695	0.523	0.523	955,828	Yes	222,946
CD-80T (BR/SE)	0.000	0.647	0.449	0.449	1,194,010	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.383

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD82-1-FWH 25A to HDR**					***Sorted By:Flow Order***		
CD-32N	0.000	0.479	0.305	0.305	667,332	No	222,946
CD-32	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-31	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-31P	0.000	0.353	0.305	0.305	288,464	No	222,946
CD-VALVE-CD-18	0.000	0.307	0.326	0.326	-71,438	No	222,946
CD-31P-1 US	0.000	0.380	0.305	0.305	649,910	No	222,946
CD-31P-1 DS	0.000	0.417	0.305	0.305	975,375	No	222,946
CD-60	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-60P	0.000	0.372	0.305	0.305	511,114	No	222,946
CD-61	0.000	0.396	0.305	0.305	468,813	Yes	222,946
CD-61P	0.000	0.353	0.305	0.305	288,464	No	222,946
CD-61R	0.000	0.528	0.305	0.305	1,523,918	Yes	222,946
CD-61R (D/S)	0.000	0.645	0.523	0.523	1,623,966	Yes	222,946
===>Grouped by Line: **CD82-2-FWH 25B to HDR**					***Sorted By:Flow Order***		
CD-34N	0.000	0.306	0.305	0.305	2,198	No	222,946
CD-34	0.000	0.442	0.305	0.305	710,761	Yes	222,946
CD-33	0.000	0.439	0.305	0.305	695,257	Yes	222,946
CD-33P	0.000	0.413	0.305	0.305	644,606	Yes	222,946
CD-VALVE-CD-18-1	0.000	0.307	0.326	0.326	-71,438	No	222,946
CD-33P-1 US	0.000	0.399	0.305	0.305	816,923	Yes	222,946
CD-33P-1 DS	0.000	0.380	0.305	0.305	649,910	No	222,946
CD-62	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-62P	0.000	0.372	0.305	0.305	511,114	No	222,946
===>Grouped by Line: **CD82-3-FWH 25C to HDR**					***Sorted By:Flow Order***		
CD-36N	0.000	0.477	0.305	0.305	658,067	No	222,946
CD-36	0.000	0.429	0.305	0.305	642,249	Yes	222,946
CD-35	0.000	0.430	0.305	0.305	647,417	Yes	222,946
CD-35P	0.000	0.367	0.305	0.305	372,120	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **CD82-3-FWH 25C to HDR**					***Sorted By:Flow Order***		
CD-VALVE-CD-18-2	0.000	0.307	0.326	0.326	-71,438	No	222,946
CD-35P-1	0.000	0.380	0.305	0.305	649,910	No	222,946
CD-63	0.000	0.340	0.305	0.305	181,007	No	222,946
CD-58	0.000	0.412	0.305	0.305	551,501	Yes	222,946
CD-58P	0.000	0.381	0.305	0.305	451,915	Yes	222,946
===>Grouped by Line: **CD82-4-HDR 25BT to 25CT**					***Sorted By:Flow Order***		
CD-62T	0.000	0.674	0.523	0.523	1,466,551	No	222,946
CD-62T (BR/SE)	0.000	0.412	0.305	0.305	600,291	Yes	222,946
CD-62T (D/S)	0.000	0.672	0.523	0.523	936,092	No	222,946
CD-62P-1	0.000	0.649	0.523	0.523	1,619,303	No	222,946
===>Grouped by Line: **CD82-5-HDR 25CT to HDP OUT**					***Sorted By:Flow Order***		
CD-59T (BR/SE)	0.000	0.401	0.305	0.305	539,262	Yes	222,946
CD-59T	0.000	0.666	0.523	0.523	901,230	Yes	222,946
CD-59T (D/S)	0.000	0.661	0.523	0.523	692,731	Yes	222,946
CD-59	0.000	0.695	0.523	0.523	955,828	Yes	222,946
CD-59P	0.000	0.640	0.523	0.523	751,524	Yes	222,946
CD-80T (BR/SE)	0.000	0.647	0.449	0.449	1,194,010	Yes	222,946
CD-80T	0.000	0.636	0.561	0.561	502,639	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: CND FWH 25 TO HEADER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.383

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:	**CD82-1-FWH 25A to HDR**										***Sorted By: Flow Order***	
CD-61	0.000	61.7	69.0	61.7	69.0	0.432	MT	106,128	376.3	432.0	36.4	106,128
CD-61R	0.000	72.3	75.0	72.3	75.0	0.530	MT	209,806	365.7	530.0	1.9	209,806
CD-61R (D/S)	0.000	36.8	45.0	36.8	45.0	0.646	MT	209,806	651.2	646.0	1.0	209,806
===>Grouped by Line:	**CD82-2-FWH 25B to HDR**										***Sorted By: Flow Order***	
CD-34	0.000	95.5	101.0	95.5	101.0	0.445	MT	209,806	342.5	445.0	2.5	209,806
CD-33	0.000	95.5	92.0	95.5	92.0	0.442	MT	209,806	342.5	442.0	2.5	209,806
CD-33P	0.000	82.6	40.0	82.6	40.0	0.415	MT	209,806	355.4	415.0	2.2	209,806
CD-33P-1 US	0.000	47.2	38.0	47.2	38.0	0.410	MT	136,608	390.8	410.0	11.1	136,608
===>Grouped by Line:	**CD82-3-FWH 25C to HDR**										***Sorted By: Flow Order***	
CD-36	0.000	83.3	77.0	83.3	77.0	0.444	MT	149,573	354.7	444.0	14.8	149,573
CD-35	0.000	83.3	104.0	83.3	104.0	0.445	MT	149,573	354.7	445.0	14.8	149,573
CD-35P	0.000	72.0	72.0	72.0	72.0	0.380	MT	149,573	366.0	380.0	12.8	149,573
CD-58	0.000	61.7	55.0	61.7	55.0	0.448	MT	106,128	376.3	448.0	36.4	106,128
CD-58P	0.000	53.4	78.0	53.4	78.0	0.412	MT	106,128	384.6	412.0	31.4	106,128
===>Grouped by Line:	**CD82-4-HDR 25BT to 25CT**										***Sorted By: Flow Order***	
CD-62T (BR/SE)	0.000	87.8	30.0	87.8	30.0	0.414	MT	209,806	350.2	414.0	2.3	209,806
===>Grouped by Line:	**CD82-5-HDR 25CT to HDP OUT**										***Sorted By: Flow Order***	
CD-59T (BR/SE)	0.000	84.9	53.0	84.9	53.0	0.406	GW	193,769	353.1	406.0	5.2	193,769
CD-59T	0.000	76.1	46.0	76.1	46.0	0.671	GW	193,769	611.9	671.0	4.6	193,769
CD-59T (D/S)	0.000	95.4	35.0	95.4	35.0	0.667	GW	193,769	592.6	667.0	5.8	193,769
CD-59	0.000	57.5	75.0	57.5	75.0	0.729	MT	106,128	630.5	729.0	33.9	106,128
CD-59P	0.000	77.0	77.0	77.0	77.0	0.642	MT	209,806	611.0	642.0	2.0	209,806
CD-80T (BR/SE)	0.000	77.0	78.0	77.0	78.0	0.654	GW	181,477	610.0	654.0	7.0	181,477

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 4:44:03PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MS56-1-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-49N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-52	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-53	4	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-49EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-53R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-52P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
5EX-53R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
5EX-53P	68	0.009	0.005	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-2-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-50N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-51	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-62	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-50EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50P3	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-51P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-3-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-55	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-54 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-55 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	107.96	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:	***MS56-3-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-54 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-54	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
5EX-55 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-54P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-4-PRESEP to MSR23A***								***Sorted By: Average Wear Rate***		
5EX-56N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-56	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-55EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-55EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-56P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-5-PRESEP to MSR-A***								***Sorted By: Average Wear Rate***		
5EX-57	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-57 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	107.96	ARD
5EX-55R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-57 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-55R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	107.96	ARD
5EX-55P-1	68	0.014	0.008	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-6-PRESEP to MSR22A***								***Sorted By: Average Wear Rate***		
5EX-58N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-58	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-57EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-57EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-58P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-7-PRESEP to MSR21A***								***Sorted By: Average Wear Rate***		
5EX-60N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-59	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-60	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-57R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-57P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-59EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-59EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-60P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-57R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	107.96	ARD
5EX-59P	56	0.006	0.003	387.9	81.998	90.5	27.750	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-1-PRESEP to MSR-B***								***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:	***MS57-1-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-37N	31	0.039	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-40	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-41	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-37EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-41R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-40P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
5EX-41R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-2-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-38N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-38	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-39	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-61	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-61EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-61EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-38P	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-61P1	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-61P2	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-39P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-3-PRESEP to MSR-B***								***Sorted By: Average Wear Rate***		
5EX-43	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-42 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-43 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	107.96	ARD
5EX-42 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-42	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
5EX-43 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-41P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-4-PRESEP to MSR23B***								***Sorted By: Average Wear Rate***		
5EX-44N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-44	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-43EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-43EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-5-PRESEP to MSR-B***								***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
5EX-45	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-45 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	107.96	ARD
5EX-43R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-43P1	57	0.020	0.012	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-45 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-43R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-6-PRESEP to MSR22B***								***Sorted By: Average Wear Rate***		
5EX-46N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-46	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-45EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-45EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-7-PRESEP to MSR21B***								***Sorted By: Average Wear Rate***		
5EX-48N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-47	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-48	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-45R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-47EJ2	6	0.022	0.013	387.9	92.605	90.5	27.500	6.937	0.000	107.96	ARD
5EX-47EJ1	6	0.021	0.013	387.9	92.605	90.5	27.500	6.937	0.000	107.96	ARD
5EX-47P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-45R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	107.96	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 4:44:03PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MS56-1-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-49N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-49EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-49EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-52	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-52P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
5EX-53	4	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-53R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-53R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
5EX-53P	68	0.009	0.005	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-2-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-50N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-50P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-62	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-50EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50P3	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-50EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-51	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-51P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-3-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-54	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
5EX-54 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-54 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	107.96	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:	***MS56-3-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-54P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-55	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-55 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-55 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-4-PRESEP to MSR23A***									***Sorted By: Flow Order***	
5EX-55EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-55EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-56	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-56P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-56N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-5-PRESEP to MSR-A***									***Sorted By: Flow Order***	
5EX-55R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	107.96	ARD
5EX-55R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-55P-1	68	0.014	0.008	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-57	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-57 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-57 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-6-PRESEP to MSR22A***									***Sorted By: Flow Order***	
5EX-57EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-57EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-58	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-58P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-58N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS56-7-PRESEP to MSR21A***									***Sorted By: Flow Order***	
5EX-57R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	107.96	ARD
5EX-57R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-57P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-59	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-59EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-59P	56	0.006	0.003	387.9	81.998	90.5	27.750	6.937	0.000	107.96	ARD
5EX-59EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-60	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-60P	52	0.017	0.010	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-60N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-1-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-37N	31	0.039	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	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:	***MS57-1-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-37P1	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-37EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37P2	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-37EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-40	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-40P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
5EX-41	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-41R	18	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-41R (D/S)	18	0.012	0.007	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-2-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-38N	31	0.041	0.024	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-38P	61	0.018	0.011	387.9	163.213	90.5	33.000	6.937	0.000	107.96	ARD
5EX-38	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-61P1	52	0.017	0.010	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-61	1	0.022	0.013	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-61EJ1	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-61P2	51	0.015	0.009	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-61EJ2	6	0.021	0.012	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-39	2	0.025	0.015	387.9	83.669	90.5	33.250	6.937	0.000	107.96	ARD
5EX-39P	51	0.015	0.009	387.9	83.958	90.5	33.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-3-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-42	12	0.030	0.018	387.9	36.948	90.5	48.500	6.937	0.000	107.96	ARD
5EX-42 (BR/SE)	12	0.030	0.018	387.9	83.669	90.5	33.000	6.937	0.000	107.96	ARD
5EX-42 (D/S)	12	0.042	0.025	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-41P	62	0.008	0.005	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-43	14	0.049	0.029	387.9	78.113	90.5	48.500	6.937	0.000	107.96	ARD
5EX-43 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-43 (D/S)	14	0.040	0.024	387.9	50.606	90.5	48.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-4-PRESEP to MSR23B***									***Sorted By: Flow Order***	
5EX-43EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-43EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-44	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-44N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-5-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-43R	7	0.016	0.009	387.9	50.606	90.5	48.500	6.937	0.000	107.96	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:	***MS57-5-PRESEP to MSR-B***									***Sorted By: Flow Order***	
5EX-43R (D/S)	7	0.023	0.013	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-43P1	57	0.020	0.012	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-45	14	0.052	0.031	387.9	83.004	90.5	38.000	6.937	0.000	107.96	ARD
5EX-45 (BR/SE)	14	0.019	0.011	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
5EX-45 (D/S)	14	0.037	0.022	387.9	39.808	90.5	38.000	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-6-PRESEP to MSR22B***									***Sorted By: Flow Order***	
5EX-45EJ1	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-45EJ2	6	0.021	0.012	387.9	81.998	90.5	27.500	6.937	0.000	107.96	ARD
5EX-46	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-46N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD
===>Grouped by Line:	***MS57-7-PRESEP to MSR21B***									***Sorted By: Flow Order***	
5EX-45R	7	0.015	0.009	387.9	39.808	90.5	38.250	6.937	0.000	107.96	ARD
5EX-45R (D/S)	7	0.023	0.014	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-47P2	57	0.021	0.012	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-47	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-47EJ1	6	0.021	0.013	387.9	92.605	90.5	27.500	6.937	0.000	107.96	ARD
5EX-47EJ2	6	0.022	0.013	387.9	92.605	90.5	27.500	6.937	0.000	107.96	ARD
5EX-48	2	0.026	0.015	387.9	81.811	90.5	27.750	6.937	0.000	107.96	ARD
5EX-48N	30	0.028	0.016	387.9	81.811	90.5	27.500	6.937	0.000	107.96	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 4:44:03PM

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS56-1-PRESEP to MSR-A**					***Sorted By:Remaining Life***		
5EX-49N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-52P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-53R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-53P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-49EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-49EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-49P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-53	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-52	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-49	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-49P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-53R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
===>Grouped by Line: **MS56-2-PRESEP to MSR-A**					***Sorted By:Remaining Life***		
5EX-50N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-50P3	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-51P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-50EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-50EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-50P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-51	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-50	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-50P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-62	0.000	0.624	0.231	0.231	269,104,576	No	222,946
===>Grouped by Line: **MS56-3-PRESEP to MSR-A**					***Sorted By:Remaining Life***		
5EX-54P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-54 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-55	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-54 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MS56-3-PRESEP to MSR-A**				***Sorted By:Remaining Life***		
5EX-55 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-55 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
5EX-54	0.000	0.999	0.337	0.337	330,007,200	No	222,946
===>Grouped by Line:	**MS56-4-PRESEP to MSR23A**				***Sorted By:Remaining Life***		
5EX-56N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
5EX-55EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-55EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-56	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-56P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
===>Grouped by Line:	**MS56-5-PRESEP to MSR-A**				***Sorted By:Remaining Life***		
5EX-57	0.000	0.499	0.264	0.264	66,987,732	No	222,946
5EX-57 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
5EX-55P-1	0.000	0.500	0.264	0.264	100,000,000	No	222,946
5EX-55R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-57 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-55R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
===>Grouped by Line:	**MS56-6-PRESEP to MSR22A**				***Sorted By:Remaining Life***		
5EX-58N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
5EX-57EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-57EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-58	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-58P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
===>Grouped by Line:	**MS56-7-PRESEP to MSR21A**				***Sorted By:Remaining Life***		
5EX-59EJ2	0.000	0.299	0.219	0.219	57,188,608	No	222,946
5EX-59EJ1	0.000	0.351	0.219	0.219	94,310,952	No	222,946
5EX-57R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-59P	0.000	0.319	0.193	0.193	100,000,000	No	222,946
5EX-60N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
5EX-59	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-60	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-60P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-57R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-57P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946
===>Grouped by Line:	**MS57-1-PRESEP to MSR-B**				***Sorted By:Remaining Life***		
5EX-37N	0.000	0.499	0.230	0.230	97,036,584	No	180,315

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MS57-1-PRESEP to MSR-B**					***Sorted By:Remaining Life***		
5EX-40P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-41R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-37EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-37EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-37	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-40	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-41	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-37P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-37P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-41R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
===>*Grouped by Line:* **MS57-2-PRESEP to MSR-B**					***Sorted By:Remaining Life***		
5EX-38N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-61P2	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-39P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-61EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-61EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-38	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-39	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-38P	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-61P1	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-61	0.000	0.624	0.248	0.248	257,332,528	No	222,946
===>*Grouped by Line:* **MS57-3-PRESEP to MSR-B**					***Sorted By:Remaining Life***		
5EX-41P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-42 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-43	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-42 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-43 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-43 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
5EX-42	0.000	0.999	0.337	0.337	330,007,200	No	222,946
===>*Grouped by Line:* **MS57-4-PRESEP to MSR23B**					***Sorted By:Remaining Life***		
5EX-44N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
5EX-43EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-43EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-44	0.000	0.624	0.207	0.207	242,282,816	No	222,946
===>*Grouped by Line:* **MS57-5-PRESEP to MSR-B**					***Sorted By:Remaining Life***		
5EX-45	0.000	0.499	0.264	0.264	66,987,732	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS57-5-PRESEP to MSR-B**					***Sorted By:Remaining Life***		
5EX-45 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
5EX-43R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-43P1	0.000	0.499	0.264	0.264	172,502,816	No	222,946
5EX-45 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-43R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
===>Grouped by Line: **MS57-6-PRESEP to MSR22B**					***Sorted By:Remaining Life***		
5EX-46N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
5EX-45EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-45EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-46	0.000	0.624	0.207	0.207	242,282,816	No	222,946
===>Grouped by Line: **MS57-7-PRESEP to MSR21B**					***Sorted By:Remaining Life***		
5EX-47EJ1	0.000	0.232	0.219	0.219	8,727,003	No	180,315
5EX-47EJ2	0.000	0.314	0.219	0.219	63,347,440	No	222,946
5EX-45R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-48N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
5EX-47	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-48	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-45R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-47P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: CROSSUNDER
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS56-1-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-49N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-49P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-49	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-49EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-49P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-49EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-52	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-52P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-53	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-53R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
5EX-53R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-53P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
===>Grouped by Line: **MS56-2-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-50N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-50P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-50	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-50P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-62	0.000	0.624	0.231	0.231	269,104,576	No	222,946
5EX-50EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-50P3	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-50EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-51	0.000	0.624	0.231	0.231	230,399,760	No	222,946
5EX-51P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
===>Grouped by Line: **MS56-3-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-54	0.000	0.999	0.337	0.337	330,007,200	No	222,946
5EX-54 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-54 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-54P	0.000	1.000	0.337	0.337	100,000,000	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS56-3-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-55	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-55 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-55 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
===>Grouped by Line: **MS56-4-PRESEP to MSR23A**					***Sorted By:Flow Order***		
5EX-55EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-55EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-56	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-56P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-56N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
===>Grouped by Line: **MS56-5-PRESEP to MSR-A**					***Sorted By:Flow Order***		
5EX-55R	0.000	1.000	0.337	0.337	612,011,008	No	222,946
5EX-55R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-55P-1	0.000	0.500	0.264	0.264	100,000,000	No	222,946
5EX-57	0.000	0.499	0.264	0.264	66,987,732	No	222,946
5EX-57 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-57 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
===>Grouped by Line: **MS56-6-PRESEP to MSR22A**					***Sorted By:Flow Order***		
5EX-57EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-57EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-58	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-58P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-58N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
===>Grouped by Line: **MS56-7-PRESEP to MSR21A**					***Sorted By:Flow Order***		
5EX-57R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-57R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-57P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946
5EX-59	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-59EJ1	0.000	0.351	0.219	0.219	94,310,952	No	222,946
5EX-59P	0.000	0.319	0.193	0.193	100,000,000	No	222,946
5EX-59EJ2	0.000	0.299	0.219	0.219	57,188,608	No	222,946
5EX-60	0.000	0.624	0.193	0.193	250,623,568	No	222,946
5EX-60P	0.000	0.500	0.191	0.191	263,863,936	No	222,946
5EX-60N	0.000	0.499	0.191	0.191	164,772,848	No	222,946
===>Grouped by Line: **MS57-1-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-37N	0.000	0.499	0.230	0.230	97,036,584	No	180,315

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS57-1-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-37P1	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-37	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-37EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-37P2	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-37EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-40	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-40P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-41	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-41R	0.000	0.500	0.230	0.230	236,521,552	No	222,946
5EX-41R (D/S)	0.000	1.000	0.337	0.337	100,000,000	No	222,946
===>Grouped by Line: **MS57-2-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-38N	0.000	0.499	0.230	0.230	96,945,712	No	222,946
5EX-38P	0.000	0.500	0.230	0.230	224,390,576	No	222,946
5EX-38	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-61P1	0.000	0.500	0.230	0.230	233,150,784	No	222,946
5EX-61	0.000	0.624	0.248	0.248	257,332,528	No	222,946
5EX-61EJ1	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-61P2	0.000	0.500	0.230	0.230	100,000,000	No	222,946
5EX-61EJ2	0.000	0.499	0.230	0.230	194,063,792	No	222,946
5EX-39	0.000	0.624	0.248	0.248	220,318,464	No	222,946
5EX-39P	0.000	0.500	0.230	0.230	100,000,000	No	222,946
===>Grouped by Line: **MS57-3-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-42	0.000	0.999	0.337	0.337	330,007,200	No	222,946
5EX-42 (BR/SE)	0.000	0.499	0.230	0.230	133,809,240	No	222,946
5EX-42 (D/S)	0.000	0.999	0.337	0.337	233,897,696	No	222,946
5EX-41P	0.000	1.000	0.337	0.337	100,000,000	No	222,946
5EX-43	0.000	0.999	0.337	0.337	199,189,456	No	222,946
5EX-43 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-43 (D/S)	0.000	0.999	0.337	0.337	244,714,288	No	222,946
===>Grouped by Line: **MS57-4-PRESEP to MSR23B**					***Sorted By:Flow Order***		
5EX-43EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-43EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-44	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-44N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
===>Grouped by Line: **MS57-5-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-43R	0.000	1.000	0.337	0.337	612,011,008	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS57-5-PRESEP to MSR-B**					***Sorted By:Flow Order***		
5EX-43R (D/S)	0.000	0.499	0.264	0.264	155,438,368	No	222,946
5EX-43P1	0.000	0.499	0.264	0.264	172,502,816	No	222,946
5EX-45	0.000	0.499	0.264	0.264	66,987,732	No	222,946
5EX-45 (BR/SE)	0.000	0.500	0.191	0.191	235,477,296	No	222,946
5EX-45 (D/S)	0.000	0.499	0.264	0.264	95,282,552	No	222,946
===>Grouped by Line: **MS57-6-PRESEP to MSR22B**					***Sorted By:Flow Order***		
5EX-45EJ1	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-45EJ2	0.000	0.499	0.191	0.191	220,030,576	No	222,946
5EX-46	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-46N	0.000	0.499	0.219	0.219	150,040,320	No	222,946
===>Grouped by Line: **MS57-7-PRESEP to MSR21B**					***Sorted By:Flow Order***		
5EX-45R	0.000	0.625	0.266	0.266	100,000,000	No	222,946
5EX-45R (D/S)	0.000	0.624	0.193	0.193	277,382,368	No	222,946
5EX-47P2	0.000	0.624	0.193	0.193	307,801,152	No	222,946
5EX-47	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-47EJ1	0.000	0.232	0.219	0.219	8,727,003	No	180,315
5EX-47EJ2	0.000	0.314	0.219	0.219	63,347,440	No	222,946
5EX-48	0.000	0.624	0.207	0.207	242,282,816	No	222,946
5EX-48N	0.000	0.499	0.219	0.219	150,040,320	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC2(v3).DB

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:21:47PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES-BFPT Drain to Condenser 21***									***Sorted By: Average Wear Rate***	
TEMP05	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	86.09	HBD
===>Grouped by Line:	***ES-BFPT Drain to Condenser 22***									***Sorted By: Average Wear Rate***	
TEMP06	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	86.09	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:21:47PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***ES-BFPT Drain to Condenser 21***									***Sorted By: Flow Order***	
TEMP05	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	86.09	HBD
===>Grouped by Line:	***ES-BFPT Drain to Condenser 22***									***Sorted By: Flow Order***	
TEMP06	31	0.495	0.268	101.7	0.034	86.8	48.000	7.276	0.000	86.09	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:21:47PM

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES-BFPT Drain to Condenser 21**					***Sorted By:Remaining Life***		
TEMP05	0.000	0.612	0.080	0.080	17,418,200	No	222,946
===>Grouped by Line: **ES-BFPT Drain to Condenser 22**					***Sorted By:Remaining Life***		
TEMP06	0.000	0.612	0.080	0.080	17,418,200	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: ES - BFPT DRN TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **ES-BFPT Drain to Condenser 21**					***Sorted By:Flow Order***		
TEMP05	0.000	0.612	0.080	0.080	17,418,200	No	222,946
===>Grouped by Line: **ES-BFPT Drain to Condenser 22**					***Sorted By:Flow Order***		
TEMP06	0.000	0.612	0.080	0.080	17,418,200	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC2(v3).DB

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/23/2010 10:19:12AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.492

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW71-1-BFP21 DISCH to HDR***								***Sorted By: Average Wear Rate***		
BFD VALVE-BFD-1	25	7.646	3.179	380.7	24.354	0.0	20.000	6.818	0.000	90.02	ARD
BFD VALVE-BFD-2-21	22	7.609	3.164	380.7	24.168	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14R	18	5.244	2.180	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-14	4	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-2	4	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-4	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-5	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-6	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-7	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-8	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-9	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-10	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14P-1	54	4.363	1.814	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-2P US	54	4.363	1.814	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-2P DS	54	4.363	1.814	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14R (D/S)	18	4.091	1.701	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14N	31	4.052	3.893	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-4P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-5P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-6P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-7P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-7P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-8P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-9P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-9P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-10P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-10P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14P-2	58	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	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:	***FW71-1-BFP21 DISCH to HDR***								***Sorted By: Average Wear Rate***		
BFD-14P	61	2.188	2.102	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW72-1-BFP22 DISCH to HDR***								***Sorted By: Average Wear Rate***		
BFD-15N	31	9.364	3.893	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-1-1	25	7.646	3.179	380.7	24.354	0.0	20.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-2-22	22	7.609	3.164	380.7	24.168	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15R	18	5.244	2.180	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-15	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-16	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-13	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-17	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-18	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-19	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-20	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-21	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-22	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12	1	4.500	1.871	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15R (D/S)	18	4.091	1.701	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-23R	18	3.818	1.587	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15P-1	68	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-16P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-13P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-17P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-18P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-19P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-20P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-21P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-21P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-22P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12P	51	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12P-1	58	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12P-2	58	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-23R (D/S)	18	2.392	0.994	380.7	8.648	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-1-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-11 (D/S)	12	4.816	2.002	380.7	17.296	0.0	30.000	6.818	0.000	90.02	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:	***FW73-1-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-11 (BR/SE)	12	4.636	1.927	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-23	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-24	4	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-25	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-26	4	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-27	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-28	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-29	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-24P DS	54	3.759	1.563	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-26P US	54	3.759	1.563	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T (D/S)	15	3.524	1.465	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T	15	3.524	1.465	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-11	12	3.269	1.359	380.7	8.648	0.0	30.000	6.818	0.000	90.02	ARD
BFD-25P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-27P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-28P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-29P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-2-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-32T-C	14	6.460	2.686	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T-C (D/S)	14	5.152	2.142	380.7	11.536	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T-C (BR/SE)	14	4.347	1.807	380.7	16.725	0.0	18.000	6.818	0.000	90.02	ARD
BFD-32P-1	65	2.349	0.977	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-3-BFPHDR to FWH26C***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-3-2	22	6.212	2.583	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-42N	30	4.969	2.066	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-40	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-41	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-42	1	4.100	1.704	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-41P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-42P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-41P-1	58	2.733	1.136	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-40P US	64	2.485	1.033	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-4-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-32T-B	14	5.152	2.142	380.7	11.536	0.0	30.000	6.818	0.000	90.02	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:	***FW73-4-BFPHDR to FWH26ABC***								***Sorted By: Average Wear Rate***		
BFD-32T-B (BR/SE)	14	4.347	1.807	380.7	16.725	0.0	18.000	6.818	0.000	90.02	ARD
BFD-32T-B (D/S)	14	3.212	1.356	380.7	5.759	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32P-2	64	1.873	0.779	380.7	11.536	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-5-BFPHDR to FWH26B***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-3-1	22	6.212	2.583	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-39N	30	4.969	2.066	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-37	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-38	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-39	1	4.100	1.704	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-38P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-39P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-38P-1	58	2.733	1.136	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-37P	64	2.485	1.033	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-6-BFPHDR to FWH26A***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-3	22	6.212	2.583	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-36N	30	4.969	2.066	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-35	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-36	1	4.100	1.704	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33R (D/S)	7	3.975	1.653	380.7	16.725	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33P-1 DS	57	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33P US	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33P DS	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34P US	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34P DS	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-35P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34P-1	58	2.733	1.136	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33R	7	2.044	0.863	380.7	5.759	0.0	30.000	6.818	0.000	90.02	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 10:19:12AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.492

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW71-1-BFP21 DISCH to HDR***									***Sorted By: Flow Order***	
BFD-14N	31	4.052	3.893	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-14P	61	2.188	2.102	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-14R	18	5.244	2.180	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-14R (D/S)	18	4.091	1.701	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14	4	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14P-1	54	4.363	1.814	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD VALVE-BFD-1	25	7.646	3.179	380.7	24.354	0.0	20.000	6.818	0.000	90.02	ARD
BFD-14P-2	58	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD VALVE-BFD-2-21	22	7.609	3.164	380.7	24.168	0.0	20.000	6.818	0.000	90.02	ARD
BFD-2	4	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-2P US	54	4.363	1.814	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-2P DS	54	4.363	1.814	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-4	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-4P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-5	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-5P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-6	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-6P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-7	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-7P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-7P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-8	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-8P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-9	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-9P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-9P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-10	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-10P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	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:	***FW71-1-BFP21 DISCH to HDR***									***Sorted By: Flow Order***	
BFD-10P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW72-1-BFP22 DISCH to HDR***									***Sorted By: Flow Order***	
BFD-15N	31	9.364	3.893	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-15R	18	5.244	2.180	380.7	33.616	0.0	16.000	6.818	0.000	90.02	ARD
BFD-15R (D/S)	18	4.091	1.701	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15P-1	68	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-15P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12	1	4.500	1.871	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12P	51	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-1-1	25	7.646	3.179	380.7	24.354	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12P-1	58	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-2-22	22	7.609	3.164	380.7	24.168	0.0	20.000	6.818	0.000	90.02	ARD
BFD-12P-2	58	3.000	1.247	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-16	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-16P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-13	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-13P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-17	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-17P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-18	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-18P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-19	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-19P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-20	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-20P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-21	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-21P US	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-21P DS	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-22	2	5.045	2.098	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-22P	52	3.409	1.417	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-23R	18	3.818	1.587	380.7	20.295	0.0	20.000	6.818	0.000	90.02	ARD
BFD-23R (D/S)	18	2.392	0.994	380.7	8.648	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-1-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-11 (BR/SE)	12	4.636	1.927	380.7	20.295	0.0	20.000	6.818	0.000	90.02	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:	***FW73-1-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-11	12	3.269	1.359	380.7	8.648	0.0	30.000	6.818	0.000	90.02	ARD
BFD-11 (D/S)	12	4.816	2.002	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-23	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-24	4	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-24P DS	54	3.759	1.563	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-25	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-25P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-26	4	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-26P US	54	3.759	1.563	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-27	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-27P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-28	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-28P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-29	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-29P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32	2	4.346	1.807	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32P	52	2.937	1.221	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T	15	3.524	1.465	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T (D/S)	15	3.524	1.465	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-2-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-32P-1	65	2.349	0.977	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T-C	14	6.460	2.686	380.7	17.296	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T-C (BR/SE)	14	4.347	1.807	380.7	16.725	0.0	18.000	6.818	0.000	90.02	ARD
BFD-32T-C (D/S)	14	5.152	2.142	380.7	11.536	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-3-BFPHDR to FWH26C***									***Sorted By: Flow Order***	
BFD-40P US	64	2.485	1.033	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-40	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-41P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-3-2	22	6.212	2.583	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-41P-1	58	2.733	1.136	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-41	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-42P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-42	1	4.100	1.704	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-42N	30	4.969	2.066	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-4-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-32P-2	64	1.873	0.779	380.7	11.536	0.0	30.000	6.818	0.000	90.02	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:	***FW73-4-BFPHDR to FWH26ABC***									***Sorted By: Flow Order***	
BFD-32T-B	14	5.152	2.142	380.7	11.536	0.0	30.000	6.818	0.000	90.02	ARD
BFD-32T-B (BR/SE)	14	4.347	1.807	380.7	16.725	0.0	18.000	6.818	0.000	90.02	ARD
BFD-32T-B (D/S)	14	3.212	1.356	380.7	5.759	0.0	30.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-5-BFPHDR to FWH26B***									***Sorted By: Flow Order***	
BFD-37P	64	2.485	1.033	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-37	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-38P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-3-1	22	6.212	2.583	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-38P-1	58	2.733	1.136	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-38	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-39P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-39	1	4.100	1.704	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-39N	30	4.969	2.066	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
===>Grouped by Line:	***FW73-6-BFPHDR to FWH26A***									***Sorted By: Flow Order***	
BFD-33R	7	2.044	0.863	380.7	5.759	0.0	30.000	6.818	0.000	90.02	ARD
BFD-33R (D/S)	7	3.975	1.653	380.7	16.725	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33P-1 DS	57	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33P US	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-33P DS	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34P US	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34P DS	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-VALVE-BFD-3	22	6.212	2.583	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-34P-1	58	2.733	1.136	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-35	2	4.597	1.911	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-35P	52	3.106	1.291	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-36	1	4.100	1.704	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD
BFD-36N	30	4.969	2.066	380.7	16.729	0.0	18.000	6.818	0.000	90.02	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 10:19:12AM

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.492

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW71-1-BFP21 DISCH to HDR**					***Sorted By:Remaining Life***		
BFD VALVE-BFD-1	0.000	0.836	0.988	0.988	-186,001	No	222,946
BFD VALVE-BFD-2-21	0.000	0.837	0.988	0.988	-185,823	No	222,946
BFD-7	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-5	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-14	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-10P DS	0.000	0.955	0.924	0.924	190,094	Yes	222,946
BFD-8	0.000	1.014	0.924	0.924	372,066	Yes	222,946
BFD-4	0.000	1.024	0.924	0.924	413,830	Yes	222,946
BFD-10	0.000	1.054	0.924	0.924	539,570	Yes	222,946
BFD-14N	0.000	1.004	0.740	0.740	595,467	No	57,833
BFD-14P-1	0.000	0.920	0.797	0.797	595,485	No	222,946
BFD-2	0.000	1.070	0.924	0.924	605,943	Yes	222,946
BFD-6	0.000	1.076	0.924	0.924	633,754	Yes	222,946
BFD-9	0.000	1.109	0.924	0.924	770,027	Yes	222,946
BFD-10P US	0.000	0.927	0.797	0.797	807,348	Yes	222,946
BFD-2P US	0.000	0.979	0.797	0.797	878,376	Yes	222,946
BFD-7P US	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-9P DS	0.000	0.954	0.797	0.797	974,236	No	222,946
BFD-2P DS	0.000	1.014	0.797	0.797	1,047,388	No	222,946
BFD-9P US	0.000	0.966	0.797	0.797	1,047,827	Yes	222,946
BFD-14P	0.000	0.992	0.740	0.740	1,049,822	No	57,833
BFD-8P	0.000	0.971	0.797	0.797	1,079,364	Yes	222,946
BFD-6P	0.000	0.986	0.797	0.797	1,172,995	Yes	222,946
BFD-5P	0.000	0.987	0.797	0.797	1,179,176	Yes	222,946
BFD-4P US	0.000	1.000	0.797	0.797	1,258,614	Yes	222,946
BFD-14P-2	0.000	0.987	0.797	0.797	1,340,116	Yes	222,946
BFD-7P DS	0.000	1.030	0.797	0.797	1,444,044	Yes	222,946
BFD-14R	0.000	1.116	0.740	0.740	1,511,287	No	222,946
BFD-14R (D/S)	0.000	1.443	0.924	0.924	2,672,449	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW72-1-BFP22 DISCH to HDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-1-1	0.000	0.836	0.988	0.988	-186,001	No	222,946
BFD-VALVE-BFD-2-22	0.000	0.837	0.988	0.988	-185,823	No	222,946
BFD-15	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-17	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-18	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-19	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-20	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-22	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-15N	0.000	0.904	0.740	0.740	369,507	No	222,946
BFD-21	0.000	1.036	0.924	0.924	464,396	Yes	222,946
BFD-16	0.000	1.052	0.924	0.924	532,548	Yes	222,946
BFD-12	0.000	1.062	0.924	0.924	644,543	Yes	222,946
BFD-23R (D/S)	0.000	1.276	1.195	1.195	715,673	Yes	222,946
BFD-13	0.000	1.112	0.924	0.924	783,130	Yes	222,946
BFD-15R	0.000	0.951	0.740	0.740	848,827	No	222,946
BFD-15P-1	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-15P US	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-17P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-18P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-19P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-20P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-21P DS	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-12P	0.000	0.947	0.797	0.797	1,059,161	Yes	222,946
BFD-21P US	0.000	0.972	0.797	0.797	1,085,494	Yes	222,946
BFD-12P-1	0.000	0.955	0.797	0.797	1,109,905	No	222,946
BFD-12P-2	0.000	0.955	0.797	0.797	1,109,905	No	222,946
BFD-22P	0.000	0.986	0.797	0.797	1,172,028	Yes	222,946
BFD-15P DS	0.000	0.993	0.797	0.797	1,215,347	Yes	222,946
BFD-16P	0.000	0.994	0.797	0.797	1,221,637	Yes	222,946
BFD-13P	0.000	1.030	0.797	0.797	1,444,154	Yes	222,946
BFD-15R (D/S)	0.000	1.444	0.924	0.924	2,676,644	No	222,946
BFD-23R	0.000	1.331	0.797	0.797	2,950,900	Yes	222,946
===>Grouped by Line: **FW73-1-BFPHDR to FWH26ABC**					***Sorted By:Remaining Life***		
BFD-24	0.000	1.149	1.195	1.195	-124,799	No	222,946
BFD-27	0.000	1.149	1.195	1.195	-124,799	No	222,946
BFD-28	0.000	1.149	1.195	1.195	-124,799	No	222,946
BFD-27P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-28P	0.000	1.185	1.195	1.195	-66,176	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW73-1-BFPHDR to FWH26ABC**				***Sorted By:Remaining Life***		
BFD-29P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-32P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-11 (D/S)	0.000	1.315	1.195	1.195	526,666	No	222,946
BFD-26P US	0.000	1.294	1.195	1.195	553,157	Yes	222,946
BFD-25	0.000	1.327	1.195	1.195	640,113	No	222,946
BFD-26	0.000	1.329	1.195	1.195	649,808	Yes	222,946
BFD-32T (D/S)	0.000	1.308	1.195	1.195	674,251	No	222,946
BFD-24P DS	0.000	1.316	1.195	1.195	679,385	Yes	222,946
BFD-32T	0.000	1.310	1.195	1.195	686,209	No	222,946
BFD-11	0.000	1.309	1.195	1.195	737,909	No	222,946
BFD-23	0.000	1.358	1.195	1.195	791,787	Yes	222,946
BFD-32	0.000	1.379	1.195	1.195	892,154	Yes	222,946
BFD-11 (BR/SE)	0.000	1.007	0.797	0.797	954,699	No	222,946
BFD-25P	0.000	1.336	1.195	1.195	1,013,316	Yes	222,946
BFD-29	0.000	1.444	1.195	1.195	1,208,763	Yes	222,946
===>Grouped by Line:	**FW73-2-BFPHDR to FWH26ABC**				***Sorted By:Remaining Life***		
BFD-32P-1	0.000	1.200	1.195	1.195	47,134	No	222,946
BFD-32T-C	0.000	1.278	1.195	1.195	271,351	No	222,946
BFD-32T-C (D/S)	0.000	1.282	1.195	1.195	356,834	No	222,946
BFD-32T-C (BR/SE)	0.000	0.882	0.717	0.717	799,411	No	222,946
===>Grouped by Line:	**FW73-3-BFPHDR to FWH26C**				***Sorted By:Remaining Life***		
BFD-VALVE-BFD-3-2	0.000	0.780	0.889	0.889	-171,354	No	222,946
BFD-41	0.000	0.821	0.832	0.832	-49,046	No	222,946
BFD-42N	0.000	0.890	0.832	0.832	245,294	Yes	222,946
BFD-42	0.000	0.975	0.832	0.832	736,967	Yes	222,946
BFD-40	0.000	1.024	0.832	0.832	878,198	Yes	222,946
BFD-42P	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-41P-1	0.000	0.868	0.717	0.717	1,167,702	No	222,946
BFD-41P	0.000	0.911	0.717	0.717	1,314,257	Yes	222,946
BFD-40P US	0.000	0.882	0.717	0.717	1,395,401	Yes	222,946
===>Grouped by Line:	**FW73-4-BFPHDR to FWH26ABC**				***Sorted By:Remaining Life***		
BFD-32P-2	0.000	1.212	1.195	1.195	195,338	No	222,946
BFD-32T-B	0.000	1.338	1.195	1.195	584,491	Yes	222,946
BFD-32T-B (BR/SE)	0.000	0.880	0.717	0.717	790,019	Yes	222,946
BFD-32T-B (D/S)	0.000	1.353	1.195	1.195	1,024,410	Yes	222,946
===>Grouped by Line:	**FW73-5-BFPHDR to FWH26B**				***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW73-5-BFPHDR to FWH26B**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-3-1	0.000	0.780	0.889	0.889	-171,354	No	222,946
BFD-37	0.000	0.821	0.832	0.832	-49,046	No	222,946
BFD-39N	0.000	0.880	0.832	0.832	203,434	Yes	222,946
BFD-39	0.000	0.959	0.832	0.832	652,779	Yes	222,946
BFD-38	0.000	0.983	0.832	0.832	690,865	Yes	222,946
BFD-38P	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-39P	0.000	0.876	0.717	0.717	1,076,502	Yes	222,946
BFD-38P-1	0.000	0.868	0.717	0.717	1,167,702	No	222,946
BFD-37P	0.000	0.875	0.717	0.717	1,338,096	No	222,946
===>Grouped by Line: **FW73-6-BFPHDR to FWH26A**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-3	0.000	0.780	0.889	0.889	-171,354	No	222,946
BFD-36N	0.000	0.812	0.832	0.832	-79,550	No	222,946
BFD-35	0.000	0.821	0.832	0.832	-49,046	No	222,946
BFD-36	0.000	0.834	0.832	0.832	8,291	No	222,946
BFD-33R	0.000	1.208	1.195	1.195	132,188	No	222,946
BFD-34	0.000	0.918	0.832	0.832	393,383	Yes	222,946
BFD-33	0.000	0.953	0.832	0.832	553,350	Yes	222,946
BFD-33R (D/S)	0.000	0.836	0.717	0.717	630,102	No	222,946
BFD-34P DS	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-35P	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-33P-1 DS	0.000	0.866	0.717	0.717	1,008,662	Yes	222,946
BFD-33P US	0.000	0.882	0.717	0.717	1,117,207	Yes	222,946
BFD-34P-1	0.000	0.868	0.717	0.717	1,167,702	No	222,946
BFD-33P DS	0.000	0.893	0.717	0.717	1,195,049	Yes	222,946
BFD-34P US	0.000	0.900	0.717	0.717	1,242,538	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.492

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

===>Grouped by Line: **FW71-1-BFP21 DISCH to HDR** ***Sorted By:Flow Order***

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
BFD-14N	0.000	1.004	0.740	0.740	595,467	No	57,833
BFD-14P	0.000	0.992	0.740	0.740	1,049,822	No	57,833
BFD-14R	0.000	1.116	0.740	0.740	1,511,287	No	222,946
BFD-14R (D/S)	0.000	1.443	0.924	0.924	2,672,449	Yes	222,946
BFD-14	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-14P-1	0.000	0.920	0.797	0.797	595,485	No	222,946
BFD VALVE-BFD-1	0.000	0.836	0.988	0.988	-186,001	No	222,946
BFD-14P-2	0.000	0.987	0.797	0.797	1,340,116	Yes	222,946
BFD VALVE-BFD-2-21	0.000	0.837	0.988	0.988	-185,823	No	222,946
BFD-2	0.000	1.070	0.924	0.924	605,943	Yes	222,946
BFD-2P US	0.000	0.979	0.797	0.797	878,376	Yes	222,946
BFD-2P DS	0.000	1.014	0.797	0.797	1,047,388	No	222,946
BFD-4	0.000	1.024	0.924	0.924	413,830	Yes	222,946
BFD-4P US	0.000	1.000	0.797	0.797	1,258,614	Yes	222,946
BFD-5	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-5P	0.000	0.987	0.797	0.797	1,179,176	Yes	222,946
BFD-6	0.000	1.076	0.924	0.924	633,754	Yes	222,946
BFD-6P	0.000	0.986	0.797	0.797	1,172,995	Yes	222,946
BFD-7	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-7P US	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-7P DS	0.000	1.030	0.797	0.797	1,444,044	Yes	222,946
BFD-8	0.000	1.014	0.924	0.924	372,066	Yes	222,946
BFD-8P	0.000	0.971	0.797	0.797	1,079,364	Yes	222,946
BFD-9	0.000	1.109	0.924	0.924	770,027	Yes	222,946
BFD-9P US	0.000	0.966	0.797	0.797	1,047,827	Yes	222,946
BFD-9P DS	0.000	0.954	0.797	0.797	974,236	No	222,946
BFD-10	0.000	1.054	0.924	0.924	539,570	Yes	222,946
BFD-10P US	0.000	0.927	0.797	0.797	807,348	Yes	222,946
BFD-10P DS	0.000	0.955	0.924	0.924	190,094	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW72-1-BFP22 DISCH to HDR**					***Sorted By:Flow Order***		
BFD-15N	0.000	0.904	0.740	0.740	369,507	No	222,946
BFD-15R	0.000	0.951	0.740	0.740	848,827	No	222,946
BFD-15R (D/S)	0.000	1.444	0.924	0.924	2,676,644	No	222,946
BFD-15P-1	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-15	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-15P US	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-15P DS	0.000	0.993	0.797	0.797	1,215,347	Yes	222,946
BFD-12	0.000	1.062	0.924	0.924	644,543	Yes	222,946
BFD-12P	0.000	0.947	0.797	0.797	1,059,161	Yes	222,946
BFD-VALVE-BFD-1-1	0.000	0.836	0.988	0.988	-186,001	No	222,946
BFD-12P-1	0.000	0.955	0.797	0.797	1,109,905	No	222,946
BFD-VALVE-BFD-2-22	0.000	0.837	0.988	0.988	-185,823	No	222,946
BFD-12P-2	0.000	0.955	0.797	0.797	1,109,905	No	222,946
BFD-16	0.000	1.052	0.924	0.924	532,548	Yes	222,946
BFD-16P	0.000	0.994	0.797	0.797	1,221,637	Yes	222,946
BFD-13	0.000	1.112	0.924	0.924	783,130	Yes	222,946
BFD-13P	0.000	1.030	0.797	0.797	1,444,154	Yes	222,946
BFD-17	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-17P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-18	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-18P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-19	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-19P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-20	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-20P	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-21	0.000	1.036	0.924	0.924	464,396	Yes	222,946
BFD-21P US	0.000	0.972	0.797	0.797	1,085,494	Yes	222,946
BFD-21P DS	0.000	0.944	0.797	0.797	912,368	No	222,946
BFD-22	0.000	0.903	0.924	0.924	-82,475	No	222,946
BFD-22P	0.000	0.986	0.797	0.797	1,172,028	Yes	222,946
BFD-23R	0.000	1.331	0.797	0.797	2,950,900	Yes	222,946
BFD-23R (D/S)	0.000	1.276	1.195	1.195	715,673	Yes	222,946
===>Grouped by Line: **FW73-1-BFPHDR to FWH26ABC**					***Sorted By:Flow Order***		
BFD-11 (BR/SE)	0.000	1.007	0.797	0.797	954,699	No	222,946
BFD-11	0.000	1.309	1.195	1.195	737,909	No	222,946
BFD-11 (D/S)	0.000	1.315	1.195	1.195	526,666	No	222,946
BFD-23	0.000	1.358	1.195	1.195	791,787	Yes	222,946
BFD-24	0.000	1.149	1.195	1.195	-124,799	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**FW73-1-BFPHDR to FWH26ABC**				***Sorted By:Flow Order***		
BFD-24P DS	0.000	1.316	1.195	1.195	679,385	Yes	222,946
BFD-25	0.000	1.327	1.195	1.195	640,113	No	222,946
BFD-25P	0.000	1.336	1.195	1.195	1,013,316	Yes	222,946
BFD-26	0.000	1.329	1.195	1.195	649,808	Yes	222,946
BFD-26P US	0.000	1.294	1.195	1.195	553,157	Yes	222,946
BFD-27	0.000	1.149	1.195	1.195	-124,799	No	222,946
BFD-27P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-28	0.000	1.149	1.195	1.195	-124,799	No	222,946
BFD-28P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-29	0.000	1.444	1.195	1.195	1,208,763	Yes	222,946
BFD-29P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-32	0.000	1.379	1.195	1.195	892,154	Yes	222,946
BFD-32P	0.000	1.185	1.195	1.195	-66,176	No	222,946
BFD-32T	0.000	1.310	1.195	1.195	686,209	No	222,946
BFD-32T (D/S)	0.000	1.308	1.195	1.195	674,251	No	222,946
===>Grouped by Line:	**FW73-2-BFPHDR to FWH26ABC**				***Sorted By:Flow Order***		
BFD-32P-1	0.000	1.200	1.195	1.195	47,134	No	222,946
BFD-32T-C	0.000	1.278	1.195	1.195	271,351	No	222,946
BFD-32T-C (BR/SE)	0.000	0.882	0.717	0.717	799,411	No	222,946
BFD-32T-C (D/S)	0.000	1.282	1.195	1.195	356,834	No	222,946
===>Grouped by Line:	**FW73-3-BFPHDR to FWH26C**				***Sorted By:Flow Order***		
BFD-40P US	0.000	0.882	0.717	0.717	1,395,401	Yes	222,946
BFD-40	0.000	1.024	0.832	0.832	878,198	Yes	222,946
BFD-41P	0.000	0.911	0.717	0.717	1,314,257	Yes	222,946
BFD-VALVE-BFD-3-2	0.000	0.780	0.889	0.889	-171,354	No	222,946
BFD-41P-1	0.000	0.868	0.717	0.717	1,167,702	No	222,946
BFD-41	0.000	0.821	0.832	0.832	-49,046	No	222,946
BFD-42P	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-42	0.000	0.975	0.832	0.832	736,967	Yes	222,946
BFD-42N	0.000	0.890	0.832	0.832	245,294	Yes	222,946
===>Grouped by Line:	**FW73-4-BFPHDR to FWH26ABC**				***Sorted By:Flow Order***		
BFD-32P-2	0.000	1.212	1.195	1.195	195,338	No	222,946
BFD-32T-B	0.000	1.338	1.195	1.195	584,491	Yes	222,946
BFD-32T-B (BR/SE)	0.000	0.880	0.717	0.717	790,019	Yes	222,946
BFD-32T-B (D/S)	0.000	1.353	1.195	1.195	1,024,410	Yes	222,946
===>Grouped by Line:	**FW73-5-BFPHDR to FWH26B**				***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW73-5-BFPHDR to FWH26B**					***Sorted By:Flow Order***		
BFD-37P	0.000	0.875	0.717	0.717	1,338,096	No	222,946
BFD-37	0.000	0.821	0.832	0.832	-49,046	No	222,946
BFD-38P	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-VALVE-BFD-3-1	0.000	0.780	0.889	0.889	-171,354	No	222,946
BFD-38P-1	0.000	0.868	0.717	0.717	1,167,702	No	222,946
BFD-38	0.000	0.983	0.832	0.832	690,865	Yes	222,946
BFD-39P	0.000	0.876	0.717	0.717	1,076,502	Yes	222,946
BFD-39	0.000	0.959	0.832	0.832	652,779	Yes	222,946
BFD-39N	0.000	0.880	0.832	0.832	203,434	Yes	222,946
===>Grouped by Line: **FW73-6-BFPHDR to FWH26A**					***Sorted By:Flow Order***		
BFD-33R	0.000	1.208	1.195	1.195	132,188	No	222,946
BFD-33R (D/S)	0.000	0.836	0.717	0.717	630,102	No	222,946
BFD-33P-1 DS	0.000	0.866	0.717	0.717	1,008,662	Yes	222,946
BFD-33	0.000	0.953	0.832	0.832	553,350	Yes	222,946
BFD-33P US	0.000	0.882	0.717	0.717	1,117,207	Yes	222,946
BFD-33P DS	0.000	0.893	0.717	0.717	1,195,049	Yes	222,946
BFD-34	0.000	0.918	0.832	0.832	393,383	Yes	222,946
BFD-34P US	0.000	0.900	0.717	0.717	1,242,538	Yes	222,946
BFD-34P DS	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-VALVE-BFD-3	0.000	0.780	0.889	0.889	-171,354	No	222,946
BFD-34P-1	0.000	0.868	0.717	0.717	1,167,702	No	222,946
BFD-35	0.000	0.821	0.832	0.832	-49,046	No	222,946
BFD-35P	0.000	0.859	0.717	0.717	963,229	No	222,946
BFD-36	0.000	0.834	0.832	0.832	8,291	No	222,946
BFD-36N	0.000	0.812	0.832	0.832	-79,550	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FW BFP TO FWH 26
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.492

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:	**FW71-1-BFP21 DISCH to HDR**											***Sorted By: Flow Order***
BFD-14R (D/S)	0.000	98.4	135.0	98.4	135.0	1.449	GW	193,769	932.6	1,449.0	5.7	193,769
BFD-14P-2	0.000	67.8	58.0	67.8	58.0	0.996	MT	165,113	963.2	996.0	8.6	165,113
BFD-2	0.000	114.0	143.0	114.0	143.0	1.084	MT	165,113	917.0	1,084.0	14.4	165,113
BFD-2P US	0.000	98.6	81.0	98.6	81.0	0.991	MT	165,113	932.4	991.0	12.5	165,113
BFD-4	0.000	114.0	152.0	114.0	152.0	1.038	MT	165,113	917.0	1,038.0	14.4	165,113
BFD-4P US	0.000	77.0	70.0	77.0	70.0	1.010	MT	165,113	954.0	1,010.0	9.7	165,113
BFD-5P	0.000	55.2	40.0	55.2	40.0	1.019	MT	106,128	975.8	1,019.0	31.6	106,128
BFD-6	0.000	81.6	74.0	81.6	74.0	1.123	MT	106,128	949.4	1,123.0	46.8	106,128
BFD-6P	0.000	55.2	53.0	55.2	53.0	1.018	MT	106,128	975.8	1,018.0	31.6	106,128
BFD-7P DS	0.000	77.0	91.0	77.0	91.0	1.040	MT	165,113	954.0	1,040.0	9.7	165,113
BFD-8	0.000	114.0	165.0	114.0	165.0	1.028	MT	165,113	917.0	1,028.0	14.4	165,113
BFD-8P	0.000	77.0	70.0	77.0	70.0	0.981	MT	165,113	954.0	981.0	9.7	165,113
BFD-9	0.000	118.3	120.0	118.3	120.0	1.119	GW	181,477	912.7	1,119.0	10.1	181,477
BFD-9P US	0.000	79.9	60.0	79.9	60.0	0.973	GW	181,477	951.1	973.0	6.8	181,477
BFD-10	0.000	105.1	141.0	105.1	141.0	1.077	MT	136,608	925.9	1,077.0	23.3	136,608
BFD-10P US	0.000	71.0	82.0	71.0	82.0	0.943	MT	136,608	960.0	943.0	15.7	136,608
BFD-10P DS	0.000	71.0	81.0	71.0	81.0	0.971	MT	136,608	960.0	971.0	15.7	136,608
===>Grouped by Line:	**FW72-1-BFP22 DISCH to HDR**											***Sorted By: Flow Order***
BFD-15P DS	0.000	77.0	58.0	77.0	58.0	1.003	MT	165,113	954.0	1,003.0	9.7	165,113
BFD-12	0.000	101.7	125.0	101.7	125.0	1.075	MT	165,113	929.3	1,075.0	12.9	165,113
BFD-12P	0.000	67.8	95.0	67.8	95.0	0.956	MT	165,113	963.2	956.0	8.6	165,113
BFD-16	0.000	121.4	163.0	121.4	163.0	1.059	GW	193,769	909.6	1,059.0	7.0	193,769
BFD-16P	0.000	82.0	78.0	82.0	78.0	0.999	GW	193,769	949.0	999.0	4.7	193,769
BFD-13	0.000	121.4	113.0	121.4	113.0	1.119	GW	193,769	909.6	1,119.0	7.0	193,769
BFD-13P	0.000	82.0	72.0	82.0	72.0	1.035	GW	193,769	949.0	1,035.0	4.7	193,769
BFD-21	0.000	105.1	174.0	105.1	174.0	1.059		136,608	925.9	1,059.0	23.3	136,608
BFD-21P US	0.000	71.0	46.0	71.0	46.0	0.988	MT	136,608	960.0	988.0	15.7	136,608

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:	**FW72-1-BFP22 DISCH to HDR**										***Sorted By: Flow Order***	
BFD-22P	0.000	71.0	63.0	71.0	63.0	1.002	MT	136,608	960.0	1,002.0	15.7	136,608
BFD-23R	0.000	89.5	68.0	89.5	68.0	1.339	GW	181,477	941.5	1,339.0	7.7	181,477
BFD-23R (D/S)	0.000	56.1	134.0	56.1	134.0	1.281	GW	181,477	1,203.9	1,281.0	4.8	181,477
===>Grouped by Line:	**FW73-1-BFPHDR to FWH26ABC**										***Sorted By: Flow Order***	
BFD-23	0.000	101.9	156.0	101.9	156.0	1.367	MT	181,477	1,158.1	1,367.0	8.7	181,477
BFD-24P DS	0.000	81.8	55.0	81.8	55.0	1.330	MT	149,573	1,178.2	1,330.0	13.8	149,573
BFD-25P	0.000	63.9	56.0	63.9	56.0	1.347	MT	149,573	1,196.1	1,347.0	10.8	149,573
BFD-26	0.000	94.6	196.0	94.6	196.0	1.345	MT	149,573	1,165.4	1,345.0	16.0	149,573
BFD-26P US	0.000	78.3	91.0	78.3	91.0	1.311	MT	136,608	1,181.7	1,311.0	17.4	136,608
BFD-29	0.000	107.9	123.5	107.9	123.5	1.447	MT	209,806	1,152.1	1,447.0	2.7	209,806
BFD-32	0.000	104.6	132.0	104.6	132.0	1.385	MT	193,769	1,155.4	1,385.0	6.0	193,769
===>Grouped by Line:	**FW73-3-BFPHDR to FWH26C**										***Sorted By: Flow Order***	
BFD-40P US	0.000	51.8	52.0	51.8	52.0	0.893	MT	136,608	886.2	893.0	11.5	136,608
BFD-40	0.000	110.6	140.0	110.6	140.0	1.030	GW	193,769	827.4	1,030.0	6.4	193,769
BFD-41P	0.000	74.7	55.0	74.7	55.0	0.915	GW	193,769	863.3	915.0	4.3	193,769
BFD-42	0.000	101.8	115.0	101.8	115.0	0.978	MT	209,806	836.2	978.0	2.6	209,806
BFD-42N	0.000	123.4	45.0	123.4	45.0	0.893	MT	209,806	814.6	893.0	3.1	209,806
===>Grouped by Line:	**FW73-4-BFPHDR to FWH26ABC**										***Sorted By: Flow Order***	
BFD-32T-B	0.000	124.0	80.0	124.0	80.0	1.345	GW	193,769	1,136.0	1,345.0	7.1	193,769
BFD-32T-B (BR/SE)	0.000	104.6	68.0	104.6	68.0	0.886	GW	193,769	832.4	886.0	6.0	193,769
BFD-32T-B (D/S)	0.000	77.2	76.0	77.2	76.0	1.358	GW	193,769	1,182.8	1,358.0	4.5	193,769
===>Grouped by Line:	**FW73-5-BFPHDR to FWH26B**										***Sorted By: Flow Order***	
BFD-38	0.000	95.8	194.0	95.8	194.0	1.004	MT	136,608	842.2	1,004.0	21.2	136,608
BFD-39P	0.000	64.7	65.0	64.7	65.0	0.890		136,608	873.3	890.0	14.3	136,608
BFD-39	0.000	85.4	85.0	85.4	85.0	0.978	MT	136,608	852.6	978.0	18.9	136,608
BFD-39N	0.000	116.5	50.0	116.5	50.0	0.890	GW	181,477	821.5	890.0	10.0	181,477
===>Grouped by Line:	**FW73-6-BFPHDR to FWH26A**										***Sorted By: Flow Order***	
BFD-33P-1 DS	0.000	64.7	130.0	64.7	130.0	0.880	MT	136,608	873.3	880.0	14.3	136,608
BFD-33	0.000	95.8	162.0	95.8	162.0	0.974	MT	136,608	842.2	974.0	21.2	136,608
BFD-33P US	0.000	64.7	60.0	64.7	60.0	0.896	MT	136,608	873.3	896.0	14.3	136,608
BFD-33P DS	0.000	70.2	37.0	70.2	37.0	0.902	MT	165,113	867.8	902.0	8.9	165,113
BFD-34	0.000	103.9	139.0	103.9	139.0	0.931	MT	165,113	834.1	931.0	13.1	165,113
BFD-34P US	0.000	70.2	39.0	70.2	39.0	0.909		165,113	867.8	909.0	8.9	165,113

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 4:45:09PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.144

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW74-1-FWH26A to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-55N	31	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-4	22	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-55	4	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-56	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-57	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-58	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-55P	54	3.965	1.521	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59R	18	3.469	1.330	429.6	17.377	0.0	18.000	6.598	0.000	90.02	HBD
BFD-57P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-58P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-56P-1	58	2.726	1.046	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59R (D/S)	18	1.767	0.688	429.6	5.984	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-2-FWH26B to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-51N	31	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-4-1	22	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-51	4	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-52	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-53	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-54	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-51P	54	3.965	1.521	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-52P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-53P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-54P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-52P-1	58	2.726	1.046	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-3-FWH26 to DISHDR***								***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:	***FW74-3-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-54T (BR/SE)	12	4.212	1.616	429.6	17.377	0.0	18.000	6.598	0.000	90.02	HBD
BFD-54T (D/S)	12	3.830	1.469	429.6	11.986	0.0	30.000	6.598	0.000	90.02	HBD
BFD-54T	12	2.415	0.941	429.6	5.984	0.0	30.000	6.598	0.000	90.02	HBD
BFD-54P-1	62	1.868	0.717	429.6	11.986	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-4-FWH26C to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-47N	31	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-4-2	22	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-47	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-48	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-49	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-47P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-48P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-49P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50P US	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50P DS	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-48P-1	58	2.726	1.046	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-5-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-72T	13	5.858	2.247	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-72T (BR/SE)	13	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72T (D/S)	13	4.988	1.913	429.6	13.478	0.0	30.000	6.598	0.000	90.02	HBD
BFD-50T (D/S)	12	4.803	1.842	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-60	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-30	4	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-31	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-61	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-62	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-63	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-64	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-65	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-50T (BR/SE)	12	4.212	1.616	429.6	17.377	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50T	12	3.830	1.469	429.6	11.986	0.0	30.000	6.598	0.000	90.02	HBD
BFD-30P US	54	3.749	1.438	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-30P DS	54	3.749	1.438	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-46T (D/S)	15	3.515	1.348	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-46T	15	3.515	1.348	429.6	17.970	0.0	30.000	6.598	0.000	90.02	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:	***FW74-5-FWH26 to DISHDR***								***Sorted By: Average Wear Rate***		
BFD-31P US	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-61P	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-62P US	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-62P DS	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-63P US	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-63P DS	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-64P	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-65P-1	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-50P-1	62	2.343	0.899	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-46P	65	2.343	0.899	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW75-1-DISHDR to SG21***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72R (D/S)	7	5.426	2.081	429.6	27.724	0.0	12.750	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-417	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-71R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-99N	30	4.102	1.573	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-71	4	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-70	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-68	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-67	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-66	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-96	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-97	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-98	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-99	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72R	7	3.695	1.417	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-69	1	3.484	1.336	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-66P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-71R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P-1 US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P-1 DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-70P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-70P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	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:	***FW75-1-DISHDR to SG21***								***Sorted By: Average Wear Rate***		
BFD-69P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-69P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-67P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-67P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-96P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-97P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-98P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-68P US	51	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-68P DS	51	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P US	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P DS	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-98P-1	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW76-1-DISHDR to SG22***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6-1	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7-1	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5-1	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-427	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-78	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-76	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-74	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-73	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-91	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92-2	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-93	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95	3	3.589	1.377	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95N	30	3.582	1.374	429.6	10.047	0.0	20.000	6.598	0.000	90.02	HBD
BFD-75	1	3.484	1.336	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92-1	1	3.384	1.298	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-94	1	3.384	1.298	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-73P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95R	18	2.871	1.101	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95R (D/S)	18	2.687	1.030	429.6	10.047	0.0	20.000	6.598	0.000	90.02	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:	***FW76-1-DISHDR to SG22***								***Sorted By: Average Wear Rate***		
BFD-78P-1 US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-76P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-75P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-73P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-91P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P-2	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-93P US	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-93P DS	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95P	53	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78P-2	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77P	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-74P	51	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P-1	51	2.256	0.865	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78P	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P-3	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW76-2-DISHDR to SG22***								***Sorted By: Average Wear Rate***		
BFD-78T (BR/SE)	13	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78T	13	4.988	1.913	429.6	13.478	0.0	30.000	6.598	0.000	90.02	HBD
BFD-78T (D/S)	13	3.976	1.525	429.6	8.985	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW77-1-DISHDR to SG24***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6-3	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7-3	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5-3	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-447	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-83R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-106N	30	4.102	1.573	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-83	4	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-82	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-80	4	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-79	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-104	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105-1	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-106	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	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:	***FW77-1-DISHDR to SG24***								***Sorted By: Average Wear Rate***		
BFD-81	1	3.484	1.336	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-82P US	54	3.378	1.296	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-82P DS	54	3.378	1.296	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-80P	54	3.378	1.296	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-104P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105P-1	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-106P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-83R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84P-1	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-81P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84P-2	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84P	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105P-2	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW77-2-DISHDR to SG24***								***Sorted By: Average Wear Rate***		
BFD-84T (BR/SE)	13	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84T	13	3.976	1.525	429.6	8.985	0.0	30.000	6.598	0.000	90.02	HBD
BFD-84T (D/S)	13	2.301	0.896	429.6	4.493	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW78-1-DISHDR to SG23***								***Sorted By: Average Wear Rate***		
BFD-VALVE-BFD-6-2	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7-2	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5-2	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-437	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-103N	30	4.102	1.573	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-88	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-87	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-86	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-85	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-100	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-101	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-103	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89T (BR/SE)	12	3.589	1.377	429.6	13.049	0.0	18.000	6.598	0.000	90.02	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:	***FW78-1-DISHDR to SG23***								***Sorted By: Average Wear Rate***		
BFD-100P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89P-1	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-88P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-87P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-87P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-86P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-86P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-101P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102P-1	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-103P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89P-2	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3P	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89P	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89T	12	1.887	0.735	429.6	4.493	0.0	30.000	6.598	0.000	90.02	HBD
BFD-102P-2	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 4:45:09PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.144

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***FW74-1-FWH26A to DISHDR***									***Sorted By: Flow Order***	
BFD-55N	31	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-55	4	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-55P	54	3.965	1.521	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-56	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-4	22	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-56P-1	58	2.726	1.046	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-57	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-57P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-58	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-58P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59R	18	3.469	1.330	429.6	17.377	0.0	18.000	6.598	0.000	90.02	HBD
BFD-59R (D/S)	18	1.767	0.688	429.6	5.984	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-2-FWH26B to DISHDR***									***Sorted By: Flow Order***	
BFD-51N	31	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-51	4	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-51P	54	3.965	1.521	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-52	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-52P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-4-1	22	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-52P-1	58	2.726	1.046	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-53	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-53P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-54	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-54P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-3-FWH26 to DISHDR***									***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:	***FW74-3-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-54T	12	2.415	0.941	429.6	5.984	0.0	30.000	6.598	0.000	90.02	HBD
BFD-54T (BR/SE)	12	4.212	1.616	429.6	17.377	0.0	18.000	6.598	0.000	90.02	HBD
BFD-54T (D/S)	12	3.830	1.469	429.6	11.986	0.0	30.000	6.598	0.000	90.02	HBD
BFD-54P-1	62	1.868	0.717	429.6	11.986	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-4-FWH26C to DISHDR***									***Sorted By: Flow Order***	
BFD-47N	31	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-47	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-47P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-48	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-48P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-4-2	22	6.195	2.376	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-48P-1	58	2.726	1.046	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-49	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-49P	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50	2	4.585	1.758	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50P US	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50P DS	52	3.098	1.188	429.6	17.382	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW74-5-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-50T	12	3.830	1.469	429.6	11.986	0.0	30.000	6.598	0.000	90.02	HBD
BFD-50T (BR/SE)	12	4.212	1.616	429.6	17.377	0.0	18.000	6.598	0.000	90.02	HBD
BFD-50T (D/S)	12	4.803	1.842	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-50P-1	62	2.343	0.899	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-46T	15	3.515	1.348	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-46T (D/S)	15	3.515	1.348	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-46P	65	2.343	0.899	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-60	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-30	4	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-30P US	54	3.749	1.438	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-30P DS	54	3.749	1.438	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-31	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-31P US	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-61	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-61P	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-62	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-62P US	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-62P DS	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	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:	***FW74-5-FWH26 to DISHDR***									***Sorted By: Flow Order***	
BFD-63	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-63P US	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-63P DS	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-64	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-64P	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-65	2	4.335	1.663	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-65P-1	52	2.929	1.123	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-72T	13	5.858	2.247	429.6	17.970	0.0	30.000	6.598	0.000	90.02	HBD
BFD-72T (BR/SE)	13	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72T (D/S)	13	4.988	1.913	429.6	13.478	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW75-1-DISHDR to SG21***									***Sorted By: Flow Order***	
BFD-72P US	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P DS	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P-1 US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72P-1 DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72R	7	3.695	1.417	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-72R (D/S)	7	5.426	2.081	429.6	27.724	0.0	12.750	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-417	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-71R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-71R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-71	4	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-70P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-70P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-70	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-69P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-69P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-69	1	3.484	1.336	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-68P US	51	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-68P DS	51	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-68	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-67P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-67P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-6	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	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:	***FW75-1-DISHDR to SG21***									***Sorted By: Flow Order***	
BFD-67	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-66	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-66P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-96	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-96P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-97	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-97P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-98	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-98P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-98P-1	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-99	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-99N	30	4.102	1.573	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW76-1-DISHDR to SG22***									***Sorted By: Flow Order***	
BFD-78P	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78P-1 US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5-1	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78P-2	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-427	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-77R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77P	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-77	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-76P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-76	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-75P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-75	1	3.484	1.336	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-74P	51	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-74	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-73P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-6-1	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7-1	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-73	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-73P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-91	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-91P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	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:	***FW76-1-DISHDR to SG22***									***Sorted By: Flow Order***	
BFD-92	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92-1	1	3.384	1.298	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P-1	51	2.256	0.865	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92-2	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P-2	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-92P-3	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-93	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-93P US	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-93P DS	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-94	1	3.384	1.298	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95	3	3.589	1.377	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95P	53	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95R	18	2.871	1.101	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-95R (D/S)	18	2.687	1.030	429.6	10.047	0.0	20.000	6.598	0.000	90.02	HBD
BFD-95N	30	3.582	1.374	429.6	10.047	0.0	20.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW76-2-DISHDR to SG22***									***Sorted By: Flow Order***	
BFD-78T (BR/SE)	13	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-78T	13	4.988	1.913	429.6	13.478	0.0	30.000	6.598	0.000	90.02	HBD
BFD-78T (D/S)	13	3.976	1.525	429.6	8.985	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW77-1-DISHDR to SG24***									***Sorted By: Flow Order***	
BFD-84P	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84P-1	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5-3	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84P-2	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-447	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-83R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-83R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-83	4	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-82P US	54	3.378	1.296	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-82P DS	54	3.378	1.296	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-82	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-81P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-81	1	3.484	1.336	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-80	4	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	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:	***FW77-1-DISHDR to SG24***									***Sorted By: Flow Order***	
BFD-80P	54	3.378	1.296	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-6-3	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7-3	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-79	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-104P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-104	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105-1	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105P-1	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-105P-2	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-106	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-106P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-106N	30	4.102	1.573	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW77-2-DISHDR to SG24***									***Sorted By: Flow Order***	
BFD-84T (BR/SE)	13	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-84T	13	3.976	1.525	429.6	8.985	0.0	30.000	6.598	0.000	90.02	HBD
BFD-84T (D/S)	13	2.301	0.896	429.6	4.493	0.0	30.000	6.598	0.000	90.02	HBD
===>Grouped by Line:	***FW78-1-DISHDR to SG23***									***Sorted By: Flow Order***	
BFD-89T (BR/SE)	12	3.589	1.377	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89P	64	2.111	0.810	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89P-1	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-5-2	22	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89P-2	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-FCV-437	24	5.278	2.024	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3R	18	4.747	1.821	429.6	27.714	0.0	12.750	6.598	0.000	90.02	HBD
BFD-3R (D/S)	18	3.167	1.215	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3P	58	2.322	0.891	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-3	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-88P	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-88	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-87P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-87P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-87	2	3.906	1.498	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-86P US	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	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:	***FW78-1-DISHDR to SG23***									***Sorted By: Flow Order***	
BFD-86P DS	52	2.639	1.012	429.6	13.049	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-6-2	25	5.967	2.289	429.6	15.861	0.0	18.000	6.598	0.000	90.02	HBD
BFD-VALVE-BFD-7-2	22	5.967	2.288	429.6	15.859	0.0	18.000	6.598	0.000	90.02	HBD
BFD-86	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-85	4	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-100P	54	3.281	1.259	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-100	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-101P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-101	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102P-1	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-102P-2	9	1.308	0.509	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-103	2	3.794	1.455	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-103P	52	2.564	0.983	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-103N	30	4.102	1.573	429.6	12.461	0.0	18.000	6.598	0.000	90.02	HBD
BFD-89T	12	1.887	0.735	429.6	4.493	0.0	30.000	6.598	0.000	90.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 4:45:09PM

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.144

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW74-1-FWH26A to DISHDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-4	0.000	0.780	0.889	0.889	-172,438	No	222,946
BFD-55N	0.000	0.780	0.832	0.832	-113,437	No	222,946
BFD-58	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-59	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-59R (D/S)	0.000	1.215	1.195	1.195	255,527	No	222,946
BFD-56	0.000	0.976	0.832	0.832	714,726	Yes	222,946
BFD-57	0.000	0.991	0.832	0.832	789,455	Yes	222,946
BFD-59R	0.000	0.849	0.717	0.717	867,429	No	222,946
BFD-55P	0.000	0.880	0.717	0.717	937,136	Yes	222,946
BFD-58P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-59P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-57P	0.000	0.879	0.717	0.717	1,196,626	Yes	222,946
BFD-56P-1	0.000	0.886	0.717	0.717	1,415,840	Yes	222,946
BFD-55	0.000	1.231	0.832	0.832	1,988,171	No	222,946
===>Grouped by Line: **FW74-2-FWH26B to DISHDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-4-1	0.000	0.780	0.889	0.889	-172,438	No	222,946
BFD-51N	0.000	0.780	0.832	0.832	-113,437	No	222,946
BFD-53	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-54	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-51P	0.000	0.837	0.717	0.717	691,902	No	222,946
BFD-52	0.000	1.030	0.832	0.832	986,892	Yes	222,946
BFD-52P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-53P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-54P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-52P-1	0.000	0.862	0.717	0.717	1,215,326	Yes	222,946
BFD-51	0.000	1.253	0.832	0.832	2,097,864	No	222,946
===>Grouped by Line: **FW74-3-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-54P-1	0.000	1.212	1.195	1.195	213,817	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW74-3-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-54T (BR/SE)	0.000	0.866	0.717	0.717	806,015	Yes	222,946
BFD-54T (D/S)	0.000	1.338	1.195	1.195	853,604	Yes	222,946
BFD-54T	0.000	1.338	1.195	1.195	1,330,998	Yes	222,946
===>Grouped by Line: **FW74-4-FWH26C to DISHDR**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-4-2	0.000	0.780	0.889	0.889	-172,438	No	222,946
BFD-47N	0.000	0.780	0.832	0.832	-113,437	No	222,946
BFD-49	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-50	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-48	0.000	1.011	0.832	0.832	893,327	Yes	222,946
BFD-50P DS	0.000	0.854	0.717	0.717	1,012,158	Yes	222,946
BFD-48P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-49P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-50P US	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-47P	0.000	0.885	0.717	0.717	1,240,516	Yes	222,946
BFD-48P-1	0.000	0.869	0.717	0.717	1,270,628	No	222,946
BFD-47	0.000	1.108	0.832	0.832	1,376,574	No	222,946
===>Grouped by Line: **FW74-5-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-65	0.000	1.150	1.195	1.195	-126,861	No	222,946
BFD-62	0.000	1.150	1.195	1.195	-126,861	No	222,946
BFD-62P US	0.000	1.185	1.195	1.195	-72,259	No	222,946
BFD-63P DS	0.000	1.185	1.195	1.195	-72,259	No	222,946
BFD-65P-1	0.000	1.185	1.195	1.195	-72,259	No	222,946
BFD-50P-1	0.000	1.200	1.195	1.195	52,742	No	222,946
BFD-46P	0.000	1.200	1.195	1.195	52,742	No	222,946
BFD-30	0.000	1.264	1.195	1.195	362,688	Yes	222,946
BFD-50T (D/S)	0.000	1.303	1.195	1.195	514,815	No	222,946
BFD-63	0.000	1.293	1.195	1.195	515,488	Yes	222,946
BFD-46T (D/S)	0.000	1.281	1.195	1.195	556,103	No	222,946
BFD-72T (BR/SE)	0.000	0.861	0.717	0.717	623,107	Yes	222,946
BFD-50T	0.000	1.306	1.195	1.195	663,527	No	222,946
BFD-30P US	0.000	1.312	1.195	1.195	710,422	Yes	222,946
BFD-62P DS	0.000	1.286	1.195	1.195	713,295	Yes	222,946
BFD-30P DS	0.000	1.329	1.195	1.195	813,990	Yes	222,946
BFD-46T	0.000	1.326	1.195	1.195	848,532	No	222,946
BFD-63P US	0.000	1.308	1.195	1.195	884,853	Yes	222,946
BFD-61P	0.000	1.312	1.195	1.195	915,187	Yes	222,946
BFD-64P	0.000	1.321	1.195	1.195	984,929	Yes	222,946
BFD-60	0.000	1.389	1.195	1.195	1,020,964	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW74-5-FWH26 to DISHDR**					***Sorted By:Remaining Life***		
BFD-72T	0.000	1.468	1.195	1.195	1,063,173	Yes	222,946
BFD-31P US	0.000	1.341	1.195	1.195	1,138,420	Yes	222,946
BFD-64	0.000	1.417	1.195	1.195	1,172,390	Yes	222,946
BFD-61	0.000	1.424	1.195	1.195	1,204,233	Yes	222,946
BFD-72T (D/S)	0.000	1.469	1.195	1.195	1,255,534	Yes	222,946
BFD-31	0.000	1.449	1.195	1.195	1,339,369	Yes	222,946
BFD-50T (BR/SE)	0.000	0.967	0.717	0.717	1,353,886	No	222,946
===>Grouped by Line: **FW75-1-DISHDR to SG21**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-6	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-VALVE-BFD-5	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-VALVE-FCV-417	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-67	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-66	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-96	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-97	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-71R (D/S)	0.000	0.872	0.832	0.832	289,130	Yes	222,946
BFD-72R	0.000	0.887	0.832	0.832	338,667	Yes	222,946
BFD-99	0.000	0.604	0.544	0.544	357,106	Yes	222,946
BFD-71	0.000	0.903	0.832	0.832	413,561	Yes	222,946
BFD-69	0.000	0.918	0.832	0.832	560,601	Yes	222,946
BFD-99N	0.000	0.650	0.544	0.544	589,670	Yes	222,946
BFD-98	0.000	0.653	0.544	0.544	655,817	No	222,946
BFD-68	0.000	0.951	0.832	0.832	695,014	Yes	222,946
BFD-70	0.000	0.954	0.832	0.832	712,557	Yes	222,946
BFD-72R (D/S)	0.000	0.788	0.589	0.589	836,602	Yes	222,946
BFD-66P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-71R	0.000	0.794	0.589	0.589	985,606	Yes	222,946
BFD-72	0.000	1.009	0.832	0.832	1,034,189	Yes	222,946
BFD-96P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-97P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-98P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-70P DS	0.000	0.866	0.717	0.717	1,291,317	Yes	222,946
BFD-72P-1 DS	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-67P DS	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-70P US	0.000	0.877	0.717	0.717	1,386,176	Yes	222,946
BFD-67P US	0.000	0.885	0.717	0.717	1,455,758	Yes	222,946
BFD-72P-1 US	0.000	0.894	0.717	0.717	1,533,651	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW75-1-DISHDR to SG21**					***Sorted By:Remaining Life***		
BFD-68P US	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-69P DS	0.000	0.903	0.717	0.717	1,614,200	Yes	222,946
BFD-69P US	0.000	0.908	0.717	0.717	1,654,819	Yes	222,946
BFD-68P DS	0.000	0.897	0.717	0.717	1,770,510	Yes	222,946
BFD-72P US	0.000	0.888	0.717	0.717	1,850,767	Yes	222,946
BFD-72P DS	0.000	0.897	0.717	0.717	1,942,650	Yes	222,946
BFD-98P-1	0.000	0.704	0.544	0.544	2,736,169	No	222,946
===>Grouped by Line: **FW76-1-DISHDR to SG22**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-6-1	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7-1	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-VALVE-BFD-5-1	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-VALVE-FCV-427	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-78	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-74	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-75	0.000	0.849	0.832	0.832	113,389	No	222,946
BFD-95N	0.000	0.721	0.703	0.703	113,757	No	222,946
BFD-73	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-91	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-92	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-92-2	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-93	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-92-1	0.000	0.664	0.633	0.633	210,472	No	222,946
BFD-77R (D/S)	0.000	0.869	0.832	0.832	267,786	Yes	222,946
BFD-95R (D/S)	0.000	0.744	0.703	0.703	345,441	No	222,946
BFD-95R	0.000	0.677	0.633	0.633	351,859	No	222,946
BFD-77R	0.000	0.707	0.589	0.589	567,279	No	222,946
BFD-77	0.000	0.946	0.832	0.832	665,899	Yes	222,946
BFD-76	0.000	0.969	0.832	0.832	800,929	Yes	222,946
BFD-73P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-95	0.000	0.821	0.633	0.633	1,199,255	Yes	222,946
BFD-91P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-92P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-92P-2	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-93P US	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-95P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-78P-1 US	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-73P	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-93P DS	0.000	0.696	0.544	0.544	1,351,982	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW76-1-DISHDR to SG22**					***Sorted By:Remaining Life***		
BFD-76P US	0.000	0.880	0.717	0.717	1,412,140	Yes	222,946
BFD-92P-1	0.000	0.693	0.544	0.544	1,499,303	No	222,946
BFD-94	0.000	0.861	0.633	0.633	1,540,710	No	222,946
BFD-78P-2	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-74P	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-77P	0.000	0.886	0.717	0.717	1,666,703	Yes	222,946
BFD-75P	0.000	0.921	0.717	0.717	1,762,605	Yes	222,946
BFD-78P	0.000	0.884	0.717	0.717	1,809,891	No	222,946
BFD-92P-3	0.000	0.717	0.544	0.544	2,962,210	No	222,946
===>Grouped by Line: **FW76-2-DISHDR to SG22**					***Sorted By:Remaining Life***		
BFD-78T (D/S)	0.000	1.292	1.195	1.195	555,802	No	222,946
BFD-78T	0.000	1.323	1.195	1.195	586,956	No	222,946
BFD-78T (BR/SE)	0.000	0.884	0.717	0.717	722,637	No	222,946
===>Grouped by Line: **FW77-1-DISHDR to SG24**					***Sorted By:Remaining Life***		
BFD-VALVE-BFD-6-3	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7-3	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-VALVE-BFD-5-3	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-VALVE-FCV-447	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-106	0.000	0.578	0.633	0.633	-152,592	Yes	222,946
BFD-84	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-82	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-106N	0.000	0.646	0.633	0.633	71,913	No	222,946
BFD-104	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-105-1	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-79	0.000	0.678	0.633	0.633	271,637	Yes	222,946
BFD-83R (D/S)	0.000	0.889	0.832	0.832	410,476	No	222,946
BFD-83R	0.000	0.714	0.589	0.589	601,863	No	222,946
BFD-83	0.000	0.954	0.832	0.832	712,682	Yes	222,946
BFD-80	0.000	0.957	0.832	0.832	729,248	Yes	222,946
BFD-105	0.000	0.671	0.544	0.544	762,669	Yes	222,946
BFD-81	0.000	0.958	0.832	0.832	825,791	Yes	222,946
BFD-104P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-105P-1	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-106P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-82P DS	0.000	0.852	0.717	0.717	913,196	No	222,946
BFD-80P	0.000	0.857	0.717	0.717	947,187	Yes	222,946
BFD-82P US	0.000	0.883	0.717	0.717	1,123,235	Yes	222,946
BFD-105P	0.000	0.685	0.544	0.544	1,249,631	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: FW77-1-DISHDR to SG24					Sorted By:Remaining Life		
BFD-84P-1	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-81P	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-84P-2	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-84P	0.000	0.884	0.717	0.717	1,809,891	No	222,946
BFD-105P-2	0.000	0.717	0.544	0.544	2,962,210	No	222,946
===>Grouped by Line: FW77-2-DISHDR to SG24					Sorted By:Remaining Life		
BFD-84T (BR/SE)	0.000	0.891	0.717	0.717	752,929	Yes	222,946
BFD-84T	0.000	1.354	1.195	1.195	911,946	Yes	222,946
BFD-84T (D/S)	0.000	1.351	1.195	1.195	1,521,546	Yes	222,946
===>Grouped by Line: FW78-1-DISHDR to SG23					Sorted By:Remaining Life		
BFD-VALVE-BFD-6-2	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7-2	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-VALVE-BFD-5-2	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-VALVE-FCV-437	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-88	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-103N	0.000	0.646	0.633	0.633	71,913	No	222,946
BFD-86	0.000	0.648	0.633	0.633	92,134	Yes	222,946
BFD-100	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-102	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-103	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-85	0.000	0.660	0.633	0.633	164,373	Yes	222,946
BFD-89T	0.000	1.212	1.195	1.195	202,781	No	222,946
BFD-101	0.000	0.677	0.633	0.633	265,618	Yes	222,946
BFD-3R (D/S)	0.000	0.886	0.832	0.832	390,396	Yes	222,946
BFD-3R	0.000	0.697	0.589	0.589	519,164	No	222,946
BFD-87	0.000	0.936	0.832	0.832	607,421	Yes	222,946
BFD-89T (BR/SE)	0.000	0.847	0.717	0.717	825,285	No	222,946
BFD-100P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-3	0.000	0.986	0.832	0.832	899,813	Yes	222,946
BFD-89	0.000	0.992	0.832	0.832	934,019	Yes	222,946
BFD-101P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-102P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-102P-1	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-103P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-87P DS	0.000	0.865	0.717	0.717	1,282,318	Yes	222,946
BFD-89P-1	0.000	0.867	0.717	0.717	1,299,449	Yes	222,946
BFD-88P	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-86P DS	0.000	0.871	0.717	0.717	1,331,654	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW78-1-DISHDR to SG23**					***Sorted By:Remaining Life***		
BFD-87P US	0.000	0.892	0.717	0.717	1,515,998	Yes	222,946
BFD-89P-2	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-86P US	0.000	0.902	0.717	0.717	1,602,546	Yes	222,946
BFD-3P	0.000	0.886	0.717	0.717	1,666,703	Yes	222,946
BFD-89P	0.000	0.887	0.717	0.717	1,840,433	Yes	222,946
BFD-102P-2	0.000	0.717	0.544	0.544	2,962,210	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.144

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW74-1-FWH26A to DISHDR**					***Sorted By:Flow Order***		
BFD-55N	0.000	0.780	0.832	0.832	-113,437	No	222,946
BFD-55	0.000	1.231	0.832	0.832	1,988,171	No	222,946
BFD-55P	0.000	0.880	0.717	0.717	937,136	Yes	222,946
BFD-56	0.000	0.976	0.832	0.832	714,726	Yes	222,946
BFD-VALVE-BFD-4	0.000	0.780	0.889	0.889	-172,438	No	222,946
BFD-56P-1	0.000	0.886	0.717	0.717	1,415,840	Yes	222,946
BFD-57	0.000	0.991	0.832	0.832	789,455	Yes	222,946
BFD-57P	0.000	0.879	0.717	0.717	1,196,626	Yes	222,946
BFD-58	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-58P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-59	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-59P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-59R	0.000	0.849	0.717	0.717	867,429	No	222,946
BFD-59R (D/S)	0.000	1.215	1.195	1.195	255,527	No	222,946
===>Grouped by Line: **FW74-2-FWH26B to DISHDR**					***Sorted By:Flow Order***		
BFD-51N	0.000	0.780	0.832	0.832	-113,437	No	222,946
BFD-51	0.000	1.253	0.832	0.832	2,097,864	No	222,946
BFD-51P	0.000	0.837	0.717	0.717	691,902	No	222,946
BFD-52	0.000	1.030	0.832	0.832	986,892	Yes	222,946
BFD-52P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-VALVE-BFD-4-1	0.000	0.780	0.889	0.889	-172,438	No	222,946
BFD-52P-1	0.000	0.862	0.717	0.717	1,215,326	Yes	222,946
BFD-53	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-53P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-54	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-54P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
===>Grouped by Line: **FW74-3-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-54T	0.000	1.338	1.195	1.195	1,330,998	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW74-3-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-54T (BR/SE)	0.000	0.866	0.717	0.717	806,015	Yes	222,946
BFD-54T (D/S)	0.000	1.338	1.195	1.195	853,604	Yes	222,946
BFD-54P-1	0.000	1.212	1.195	1.195	213,817	No	222,946
===>Grouped by Line: **FW74-4-FWH26C to DISHDR**					***Sorted By:Flow Order***		
BFD-47N	0.000	0.780	0.832	0.832	-113,437	No	222,946
BFD-47	0.000	1.108	0.832	0.832	1,376,574	No	222,946
BFD-47P	0.000	0.885	0.717	0.717	1,240,516	Yes	222,946
BFD-48	0.000	1.011	0.832	0.832	893,327	Yes	222,946
BFD-48P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-VALVE-BFD-4-2	0.000	0.780	0.889	0.889	-172,438	No	222,946
BFD-48P-1	0.000	0.869	0.717	0.717	1,270,628	No	222,946
BFD-49	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-49P	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-50	0.000	0.821	0.832	0.832	-52,315	No	222,946
BFD-50P US	0.000	0.859	0.717	0.717	1,048,397	No	222,946
BFD-50P DS	0.000	0.854	0.717	0.717	1,012,158	Yes	222,946
===>Grouped by Line: **FW74-5-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-50T	0.000	1.306	1.195	1.195	663,527	No	222,946
BFD-50T (BR/SE)	0.000	0.967	0.717	0.717	1,353,886	No	222,946
BFD-50T (D/S)	0.000	1.303	1.195	1.195	514,815	No	222,946
BFD-50P-1	0.000	1.200	1.195	1.195	52,742	No	222,946
BFD-46T	0.000	1.326	1.195	1.195	848,532	No	222,946
BFD-46T (D/S)	0.000	1.281	1.195	1.195	556,103	No	222,946
BFD-46P	0.000	1.200	1.195	1.195	52,742	No	222,946
BFD-60	0.000	1.389	1.195	1.195	1,020,964	Yes	222,946
BFD-30	0.000	1.264	1.195	1.195	362,688	Yes	222,946
BFD-30P US	0.000	1.312	1.195	1.195	710,422	Yes	222,946
BFD-30P DS	0.000	1.329	1.195	1.195	813,990	Yes	222,946
BFD-31	0.000	1.449	1.195	1.195	1,339,369	Yes	222,946
BFD-31P US	0.000	1.341	1.195	1.195	1,138,420	Yes	222,946
BFD-61	0.000	1.424	1.195	1.195	1,204,233	Yes	222,946
BFD-61P	0.000	1.312	1.195	1.195	915,187	Yes	222,946
BFD-62	0.000	1.150	1.195	1.195	-126,861	No	222,946
BFD-62P US	0.000	1.185	1.195	1.195	-72,259	No	222,946
BFD-62P DS	0.000	1.286	1.195	1.195	713,295	Yes	222,946
BFD-63	0.000	1.293	1.195	1.195	515,488	Yes	222,946
BFD-63P US	0.000	1.308	1.195	1.195	884,853	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW74-5-FWH26 to DISHDR**					***Sorted By:Flow Order***		
BFD-63P DS	0.000	1.185	1.195	1.195	-72,259	No	222,946
BFD-64	0.000	1.417	1.195	1.195	1,172,390	Yes	222,946
BFD-64P	0.000	1.321	1.195	1.195	984,929	Yes	222,946
BFD-65	0.000	1.150	1.195	1.195	-126,861	No	222,946
BFD-65P-1	0.000	1.185	1.195	1.195	-72,259	No	222,946
BFD-72T	0.000	1.468	1.195	1.195	1,063,173	Yes	222,946
BFD-72T (BR/SE)	0.000	0.861	0.717	0.717	623,107	Yes	222,946
BFD-72T (D/S)	0.000	1.469	1.195	1.195	1,255,534	Yes	222,946
===>Grouped by Line: **FW75-1-DISHDR to SG21**					***Sorted By:Flow Order***		
BFD-72P US	0.000	0.888	0.717	0.717	1,850,767	Yes	222,946
BFD-72P DS	0.000	0.897	0.717	0.717	1,942,650	Yes	222,946
BFD-72	0.000	1.009	0.832	0.832	1,034,189	Yes	222,946
BFD-72P-1 US	0.000	0.894	0.717	0.717	1,533,651	Yes	222,946
BFD-72P-1 DS	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-VALVE-BFD-5	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-72R	0.000	0.887	0.832	0.832	338,667	Yes	222,946
BFD-72R (D/S)	0.000	0.788	0.589	0.589	836,602	Yes	222,946
BFD-VALVE-FCV-417	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-71R	0.000	0.794	0.589	0.589	985,606	Yes	222,946
BFD-71R (D/S)	0.000	0.872	0.832	0.832	289,130	Yes	222,946
BFD-71	0.000	0.903	0.832	0.832	413,561	Yes	222,946
BFD-70P US	0.000	0.877	0.717	0.717	1,386,176	Yes	222,946
BFD-70P DS	0.000	0.866	0.717	0.717	1,291,317	Yes	222,946
BFD-70	0.000	0.954	0.832	0.832	712,557	Yes	222,946
BFD-69P US	0.000	0.908	0.717	0.717	1,654,819	Yes	222,946
BFD-69P DS	0.000	0.903	0.717	0.717	1,614,200	Yes	222,946
BFD-69	0.000	0.918	0.832	0.832	560,601	Yes	222,946
BFD-68P US	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-68P DS	0.000	0.897	0.717	0.717	1,770,510	Yes	222,946
BFD-68	0.000	0.951	0.832	0.832	695,014	Yes	222,946
BFD-67P US	0.000	0.885	0.717	0.717	1,455,758	Yes	222,946
BFD-67P DS	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-VALVE-BFD-6	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-67	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-66	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-66P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-96	0.000	0.653	0.633	0.633	124,876	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW75-1-DISHDR to SG21**					***Sorted By:Flow Order***		
BFD-96P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-97	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-97P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-98	0.000	0.653	0.544	0.544	655,817	No	222,946
BFD-98P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-98P-1	0.000	0.704	0.544	0.544	2,736,169	No	222,946
BFD-99	0.000	0.604	0.544	0.544	357,106	Yes	222,946
BFD-99N	0.000	0.650	0.544	0.544	589,670	Yes	222,946
===>Grouped by Line: **FW76-1-DISHDR to SG22**					***Sorted By:Flow Order***		
BFD-78P	0.000	0.884	0.717	0.717	1,809,891	No	222,946
BFD-78	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-78P-1 US	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-VALVE-BFD-5-1	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-78P-2	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-VALVE-FCV-427	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-77R	0.000	0.707	0.589	0.589	567,279	No	222,946
BFD-77R (D/S)	0.000	0.869	0.832	0.832	267,786	Yes	222,946
BFD-77P	0.000	0.886	0.717	0.717	1,666,703	Yes	222,946
BFD-77	0.000	0.946	0.832	0.832	665,899	Yes	222,946
BFD-76P US	0.000	0.880	0.717	0.717	1,412,140	Yes	222,946
BFD-76	0.000	0.969	0.832	0.832	800,929	Yes	222,946
BFD-75P	0.000	0.921	0.717	0.717	1,762,605	Yes	222,946
BFD-75	0.000	0.849	0.832	0.832	113,389	No	222,946
BFD-74P	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-74	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-73P	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-VALVE-BFD-6-1	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7-1	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-73	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-73P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-91	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-91P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-92	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-92P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-92-1	0.000	0.664	0.633	0.633	210,472	No	222,946
BFD-92P-1	0.000	0.693	0.544	0.544	1,499,303	No	222,946
BFD-92-2	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-92P-2	0.000	0.685	0.544	0.544	1,249,631	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW76-1-DISHDR to SG22**					***Sorted By:Flow Order***		
BFD-92P-3	0.000	0.717	0.544	0.544	2,962,210	No	222,946
BFD-93	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-93P US	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-93P DS	0.000	0.696	0.544	0.544	1,351,982	No	222,946
BFD-94	0.000	0.861	0.633	0.633	1,540,710	No	222,946
BFD-95	0.000	0.821	0.633	0.633	1,199,255	Yes	222,946
BFD-95P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-95R	0.000	0.677	0.633	0.633	351,859	No	222,946
BFD-95R (D/S)	0.000	0.744	0.703	0.703	345,441	No	222,946
BFD-95N	0.000	0.721	0.703	0.703	113,757	No	222,946
===>Grouped by Line: **FW76-2-DISHDR to SG22**					***Sorted By:Flow Order***		
BFD-78T (BR/SE)	0.000	0.884	0.717	0.717	722,637	No	222,946
BFD-78T	0.000	1.323	1.195	1.195	586,956	No	222,946
BFD-78T (D/S)	0.000	1.292	1.195	1.195	555,802	No	222,946
===>Grouped by Line: **FW77-1-DISHDR to SG24**					***Sorted By:Flow Order***		
BFD-84P	0.000	0.884	0.717	0.717	1,809,891	No	222,946
BFD-84	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-84P-1	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-VALVE-BFD-5-3	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-84P-2	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-VALVE-FCV-447	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-83R	0.000	0.714	0.589	0.589	601,863	No	222,946
BFD-83R (D/S)	0.000	0.889	0.832	0.832	410,476	No	222,946
BFD-83	0.000	0.954	0.832	0.832	712,682	Yes	222,946
BFD-82P US	0.000	0.883	0.717	0.717	1,123,235	Yes	222,946
BFD-82P DS	0.000	0.852	0.717	0.717	913,196	No	222,946
BFD-82	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-81P	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-81	0.000	0.958	0.832	0.832	825,791	Yes	222,946
BFD-80	0.000	0.957	0.832	0.832	729,248	Yes	222,946
BFD-80P	0.000	0.857	0.717	0.717	947,187	Yes	222,946
BFD-VALVE-BFD-6-3	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7-3	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-79	0.000	0.678	0.633	0.633	271,637	Yes	222,946
BFD-104P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-104	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-105P	0.000	0.685	0.544	0.544	1,249,631	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW77-1-DISHDR to SG24**					***Sorted By:Flow Order***		
BFD-105	0.000	0.671	0.544	0.544	762,669	Yes	222,946
BFD-105-1	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-105P-1	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-105P-2	0.000	0.717	0.544	0.544	2,962,210	No	222,946
BFD-106	0.000	0.578	0.633	0.633	-152,592	Yes	222,946
BFD-106P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-106N	0.000	0.646	0.633	0.633	71,913	No	222,946
===>Grouped by Line: **FW77-2-DISHDR to SG24**					***Sorted By:Flow Order***		
BFD-84T (BR/SE)	0.000	0.891	0.717	0.717	752,929	Yes	222,946
BFD-84T	0.000	1.354	1.195	1.195	911,946	Yes	222,946
BFD-84T (D/S)	0.000	1.351	1.195	1.195	1,521,546	Yes	222,946
===>Grouped by Line: **FW78-1-DISHDR to SG23**					***Sorted By:Flow Order***		
BFD-89T (BR/SE)	0.000	0.847	0.717	0.717	825,285	No	222,946
BFD-89P	0.000	0.887	0.717	0.717	1,840,433	Yes	222,946
BFD-89	0.000	0.992	0.832	0.832	934,019	Yes	222,946
BFD-89P-1	0.000	0.867	0.717	0.717	1,299,449	Yes	222,946
BFD-VALVE-BFD-5-2	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-89P-2	0.000	0.879	0.717	0.717	1,592,510	No	222,946
BFD-VALVE-FCV-437	0.000	0.804	0.889	0.889	-163,659	No	222,946
BFD-3R	0.000	0.697	0.589	0.589	519,164	No	222,946
BFD-3R (D/S)	0.000	0.886	0.832	0.832	390,396	Yes	222,946
BFD-3P	0.000	0.886	0.717	0.717	1,666,703	Yes	222,946
BFD-3	0.000	0.986	0.832	0.832	899,813	Yes	222,946
BFD-88P	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-88	0.000	0.839	0.832	0.832	38,288	No	222,946
BFD-87P US	0.000	0.892	0.717	0.717	1,515,998	Yes	222,946
BFD-87P DS	0.000	0.865	0.717	0.717	1,282,318	Yes	222,946
BFD-87	0.000	0.936	0.832	0.832	607,421	Yes	222,946
BFD-86P US	0.000	0.902	0.717	0.717	1,602,546	Yes	222,946
BFD-86P DS	0.000	0.871	0.717	0.717	1,331,654	No	222,946
BFD-VALVE-BFD-6-2	0.000	0.786	0.889	0.889	-170,507	No	222,946
BFD-VALVE-BFD-7-2	0.000	0.786	0.889	0.889	-170,503	No	222,946
BFD-86	0.000	0.648	0.633	0.633	92,134	Yes	222,946
BFD-85	0.000	0.660	0.633	0.633	164,373	Yes	222,946
BFD-100P	0.000	0.666	0.544	0.544	849,116	No	222,946
BFD-100	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-101P	0.000	0.685	0.544	0.544	1,249,631	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **FW78-1-DISHDR to SG23**					***Sorted By:Flow Order***		
BFD-101	0.000	0.677	0.633	0.633	265,618	Yes	222,946
BFD-102P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-102	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-102P-1	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-102P-2	0.000	0.717	0.544	0.544	2,962,210	No	222,946
BFD-103	0.000	0.653	0.633	0.633	124,876	No	222,946
BFD-103P	0.000	0.685	0.544	0.544	1,249,631	No	222,946
BFD-103N	0.000	0.646	0.633	0.633	71,913	No	222,946
BFD-89T	0.000	1.212	1.195	1.195	202,781	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

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Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FW FWH 26 TO STM GEN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.144

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:	**FW74-1-FWH26A to DISHDR**										***Sorted By: Flow Order***	
BFD-55P	0.000	93.6	51.0	93.6	51.0	0.887	GW	181,477	844.4	887.0	7.3	181,477
BFD-56	0.000	89.8	152.0	89.8	152.0	0.984	GW	181,477	829.8	984.0	8.5	125,459
BFD-56P-1	0.000	64.3	61.0	64.3	61.0	0.891	GW	181,477	873.7	891.0	5.0	181,477
BFD-57	0.000	108.2	175.0	108.2	175.0	0.999	GW	181,477	829.8	999.0	8.5	181,477
BFD-57P	0.000	73.1	74.0	73.1	74.0	0.885	GW	181,477	864.9	885.0	5.7	181,477
===>Grouped by Line:	**FW74-2-FWH26B to DISHDR**										***Sorted By: Flow Order***	
BFD-52	0.000	110.8	262.0	110.8	262.0	1.036	GW	193,769	827.2	1,036.0	5.9	193,769
BFD-52P-1	0.000	60.4	106.0	60.4	106.0	0.871	MT	149,573	877.6	871.0	9.0	149,573
===>Grouped by Line:	**FW74-3-FWH26 to DISHDR**										***Sorted By: Flow Order***	
BFD-54T	0.000	58.3	86.0	58.3	86.0	1.341	GW	193,769	1,201.7	1,341.0	3.1	193,769
BFD-54T (BR/SE)	0.000	101.8	142.0	101.8	142.0	0.871	MT	193,769	835.2	871.0	5.4	193,769
BFD-54T (D/S)	0.000	92.6	86.0	92.6	86.0	1.343	GW	193,769	1,167.4	1,343.0	4.9	193,769
===>Grouped by Line:	**FW74-4-FWH26C to DISHDR**										***Sorted By: Flow Order***	
BFD-47P	0.000	77.1	51.0	77.1	51.0	0.887	MT	209,806	860.9	887.0	1.8	209,806
BFD-48	0.000	114.0	277.0	114.0	277.0	1.014	MT	209,806	824.0	1,014.0	2.6	209,806
BFD-50P DS	0.000	66.1	70.0	66.1	70.0	0.867	MT	136,608	871.9	867.0	12.8	136,608
===>Grouped by Line:	**FW74-5-FWH26 to DISHDR**										***Sorted By: Flow Order***	
BFD-60	0.000	96.0	168.0	96.0	168.0	1.403	MT	149,573	1,164.0	1,403.0	14.3	149,573
BFD-30	0.000	99.1	93.0	99.1	93.0	1.275	MT	165,113	1,160.9	1,275.0	11.2	165,113
BFD-30P US	0.000	80.0	79.0	80.0	79.0	1.327	MT	136,608	1,180.0	1,327.0	15.4	136,608
BFD-30P DS	0.000	80.0	88.0	80.0	88.0	1.344	MT	136,608	1,180.0	1,344.0	15.4	136,608
BFD-31	0.000	92.5	129.0	92.5	129.0	1.467	MT	136,608	1,167.5	1,467.0	17.8	136,608
BFD-31P US	0.000	62.5	82.0	62.5	82.0	1.353	MT	136,608	1,197.5	1,353.0	12.1	136,608
BFD-61	0.000	107.8	115.5	107.8	115.5	1.426	MT	209,806	1,152.2	1,426.0	2.5	209,806

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:	**FW74-5-FWH26 to DISHDR**										***Sorted By: Flow Order***	
BFD-61P	0.000	72.9	59.0	72.9	59.0	1.314	MT	209,806	1,187.1	1,314.0	1.7	209,806
BFD-62P DS	0.000	67.0	74.0	67.0	74.0	1.294	MT	165,113	1,193.0	1,294.0	7.6	165,113
BFD-63	0.000	99.1	118.0	99.1	118.0	1.304	MT	165,113	1,160.9	1,304.0	11.2	165,113
BFD-63P US	0.000	67.0	97.0	67.0	97.0	1.316	MT	165,113	1,193.0	1,316.0	7.6	165,113
BFD-64	0.000	104.8	110.0	104.8	110.0	1.423	GW	193,769	1,155.2	1,423.0	5.5	193,769
BFD-64P	0.000	70.8	33.0	70.8	33.0	1.325	MT	193,769	1,189.2	1,325.0	3.7	193,769
BFD-72T	0.000	145.7	33.0	145.7	33.0	1.471	MT	209,806	1,114.3	1,471.0	3.4	209,806
BFD-72T (BR/SE)	0.000	131.3	74.0	131.3	74.0	0.864	MT	209,806	806.7	864.0	3.0	209,806
BFD-72T (D/S)	0.000	124.1	29.0	124.1	29.0	1.472	MT	209,806	1,135.9	1,472.0	2.9	209,806
===>Grouped by Line:	**FW75-1-DISHDR to SG21**										***Sorted By: Flow Order***	
BFD-72P US	0.000	46.8	53.0	46.8	53.0	0.895	MT	149,573	891.2	895.0	7.0	149,573
BFD-72P DS	0.000	48.3	41.0	48.3	41.0	0.902	MT	165,113	889.7	902.0	5.5	165,113
BFD-72	0.000	89.3	70.0	89.3	70.0	1.019	MT	165,113	848.7	1,019.0	10.1	165,113
BFD-72P-1 US	0.000	60.3	54.0	60.3	54.0	0.901	MT	165,113	877.7	901.0	6.8	165,113
BFD-72R	0.000	81.9	68.0	81.9	68.0	0.899	MT	149,573	856.1	899.0	12.2	149,573
BFD-72R (D/S)	0.000	120.2	172.0	120.2	172.0	0.806	MT	149,573	723.8	806.0	17.9	149,573
BFD-71R	0.000	112.0	109.0	112.0	109.0	0.803	MT	181,477	731.0	803.0	8.8	181,477
BFD-71R (D/S)	0.000	74.7	85.0	74.7	85.0	0.878	GW	181,477	863.3	878.0	5.9	181,477
BFD-71	0.000	92.2	144.0	92.2	144.0	0.910	GW	181,477	845.8	910.0	7.2	181,477
BFD-70P US	0.000	56.3	50.0	56.3	50.0	0.888	MT	136,608	881.7	888.0	10.9	136,608
BFD-70P DS	0.000	60.3	92.0	60.3	92.0	0.873	MT	165,113	877.7	873.0	6.8	165,113
BFD-70	0.000	89.3	92.0	89.3	92.0	0.964		165,113	848.7	964.0	10.1	165,113
BFD-69P US	0.000	60.3	80.0	60.3	80.0	0.915	MT	165,113	877.7	915.0	6.8	165,113
BFD-69P DS	0.000	65.6	33.0	65.6	33.0	0.905	MT	209,806	872.4	905.0	1.5	209,806
BFD-69	0.000	84.2	54.0	84.2	54.0	0.922	GW	193,769	853.8	922.0	4.4	193,769
BFD-68P DS	0.000	53.1	48.0	53.1	48.0	0.903		165,113	884.9	903.0	6.0	165,113
BFD-68	0.000	89.3	81.0	89.3	81.0	0.961		165,113	848.7	961.0	10.1	165,113
BFD-67P US	0.000	60.3	66.0	60.3	66.0	0.892	MT	165,113	877.7	892.0	6.8	165,113
BFD-99	0.000	94.4	139.0	94.4	139.0	0.606	MT	209,806	655.6	606.0	2.2	209,806
BFD-99N	0.000	93.8	87.0	93.8	87.0	0.661		165,113	656.2	661.0	10.6	165,113
===>Grouped by Line:	**FW76-1-DISHDR to SG22**										***Sorted By: Flow Order***	
BFD-77R (D/S)	0.000	78.8	72.0	78.8	72.0	0.871	MT	209,806	859.2	871.0	1.8	209,806
BFD-77P	0.000	49.5	51.0	49.5	51.0	0.896	MT	136,608	888.5	896.0	9.6	136,608
BFD-77	0.000	83.3	72.0	83.3	72.0	0.962	MT	136,608	854.7	962.0	16.1	136,608
BFD-76P US	0.000	56.3	46.0	56.3	46.0	0.891	MT	136,608	881.7	891.0	10.9	136,608
BFD-76	0.000	94.4	55.0	94.4	55.0	0.974	MT	193,769	843.6	974.0	5.0	193,769
BFD-75P	0.000	63.8	57.0	63.8	57.0	0.924	GW	193,769	874.2	924.0	3.4	193,769

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:	**FW76-1-DISHDR to SG22**										***Sorted By: Flow Order***	
BFD-95	0.000	59.5	87.0	59.5	87.0	0.853	MT	106,128	690.5	853.0	31.9	106,128
===>Grouped by Line:	**FW77-1-DISHDR to SG24**										***Sorted By: Flow Order***	
BFD-83	0.000	83.3	81.0	83.3	81.0	0.970	MT	136,608	854.7	970.0	16.1	136,608
BFD-82P US	0.000	72.1	43.0	72.1	43.0	0.897	MT	136,608	865.9	897.0	13.9	136,608
BFD-81	0.000	86.7	105.0	86.7	105.0	0.960	MT	209,806	851.3	960.0	2.0	209,806
BFD-80	0.000	97.2	81.5	97.2	81.5	0.959	MT	209,806	840.8	959.0	2.2	209,806
BFD-80P	0.000	84.0	59.0	84.0	59.0	0.859	MT	209,806	854.0	859.0	1.9	209,806
BFD-79	0.000	20.0	25.0	20.0	25.0	0.680	MT	209,806	655.6	680.0	2.2	209,806
BFD-105	0.000	86.7	69.0	86.7	69.0	0.681	MT	165,113	663.3	681.0	9.8	165,113
BFD-106	0.000	94.4	170.0	94.4	170.0	0.580	MT	209,806	655.6	580.0	2.2	209,806
===>Grouped by Line:	**FW77-2-DISHDR to SG24**										***Sorted By: Flow Order***	
BFD-84T (BR/SE)	0.000	131.3	76.0	131.3	76.0	0.894	MT	209,806	806.7	894.0	3.0	209,806
BFD-84T	0.000	98.9	132.0	98.9	132.0	1.356	MT	209,806	1,161.1	1,356.0	2.3	209,806
BFD-84T (D/S)	0.000	57.2	98.0	57.2	98.0	1.352	MT	209,806	1,202.8	1,352.0	1.3	209,806
===>Grouped by Line:	**FW78-1-DISHDR to SG23**										***Sorted By: Flow Order***	
BFD-89P	0.000	49.8	47.0	49.8	47.0	0.891	GW	181,477	888.2	891.0	3.9	181,477
BFD-89	0.000	92.2	85.0	92.2	85.0	0.999	GW	181,477	845.8	999.0	7.2	181,477
BFD-89P-1	0.000	62.3	94.0	62.3	94.0	0.872	GW	181,477	875.7	872.0	4.9	181,477
BFD-3R (D/S)	0.000	78.8	64.0	78.8	64.0	0.888	MT	209,806	859.2	888.0	1.8	209,806
BFD-3P	0.000	49.5	68.0	49.5	68.0	0.896	MT	136,608	888.5	896.0	9.6	136,608
BFD-3	0.000	83.3	72.0	83.3	72.0	1.002	MT	136,608	854.7	1,002.0	16.1	136,608
BFD-87P US	0.000	56.3	109.0	56.3	109.0	0.903	MT	136,608	881.7	903.0	10.9	136,608
BFD-87P DS	0.000	56.3	51.0	56.3	51.0	0.876		136,608	881.7	876.0	10.9	136,608
BFD-87	0.000	83.3	99.0	83.3	99.0	0.952	MT	136,608	854.7	952.0	16.1	136,608
BFD-86P US	0.000	56.3	57.0	56.3	57.0	0.913	MT	136,608	881.7	913.0	10.9	136,608
BFD-86	0.000	70.6	87.0	70.6	87.0	0.674	MT	119,088	679.4	674.0	26.0	119,088
BFD-85	0.000	70.6	64.0	70.6	64.0	0.686	MT	119,088	679.4	686.0	26.0	119,088
BFD-101	0.000	94.4	68.5	94.4	68.5	0.679	GW	209,806	655.6	679.0	2.2	209,806

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/23/2010 11:23:52AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.994

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD242A-1-FWH23A CV to FWH22A***								***Sorted By: Average Wear Rate***		
242-VALVE-LCV-1118	24	7.100	3.434	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
242-VALVE-3EX-9	22	4.268	2.084	212.1	4.386	0.0	8.625	7.015	0.000	11.97	ARD
242-8R	18	4.084	1.975	212.1	7.964	0.0	6.625	7.015	0.000	11.97	ARD
242-10T (D/S)	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-10T	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-8R (D/S)	18	2.573	1.256	212.1	4.410	0.0	8.625	7.015	0.000	11.97	ARD
242-12N	18	2.322	1.134	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-9P	58	1.824	0.891	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-11P	62	1.658	0.810	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-12N (D/S)	18	1.615	0.789	212.1	2.672	0.0	10.750	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD243A-1-FWH23B CV to FWH22B***								***Sorted By: Average Wear Rate***		
243-VALVE-LCV-1119	24	7.100	3.434	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
243-VALVE-3EX-9-1	22	4.268	2.084	212.1	4.386	0.0	8.625	7.015	0.000	11.97	ARD
243-9R	18	4.199	2.031	212.1	8.325	0.0	6.625	7.015	0.000	11.97	ARD
243-11T (D/S)	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-11T	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-9R (D/S)	18	2.577	1.258	212.1	4.416	0.0	8.625	7.015	0.000	11.97	ARD
243-13N	18	2.322	1.134	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-10P	58	1.824	0.891	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-12P	62	1.658	0.810	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-13N (D/S)	18	1.615	0.789	212.1	2.672	0.0	10.750	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD244A-1-FWH23C CV to FWH22C***								***Sorted By: Average Wear Rate***		
244-VALVE-LCV-1119	24	7.100	3.434	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
244-VALVE-3EX-9-2	22	4.268	2.084	212.1	4.386	0.0	8.625	7.015	0.000	11.97	ARD
244-9R	18	4.041	1.954	212.1	7.832	0.0	6.625	7.015	0.000	11.97	ARD
244-11T (D/S)	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-11T	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD244A-1-FWH23C CV to FWH22C***								***Sorted By: Average Wear Rate***		
244-13N	30	3.317	1.620	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-9R (D/S)	18	2.552	1.246	212.1	4.370	0.0	8.625	7.015	0.000	11.97	ARD
244-10P	58	1.824	0.891	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-12P	62	1.658	0.810	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 11:23:52AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.994

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD242A-1-FWH23A CV to FWH22A***									***Sorted By: Flow Order***	
242-10T (D/S)	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-11P	62	1.658	0.810	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-12N	18	2.322	1.134	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-12N (D/S)	18	1.615	0.789	212.1	2.672	0.0	10.750	7.015	0.000	11.97	ARD
242-VALVE-LCV-1118	24	7.100	3.434	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
242-8R	18	4.084	1.975	212.1	7.964	0.0	6.625	7.015	0.000	11.97	ARD
242-8R (D/S)	18	2.573	1.256	212.1	4.410	0.0	8.625	7.015	0.000	11.97	ARD
242-VALVE-3EX-9	22	4.268	2.084	212.1	4.386	0.0	8.625	7.015	0.000	11.97	ARD
242-9P	58	1.824	0.891	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-10T	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD243A-1-FWH23B CV to FWH22B***									***Sorted By: Flow Order***	
243-11T (D/S)	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-12P	62	1.658	0.810	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-13N	18	2.322	1.134	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-13N (D/S)	18	1.615	0.789	212.1	2.672	0.0	10.750	7.015	0.000	11.97	ARD
243-VALVE-LCV-1119	24	7.100	3.434	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
243-9R	18	4.199	2.031	212.1	8.325	0.0	6.625	7.015	0.000	11.97	ARD
243-9R (D/S)	18	2.577	1.258	212.1	4.416	0.0	8.625	7.015	0.000	11.97	ARD
243-VALVE-3EX-9-1	22	4.268	2.084	212.1	4.386	0.0	8.625	7.015	0.000	11.97	ARD
243-10P	58	1.824	0.891	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-11T	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD244A-1-FWH23C CV to FWH22C***									***Sorted By: Flow Order***	
244-11T (D/S)	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-12P	62	1.658	0.810	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-13N	30	3.317	1.620	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-VALVE-LCV-1119	24	7.100	3.434	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
244-9R	18	4.041	1.954	212.1	7.832	0.0	6.625	7.015	0.000	11.97	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:	***HD244A-1-FWH23C CV to FWH22C***									***Sorted By: Flow Order***	
244-9R (D/S)	18	2.552	1.246	212.1	4.370	0.0	8.625	7.015	0.000	11.97	ARD
244-VALVE-3EX-9-2	22	4.268	2.084	212.1	4.386	0.0	8.625	7.015	0.000	11.97	ARD
244-10P	58	1.824	0.891	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-11T	12	3.400	1.660	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 11:23:52AM

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.994

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD242A-1-FWH23A CV to FWH22A**					***Sorted By:Remaining Life***		
242-VALVE-LCV-1118	0.000	0.099	0.012	0.012	223,225	No	222,946
242-VALVE-3EX-9	0.000	0.141	0.015	0.015	529,731	No	222,946
242-10T (D/S)	0.000	0.163	0.014	0.014	786,835	No	222,946
242-10T	0.000	0.163	0.014	0.014	786,835	No	222,946
242-8R	0.344	0.278	0.011	0.011	1,182,328	No	222,946
242-12N	0.000	0.191	0.017	0.017	1,345,105	No	222,946
242-8R (D/S)	0.323	0.228	0.014	0.014	1,492,821	No	222,946
242-9P	0.000	0.219	0.017	0.017	1,991,752	Yes	222,946
242-11P	0.000	0.208	0.017	0.017	2,065,783	No	222,946
242-12N (D/S)	0.000	0.209	0.021	0.021	2,087,928	No	222,946
===>Grouped by Line: **HD243A-1-FWH23B CV to FWH22B**					***Sorted By:Remaining Life***		
243-VALVE-LCV-1119	0.000	0.099	0.012	0.012	223,225	No	222,946
243-VALVE-3EX-9-1	0.000	0.141	0.015	0.015	529,731	No	222,946
243-11T	0.000	0.163	0.014	0.014	786,835	No	222,946
243-11T (D/S)	0.000	0.163	0.014	0.014	786,835	No	222,946
243-9R	0.409	0.317	0.011	0.011	1,319,781	Yes	222,946
243-13N	0.000	0.191	0.017	0.017	1,345,105	No	222,946
243-9R (D/S)	0.326	0.264	0.014	0.014	1,741,255	Yes	222,946
243-10P	0.000	0.204	0.017	0.017	1,836,476	No	222,946
243-12P	0.000	0.208	0.017	0.017	2,065,783	No	222,946
243-13N (D/S)	0.000	0.209	0.021	0.021	2,087,928	No	222,946
===>Grouped by Line: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Remaining Life***		
244-VALVE-LCV-1119	0.000	0.099	0.012	0.012	223,225	No	222,946
244-VALVE-3EX-9-2	0.000	0.141	0.015	0.015	529,731	No	222,946
244-13N	0.000	0.166	0.017	0.017	804,596	No	222,946
244-9R	0.319	0.264	0.011	0.011	1,133,123	No	222,946
244-9R (D/S)	0.305	0.245	0.014	0.014	1,618,662	Yes	222,946
244-12P	0.000	0.208	0.017	0.017	2,065,783	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Remaining Life***		
244-10P	0.000	0.231	0.017	0.017	2,106,240	Yes	222,946
244-11T (D/S)	0.000	0.430	0.014	0.014	2,195,716	Yes	222,946
244-11T	0.000	0.544	0.014	0.014	2,797,261	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.994

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD242A-1-FWH23A CV to FWH22A**					***Sorted By:Flow Order***		
242-10T (D/S)	0.000	0.163	0.014	0.014	786,835	No	222,946
242-11P	0.000	0.208	0.017	0.017	2,065,783	No	222,946
242-12N	0.000	0.191	0.017	0.017	1,345,105	No	222,946
242-12N (D/S)	0.000	0.209	0.021	0.021	2,087,928	No	222,946
242-VALVE-LCV-1118	0.000	0.099	0.012	0.012	223,225	No	222,946
242-8R	0.344	0.278	0.011	0.011	1,182,328	No	222,946
242-8R (D/S)	0.323	0.228	0.014	0.014	1,492,821	No	222,946
242-VALVE-3EX-9	0.000	0.141	0.015	0.015	529,731	No	222,946
242-9P	0.000	0.219	0.017	0.017	1,991,752	Yes	222,946
242-10T	0.000	0.163	0.014	0.014	786,835	No	222,946
===>Grouped by Line: **HD243A-1-FWH23B CV to FWH22B**					***Sorted By:Flow Order***		
243-11T (D/S)	0.000	0.163	0.014	0.014	786,835	No	222,946
243-12P	0.000	0.208	0.017	0.017	2,065,783	No	222,946
243-13N	0.000	0.191	0.017	0.017	1,345,105	No	222,946
243-13N (D/S)	0.000	0.209	0.021	0.021	2,087,928	No	222,946
243-VALVE-LCV-1119	0.000	0.099	0.012	0.012	223,225	No	222,946
243-9R	0.409	0.317	0.011	0.011	1,319,781	Yes	222,946
243-9R (D/S)	0.326	0.264	0.014	0.014	1,741,255	Yes	222,946
243-VALVE-3EX-9-1	0.000	0.141	0.015	0.015	529,731	No	222,946
243-10P	0.000	0.204	0.017	0.017	1,836,476	No	222,946
243-11T	0.000	0.163	0.014	0.014	786,835	No	222,946
===>Grouped by Line: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Flow Order***		
244-11T (D/S)	0.000	0.430	0.014	0.014	2,195,716	Yes	222,946
244-12P	0.000	0.208	0.017	0.017	2,065,783	No	222,946
244-13N	0.000	0.166	0.017	0.017	804,596	No	222,946
244-VALVE-LCV-1119	0.000	0.099	0.012	0.012	223,225	No	222,946
244-9R	0.319	0.264	0.011	0.011	1,133,123	No	222,946
244-9R (D/S)	0.305	0.245	0.014	0.014	1,618,662	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD244A-1-FWH23C CV to FWH22C**					***Sorted By:Flow Order***		
244-VALVE-3EX-9-2	0.000	0.141	0.015	0.015	529,731	No	222,946
244-10P	0.000	0.231	0.017	0.017	2,106,240	Yes	222,946
244-11T	0.000	0.544	0.014	0.014	2,797,261	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 23 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.994

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:	**HD242A-1-FWH23A CV to FWH22A**										***Sorted By: Flow Order***	
242-9P	0.000	38.8	44.0	38.8	44.0	0.227	MT	149,573	211.2	227.0	7.6	149,573
===>Grouped by Line:	**HD243A-1-FWH23B CV to FWH22B**										***Sorted By: Flow Order***	
243-9R	0.409	84.9	66.0	84.9	66.0	0.339		136,608	324.1	339.0	22.0	136,608
243-9R (D/S)	0.326	52.0	43.0	52.0	43.0	0.278		136,608	274.0	278.0	13.6	136,608
===>Grouped by Line:	**HD244A-1-FWH23C CV to FWH22C**										***Sorted By: Flow Order***	
244-11T (D/S)	0.000	81.0	81.0	81.0	81.0	0.436	MT	193,769	169.0	436.0	5.5	193,769
244-9R (D/S)	0.305	51.5	47.0	51.5	47.0	0.258	MT	136,608	253.5	258.0	13.4	136,608
244-10P	0.000	40.4	57.0	40.4	57.0	0.237	MT	165,113	209.6	237.0	6.0	165,113
244-11T	0.000	81.0	105.0	81.0	105.0	0.550	GW	193,769	169.0	550.0	5.5	193,769

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:23:16PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.332

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:	***HD24A-1-FWH23A to CV***								***Sorted By: Average Wear Rate***		
242-7R (D/S)	7	6.087	2.944	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
3EXD-1N	31	5.554	2.712	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20	2	4.204	2.053	212.1	4.357	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-5	2	4.177	2.040	212.1	4.327	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-1	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-21	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-22	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-3	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-4	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-5E	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-6	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-7E	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-7	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-8	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-9	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-10	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-11	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-12	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-13	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-7R	7	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-2E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-4E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-6P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-14 (D/S)	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-14	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-1P	61	2.999	1.465	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD24A-1-FWH23A to CV***								***Sorted By: Average Wear Rate***		
3EXD-20P-1 US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20P-1 DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2P-1 US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2P-1 DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-21P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-3P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-22P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-1P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-4P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-5P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-6P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-6P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-7P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-8P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-9P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-10P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-11P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-12P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-13P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-3P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20P	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD25A-1-FWH23B to CV***								***Sorted By: Average Wear Rate***		
243-8R (D/S)	7	6.087	2.944	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
3EXD-23N	31	5.554	2.712	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-24	4	4.224	2.062	212.1	4.379	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-33	2	4.190	2.046	212.1	4.342	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-30	2	4.181	2.041	212.1	4.331	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-23	2	4.163	2.033	212.1	4.312	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-40	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-41	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-25	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-42	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-26	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-28	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-29	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-6E	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD25A-1-FWH23B to CV***								***Sorted By: Average Wear Rate***		
243-8E	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-31	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-32	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-27	3	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-8R	7	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-2E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-4E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-24P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-26P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-7P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-34 (D/S)	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-34	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-23P	61	2.999	1.465	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-40P-1	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-41P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-25P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-42P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-1P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-27P	53	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-28P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-29P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-30P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-31P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-32P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-33P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-33P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-3P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-5P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-40P	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD26A-1-FWH23C to CV***								***Sorted By: Average Wear Rate***		
244-8R (D/S)	7	6.087	2.944	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
3EXD-43N	31	5.554	2.712	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-45	4	4.255	2.078	212.1	4.414	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-59	2	4.204	2.053	212.1	4.357	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-43	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD26A-1-FWH23C to CV***								***Sorted By: Average Wear Rate***		
3EXD-44	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-60	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-46	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-47	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-48	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-49	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-6E	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-50	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-8E	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-8R	7	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-2E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-4E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-45P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-7P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-51 (D/S)	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-51	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-43P	61	2.999	1.465	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-43P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58P-1	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-44P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-59P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-59P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-60P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-46P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-1P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-47P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-48P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-49P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-50P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-50P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-3P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-5P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58P US	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58P DS	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:16PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.332

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:	***HD24A-1-FWH23A to CV***									***Sorted By: Flow Order***	
3EXD-1N	31	5.554	2.712	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-1P	61	2.999	1.465	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-1	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2P-1 US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-2P-1 DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-3	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-3P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-4	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-4P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-5	2	4.177	2.040	212.1	4.327	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-5P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-6	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-6P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-6P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-7	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-7P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-8	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-8P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-9	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-9P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-10	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-10P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-11	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-11P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-12	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-12P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD24A-1-FWH23A to CV***									***Sorted By: Flow Order***	
3EXD-13	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-13P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-14	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-14 (D/S)	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20P	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20	2	4.204	2.053	212.1	4.357	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20P-1 US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-20P-1 DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-21	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-21P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-22	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-22P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-1P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-2E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-3P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-4E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-5E	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-6P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-7E	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-7R	7	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
242-7R (D/S)	7	6.087	2.944	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD25A-1-FWH23B to CV***									***Sorted By: Flow Order***	
3EXD-23N	31	5.554	2.712	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-23P	61	2.999	1.465	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-23	2	4.163	2.033	212.1	4.312	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-24	4	4.224	2.062	212.1	4.379	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-24P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-25	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-25P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-26	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-26P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-27	3	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-27P	53	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-28	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-28P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-29	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD25A-1-FWH23B to CV***									***Sorted By: Flow Order***	
3EXD-29P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-30	2	4.181	2.041	212.1	4.331	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-30P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-31	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-31P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-32	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-32P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-33	2	4.190	2.046	212.1	4.342	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-33P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-33P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-34	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-34 (D/S)	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-40P	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-40	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-40P-1	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-41	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-41P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-42	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-42P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-1P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-2E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-3P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-4E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-5P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-6E	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-7P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-8E	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-8R	7	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
243-8R (D/S)	7	6.087	2.944	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD26A-1-FWH23C to CV***									***Sorted By: Flow Order***	
3EXD-43N	31	5.554	2.712	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-43P	61	2.999	1.465	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-43	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-43P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-44	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-44P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	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:	***HD26A-1-FWH23C to CV***									***Sorted By: Flow Order***	
3EXD-45	4	4.255	2.078	212.1	4.414	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-45P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-46	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-46P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-47	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-47P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-48	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-48P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-49	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-49P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-50	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-50P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-50P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-51	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-51 (D/S)	15	3.333	1.627	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58P US	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58P DS	65	2.222	1.085	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-58P-1	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-59	2	4.204	2.053	212.1	4.357	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-59P US	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-59P DS	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-60	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
3EXD-60P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-1P	52	2.777	1.356	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-2E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-3P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-4E	1	3.666	1.790	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-5P	51	2.444	1.193	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-6E	4	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-7P	54	3.555	1.736	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-8E	2	4.110	2.007	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-8R	7	3.888	1.898	212.1	4.252	0.0	8.625	7.015	0.000	11.97	ARD
244-8R (D/S)	7	6.087	2.944	212.1	7.632	0.0	6.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:16PM

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.332

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD24A-1-FWH23A to CV**					***Sorted By:Remaining Life***		
3EXD-1N	0.000	0.109	0.014	0.014	304,527	No	222,946
242-7R (D/S)	0.000	0.125	0.011	0.011	339,401	No	222,946
3EXD-21	0.000	0.123	0.014	0.014	473,596	No	222,946
3EXD-1	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-9	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-10	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-11	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-12	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-13	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-22	0.000	0.145	0.014	0.014	571,946	No	222,946
242-5E	0.000	0.145	0.014	0.014	571,946	No	222,946
242-7E	0.000	0.145	0.014	0.014	571,946	No	222,946
242-7R	0.000	0.151	0.014	0.014	630,720	No	222,946
242-2E	0.000	0.157	0.014	0.014	696,618	No	222,946
242-4E	0.000	0.157	0.014	0.014	696,618	No	222,946
242-6P	0.000	0.160	0.017	0.017	720,222	No	222,946
3EXD-20	0.299	0.192	0.014	0.014	757,832	Yes	222,946
3EXD-2	0.000	0.190	0.014	0.014	766,036	Yes	222,946
3EXD-5	0.285	0.198	0.014	0.014	789,665	Yes	222,946
3EXD-14	0.000	0.165	0.014	0.014	811,938	No	222,946
3EXD-14 (D/S)	0.000	0.165	0.014	0.014	811,938	No	222,946
3EXD-3	0.000	0.222	0.014	0.014	905,709	No	222,946
3EXD-1P	0.000	0.174	0.017	0.017	938,150	No	222,946
3EXD-7	0.000	0.231	0.014	0.014	944,890	Yes	222,946
3EXD-4	0.000	0.236	0.014	0.014	966,816	No	222,946
3EXD-8	0.000	0.247	0.014	0.014	1,014,727	Yes	222,946
3EXD-6	0.000	0.251	0.014	0.014	1,032,235	Yes	222,946
3EXD-6P US	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-9P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-10P	0.000	0.179	0.017	0.017	1,049,729	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD24A-1-FWH23A to CV**					***Sorted By:Remaining Life***		
3EXD-11P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-12P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-13P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-22P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
242-1P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-20P-1 US	0.000	0.199	0.017	0.017	1,176,078	Yes	222,946
3EXD-5P	0.000	0.200	0.017	0.017	1,182,538	Yes	222,946
3EXD-2P	0.000	0.203	0.017	0.017	1,201,917	Yes	222,946
3EXD-4P	0.000	0.203	0.017	0.017	1,201,917	Yes	222,946
3EXD-3P	0.000	0.204	0.017	0.017	1,208,377	Yes	222,946
3EXD-20P-1 DS	0.000	0.207	0.017	0.017	1,227,757	Yes	222,946
3EXD-2P-1 US	0.000	0.210	0.017	0.017	1,247,137	Yes	222,946
3EXD-21P	0.000	0.211	0.017	0.017	1,253,596	Yes	222,946
242-3P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
3EXD-8P	0.000	0.218	0.017	0.017	1,298,816	Yes	222,946
3EXD-6P DS	0.000	0.229	0.017	0.017	1,371,518	Yes	222,946
3EXD-7P	0.000	0.232	0.017	0.017	1,390,897	Yes	222,946
3EXD-2P-1 DS	0.000	0.235	0.017	0.017	1,408,634	No	222,946
3EXD-20P	0.000	0.207	0.017	0.017	1,538,123	Yes	222,946
===>Grouped by Line: **HD25A-1-FWH23B to CV**					***Sorted By:Remaining Life***		
3EXD-23N	0.000	0.109	0.014	0.014	304,527	No	222,946
243-8R (D/S)	0.000	0.125	0.011	0.011	339,401	No	222,946
3EXD-25	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-26	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-28	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-31	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-32	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-40	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-41	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-42	0.000	0.145	0.014	0.014	571,946	No	222,946
243-6E	0.000	0.145	0.014	0.014	571,946	No	222,946
243-8E	0.000	0.145	0.014	0.014	571,946	No	222,946
243-8R	0.000	0.151	0.014	0.014	630,720	No	222,946
243-2E	0.000	0.157	0.014	0.014	696,618	No	222,946
243-4E	0.000	0.157	0.014	0.014	696,618	No	222,946
3EXD-24P	0.000	0.160	0.017	0.017	720,222	No	222,946
243-7P	0.000	0.160	0.017	0.017	720,222	No	222,946
3EXD-33	0.292	0.194	0.014	0.014	769,423	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD25A-1-FWH23B to CV**					***Sorted By:Remaining Life***		
3EXD-23	0.278	0.206	0.014	0.014	827,259	Yes	222,946
3EXD-27	0.000	0.194	0.014	0.014	829,050	Yes	222,946
3EXD-30	0.287	0.214	0.014	0.014	857,432	Yes	222,946
3EXD-24	0.309	0.223	0.014	0.014	885,188	Yes	222,946
3EXD-26P	0.000	0.197	0.017	0.017	910,765	Yes	222,946
3EXD-29	0.000	0.235	0.014	0.014	962,452	No	222,946
3EXD-25P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-31P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-40P-1	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-41P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-42P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
243-1P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-23P	0.000	0.202	0.017	0.017	1,105,890	Yes	222,946
3EXD-29P	0.000	0.207	0.017	0.017	1,227,757	Yes	222,946
3EXD-30P	0.000	0.208	0.017	0.017	1,234,217	Yes	222,946
3EXD-33P US	0.000	0.211	0.017	0.017	1,253,596	Yes	222,946
243-3P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
243-5P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
3EXD-32P	0.000	0.214	0.017	0.017	1,272,976	Yes	222,946
3EXD-33P DS	0.000	0.220	0.017	0.017	1,313,798	Yes	222,946
3EXD-28P	0.000	0.223	0.017	0.017	1,331,115	Yes	222,946
3EXD-27P	0.000	0.238	0.017	0.017	1,428,013	No	222,946
3EXD-40P	0.000	0.226	0.017	0.017	1,685,533	Yes	222,946
3EXD-34	0.000	0.496	0.014	0.014	2,590,430	Yes	222,946
3EXD-34 (D/S)	0.000	0.508	0.014	0.014	2,655,029	Yes	222,946
===>Grouped by Line: **HD26A-1-FWH23C to CV**					***Sorted By:Remaining Life***		
3EXD-43N	0.000	0.109	0.014	0.014	304,527	No	222,946
244-8R (D/S)	0.000	0.125	0.011	0.011	339,401	No	222,946
3EXD-43	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-44	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-46	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-47	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-48	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-49	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-50	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-58	0.000	0.145	0.014	0.014	571,946	No	222,946
244-6E	0.000	0.145	0.014	0.014	571,946	No	222,946
244-8E	0.000	0.145	0.014	0.014	571,946	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **HD26A-1-FWH23C to CV**					***Sorted By:Remaining Life***		
244-8R	0.000	0.151	0.014	0.014	630,720	No	222,946
244-2E	0.000	0.157	0.014	0.014	696,618	No	222,946
244-4E	0.000	0.157	0.014	0.014	696,618	No	222,946
3EXD-45P	0.000	0.160	0.017	0.017	720,222	No	222,946
244-7P	0.000	0.160	0.017	0.017	720,222	No	222,946
3EXD-59	0.299	0.215	0.014	0.014	855,981	Yes	222,946
3EXD-45	0.325	0.218	0.014	0.014	860,455	Yes	222,946
3EXD-60	0.000	0.212	0.014	0.014	862,062	No	222,946
3EXD-43P	0.000	0.174	0.017	0.017	938,150	No	222,946
3EXD-43P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-46P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-47P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-48P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-49P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-50P US	0.000	0.179	0.017	0.017	1,049,729	No	222,946
244-1P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-44P	0.000	0.194	0.017	0.017	1,143,778	Yes	222,946
244-3P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
244-5P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
3EXD-60P	0.000	0.213	0.017	0.017	1,266,516	Yes	222,946
3EXD-58P-1	0.000	0.219	0.017	0.017	1,305,276	Yes	222,946
3EXD-59P DS	0.000	0.221	0.017	0.017	1,318,195	Yes	222,946
3EXD-59P US	0.000	0.223	0.017	0.017	1,331,115	Yes	222,946
3EXD-58P DS	0.000	0.193	0.017	0.017	1,426,309	No	222,946
3EXD-50P DS	0.000	0.241	0.017	0.017	1,450,688	No	222,946
3EXD-51	0.000	0.312	0.014	0.014	1,604,797	No	222,946
3EXD-58P US	0.000	0.230	0.017	0.017	1,723,910	Yes	222,946
3EXD-51 (D/S)	0.000	0.399	0.014	0.014	2,073,138	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.332

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD24A-1-FWH23A to CV**					***Sorted By:Flow Order***		
3EXD-1N	0.000	0.109	0.014	0.014	304,527	No	222,946
3EXD-1P	0.000	0.174	0.017	0.017	938,150	No	222,946
3EXD-1	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-2P	0.000	0.203	0.017	0.017	1,201,917	Yes	222,946
3EXD-2	0.000	0.190	0.014	0.014	766,036	Yes	222,946
3EXD-2P-1 US	0.000	0.210	0.017	0.017	1,247,137	Yes	222,946
3EXD-2P-1 DS	0.000	0.235	0.017	0.017	1,408,634	No	222,946
3EXD-3	0.000	0.222	0.014	0.014	905,709	No	222,946
3EXD-3P	0.000	0.204	0.017	0.017	1,208,377	Yes	222,946
3EXD-4	0.000	0.236	0.014	0.014	966,816	No	222,946
3EXD-4P	0.000	0.203	0.017	0.017	1,201,917	Yes	222,946
3EXD-5	0.285	0.198	0.014	0.014	789,665	Yes	222,946
3EXD-5P	0.000	0.200	0.017	0.017	1,182,538	Yes	222,946
3EXD-6	0.000	0.251	0.014	0.014	1,032,235	Yes	222,946
3EXD-6P US	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-6P DS	0.000	0.229	0.017	0.017	1,371,518	Yes	222,946
3EXD-7	0.000	0.231	0.014	0.014	944,890	Yes	222,946
3EXD-7P	0.000	0.232	0.017	0.017	1,390,897	Yes	222,946
3EXD-8	0.000	0.247	0.014	0.014	1,014,727	Yes	222,946
3EXD-8P	0.000	0.218	0.017	0.017	1,298,816	Yes	222,946
3EXD-9	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-9P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-10	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-10P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-11	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-11P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-12	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-12P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-13	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-13P	0.000	0.179	0.017	0.017	1,049,729	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD24A-1-FWH23A to CV**					***Sorted By:Flow Order***		
3EXD-14	0.000	0.165	0.014	0.014	811,938	No	222,946
3EXD-14 (D/S)	0.000	0.165	0.014	0.014	811,938	No	222,946
3EXD-20P	0.000	0.207	0.017	0.017	1,538,123	Yes	222,946
3EXD-20	0.299	0.192	0.014	0.014	757,832	Yes	222,946
3EXD-20P-1 US	0.000	0.199	0.017	0.017	1,176,078	Yes	222,946
3EXD-20P-1 DS	0.000	0.207	0.017	0.017	1,227,757	Yes	222,946
3EXD-21	0.000	0.123	0.014	0.014	473,596	No	222,946
3EXD-21P	0.000	0.211	0.017	0.017	1,253,596	Yes	222,946
3EXD-22	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-22P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
242-1P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
242-2E	0.000	0.157	0.014	0.014	696,618	No	222,946
242-3P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
242-4E	0.000	0.157	0.014	0.014	696,618	No	222,946
242-5E	0.000	0.145	0.014	0.014	571,946	No	222,946
242-6P	0.000	0.160	0.017	0.017	720,222	No	222,946
242-7E	0.000	0.145	0.014	0.014	571,946	No	222,946
242-7R	0.000	0.151	0.014	0.014	630,720	No	222,946
242-7R (D/S)	0.000	0.125	0.011	0.011	339,401	No	222,946
===>Grouped by Line: **HD25A-1-FWH23B to CV**					***Sorted By:Flow Order***		
3EXD-23N	0.000	0.109	0.014	0.014	304,527	No	222,946
3EXD-23P	0.000	0.202	0.017	0.017	1,105,890	Yes	222,946
3EXD-23	0.278	0.206	0.014	0.014	827,259	Yes	222,946
3EXD-24	0.309	0.223	0.014	0.014	885,188	Yes	222,946
3EXD-24P	0.000	0.160	0.017	0.017	720,222	No	222,946
3EXD-25	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-25P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-26	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-26P	0.000	0.197	0.017	0.017	910,765	Yes	222,946
3EXD-27	0.000	0.194	0.014	0.014	829,050	Yes	222,946
3EXD-27P	0.000	0.238	0.017	0.017	1,428,013	No	222,946
3EXD-28	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-28P	0.000	0.223	0.017	0.017	1,331,115	Yes	222,946
3EXD-29	0.000	0.235	0.014	0.014	962,452	No	222,946
3EXD-29P	0.000	0.207	0.017	0.017	1,227,757	Yes	222,946
3EXD-30	0.287	0.214	0.014	0.014	857,432	Yes	222,946
3EXD-30P	0.000	0.208	0.017	0.017	1,234,217	Yes	222,946
3EXD-31	0.000	0.145	0.014	0.014	571,946	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD25A-1-FWH23B to CV**					***Sorted By:Flow Order***		
3EXD-31P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-32	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-32P	0.000	0.214	0.017	0.017	1,272,976	Yes	222,946
3EXD-33	0.292	0.194	0.014	0.014	769,423	Yes	222,946
3EXD-33P US	0.000	0.211	0.017	0.017	1,253,596	Yes	222,946
3EXD-33P DS	0.000	0.220	0.017	0.017	1,313,798	Yes	222,946
3EXD-34	0.000	0.496	0.014	0.014	2,590,430	Yes	222,946
3EXD-34 (D/S)	0.000	0.508	0.014	0.014	2,655,029	Yes	222,946
3EXD-40P	0.000	0.226	0.017	0.017	1,685,533	Yes	222,946
3EXD-40	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-40P-1	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-41	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-41P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-42	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-42P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
243-1P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
243-2E	0.000	0.157	0.014	0.014	696,618	No	222,946
243-3P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
243-4E	0.000	0.157	0.014	0.014	696,618	No	222,946
243-5P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
243-6E	0.000	0.145	0.014	0.014	571,946	No	222,946
243-7P	0.000	0.160	0.017	0.017	720,222	No	222,946
243-8E	0.000	0.145	0.014	0.014	571,946	No	222,946
243-8R	0.000	0.151	0.014	0.014	630,720	No	222,946
243-8R (D/S)	0.000	0.125	0.011	0.011	339,401	No	222,946
===>Grouped by Line: **HD26A-1-FWH23C to CV**					***Sorted By:Flow Order***		
3EXD-43N	0.000	0.109	0.014	0.014	304,527	No	222,946
3EXD-43P	0.000	0.174	0.017	0.017	938,150	No	222,946
3EXD-43	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-43P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-44	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-44P	0.000	0.194	0.017	0.017	1,143,778	Yes	222,946
3EXD-45	0.325	0.218	0.014	0.014	860,455	Yes	222,946
3EXD-45P	0.000	0.160	0.017	0.017	720,222	No	222,946
3EXD-46	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-46P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-47	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-47P	0.000	0.179	0.017	0.017	1,049,729	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD26A-1-FWH23C to CV**					***Sorted By:Flow Order***		
3EXD-48	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-48P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-49	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-49P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-50	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-50P US	0.000	0.179	0.017	0.017	1,049,729	No	222,946
3EXD-50P DS	0.000	0.241	0.017	0.017	1,450,688	No	222,946
3EXD-51	0.000	0.312	0.014	0.014	1,604,797	No	222,946
3EXD-51 (D/S)	0.000	0.399	0.014	0.014	2,073,138	No	222,946
3EXD-58P US	0.000	0.230	0.017	0.017	1,723,910	Yes	222,946
3EXD-58P DS	0.000	0.193	0.017	0.017	1,426,309	No	222,946
3EXD-58	0.000	0.145	0.014	0.014	571,946	No	222,946
3EXD-58P-1	0.000	0.219	0.017	0.017	1,305,276	Yes	222,946
3EXD-59	0.299	0.215	0.014	0.014	855,981	Yes	222,946
3EXD-59P US	0.000	0.223	0.017	0.017	1,331,115	Yes	222,946
3EXD-59P DS	0.000	0.221	0.017	0.017	1,318,195	Yes	222,946
3EXD-60	0.000	0.212	0.014	0.014	862,062	No	222,946
3EXD-60P	0.000	0.213	0.017	0.017	1,266,516	Yes	222,946
244-1P	0.000	0.179	0.017	0.017	1,049,729	No	222,946
244-2E	0.000	0.157	0.014	0.014	696,618	No	222,946
244-3P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
244-4E	0.000	0.157	0.014	0.014	696,618	No	222,946
244-5P	0.000	0.188	0.017	0.017	1,255,137	No	222,946
244-6E	0.000	0.145	0.014	0.014	571,946	No	222,946
244-7P	0.000	0.160	0.017	0.017	720,222	No	222,946
244-8E	0.000	0.145	0.014	0.014	571,946	No	222,946
244-8R	0.000	0.151	0.014	0.014	630,720	No	222,946
244-8R (D/S)	0.000	0.125	0.011	0.011	339,401	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 23 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.332

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:	**HD24A-1-FWH23A to CV**											***Sorted By: Flow Order***
3EXD-2P	0.000	43.6	61.0	43.6	61.0	0.230	MT	106,128	206.4	230.0	27.1	106,128
3EXD-2	0.000	64.5	59.0	64.5	59.0	0.230	MT	106,128	185.5	230.0	40.1	106,128
3EXD-2P-1 US	0.000	43.6	50.0	43.6	50.0	0.237	MT	106,128	206.4	237.0	27.1	106,128
3EXD-3P	0.000	43.6	50.0	43.6	50.0	0.231	MT	106,128	206.4	231.0	27.1	106,128
3EXD-4P	0.000	43.6	49.0	43.6	49.0	0.230	MT	106,128	206.4	230.0	27.1	106,128
3EXD-5	0.285	65.5	46.0	65.5	46.0	0.239	MT	106,128	219.5	239.0	40.8	106,128
3EXD-5P	0.000	43.6	58.0	43.6	58.0	0.227	MT	106,128	206.4	227.0	27.1	106,128
3EXD-6	0.000	94.5	68.0	94.5	68.0	0.261	MT	179,304	155.5	261.0	10.2	179,304
3EXD-6P DS	0.000	63.8	30.0	63.8	30.0	0.236	GW	179,257	186.2	236.0	6.9	179,257
3EXD-7	0.000	94.4	66.0	94.4	66.0	0.241	MT	179,257	155.6	241.0	10.2	179,257
3EXD-7P	0.000	63.8	38.0	63.8	38.0	0.239	GW	179,257	186.2	239.0	6.9	179,257
3EXD-8	0.000	94.4	45.0	94.4	45.0	0.257	GW	179,257	155.6	257.0	10.2	179,257
3EXD-8P	0.000	43.6	31.0	43.6	31.0	0.245	MT	106,128	206.4	245.0	27.1	106,128
3EXD-20P	0.000	34.8	54.0	34.8	54.0	0.229	MT	106,128	215.2	229.0	21.7	106,128
3EXD-20	0.299	65.9	66.0	65.9	66.0	0.233	MT	106,128	233.1	233.0	41.1	106,128
3EXD-20P-1 US	0.000	43.6	53.0	43.6	53.0	0.226	MT	106,128	206.4	226.0	27.1	106,128
3EXD-20P-1 DS	0.000	43.6	50.0	43.6	50.0	0.234	MT	106,128	206.4	234.0	27.1	106,128
3EXD-21P	0.000	43.6	47.0	43.6	47.0	0.238	MT	106,128	206.4	238.0	27.1	106,128
===>Grouped by Line:	**HD25A-1-FWH23B to CV**											***Sorted By: Flow Order***
3EXD-23P	0.000	47.0	47.0	47.0	47.0	0.231	MT	106,128	203.0	231.0	29.3	106,128
3EXD-23	0.278	65.3	47.0	65.3	47.0	0.247	MT	106,128	212.7	247.0	40.7	106,128
3EXD-24	0.309	66.2	45.0	66.2	45.0	0.264	MT	106,128	242.8	264.0	41.2	106,128
3EXD-26P	0.000	55.8	51.0	55.8	51.0	0.232	MT	106,128	194.2	232.0	34.7	106,128
3EXD-27	0.000	61.0	57.0	61.0	57.0	0.232	MT	106,128	189.0	232.0	38.0	106,128
3EXD-28P	0.000	43.6	55.0	43.6	55.0	0.250	MT	106,128	206.4	250.0	27.1	106,128
3EXD-29P	0.000	43.6	50.0	43.6	50.0	0.234	MT	106,128	206.4	234.0	27.1	106,128
3EXD-30	0.287	65.6	52.0	65.6	52.0	0.255	MT	106,128	221.4	255.0	40.8	106,128

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:	**HD25A-1-FWH23B to CV**											***Sorted By: Flow Order***
3EXD-30P	0.000	43.6	45.0	43.6	45.0	0.235	MT	106,128	206.4	235.0	27.1	106,128
3EXD-32P	0.000	43.6	35.0	43.6	35.0	0.241	MT	106,128	206.4	241.0	27.1	106,128
3EXD-33	0.292	65.7	57.0	65.7	57.0	0.235	MT	106,128	226.3	235.0	40.9	106,128
3EXD-33P US	0.000	43.6	47.0	43.6	47.0	0.238	MT	106,128	206.4	238.0	27.1	106,128
3EXD-33P DS	0.000	48.9	54.0	48.9	54.0	0.242	MT	119,088	201.1	242.0	21.8	119,088
3EXD-34	0.000	82.4	114.5	82.4	114.5	0.498	MT	209,806	167.6	498.0	2.4	209,806
3EXD-34 (D/S)	0.000	82.4	97.0	82.4	97.0	0.510	MT	209,806	167.6	510.0	2.4	209,806
3EXD-40P	0.000	39.1	27.0	39.1	27.0	0.243	MT	119,088	210.9	243.0	17.4	119,088
===>Grouped by Line:	**HD26A-1-FWH23C to CV**											***Sorted By: Flow Order***
3EXD-44P	0.000	43.6	46.0	43.6	46.0	0.221	MT	106,128	206.4	221.0	27.1	106,128
3EXD-45	0.325	66.7	65.0	66.7	65.0	0.260	MT	106,128	258.3	260.0	41.6	106,128
3EXD-58P US	0.000	44.9	55.0	44.9	55.0	0.242	MT	136,608	205.1	242.0	11.7	136,608
3EXD-58P-1	0.000	43.6	40.0	43.6	40.0	0.246	MT	106,128	206.4	246.0	27.1	106,128
3EXD-59	0.299	65.9	43.0	65.9	43.0	0.256	MT	106,128	233.1	256.0	41.1	106,128
3EXD-59P US	0.000	43.6	37.0	43.6	37.0	0.250	MT	106,128	206.4	250.0	27.1	106,128
3EXD-59P DS	0.000	43.6	58.0	43.6	58.0	0.248	MT	106,128	206.4	248.0	27.1	106,128
3EXD-60P	0.000	43.6	58.0	43.6	58.0	0.240	MT	106,128	206.4	240.0	27.1	106,128

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/23/2010 1:38:55PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.230

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD21A-2-FWH24A CV to FWH23A***								***Sorted By: Average Wear Rate***		
4EXD-VALVE- LCV-1115	24	20.744	10.006	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-4	12	6.448	3.145	263.5	4.100	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-4 (D/S)	12	6.345	3.095	263.5	4.030	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1N	30	5.673	2.767	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1	4	5.352	2.611	263.5	3.747	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1-1	1	4.680	2.283	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1P	54	4.538	2.214	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-4P	62	2.836	1.384	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-5	18	0.006	0.005	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-5 (D/S)	18	0.002	0.002	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD22A-2-FWH24B CV to FWH23B***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-LCV-1116	24	20.744	10.006	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-37	12	6.448	3.145	263.5	4.100	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-37 (D/S)	12	6.268	3.058	263.5	3.977	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-38	18	5.765	5.603	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-2N	30	5.673	2.767	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2	4	5.247	2.560	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2-1	1	4.680	2.283	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2P	54	4.538	2.214	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-37P US	62	2.836	1.384	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-38 (D/S)	18	2.125	2.075	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD23A-2-FWH24C CV to FWH23C***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-LCV-1117	24	20.744	10.006	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-59	18	11.617	5.603	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-58 (D/S)	12	6.592	3.216	263.5	4.199	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-58	12	6.465	3.153	263.5	4.112	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-3N	30	5.673	2.767	263.5	3.669	0.0	6.625	7.015	0.000	11.97	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:	***HD23A-2-FWH24C CV to FWH23C***								***Sorted By: Average Wear Rate***		
4EXD-3	4	5.247	2.560	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-3-1	1	4.680	2.283	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-3P	54	4.538	2.214	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-59 (D/S)	18	4.254	2.075	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-58P	62	2.836	1.384	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 1:38:55PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.230

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD21A-2-FWH24A CV to FWH23A***									***Sorted By: Flow Order***	
4EXD-4 (D/S)	12	6.345	3.095	263.5	4.030	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-4P	62	2.836	1.384	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1-1	1	4.680	2.283	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1	4	5.352	2.611	263.5	3.747	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1P	54	4.538	2.214	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-1N	30	5.673	2.767	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-VALVE- LCV-1115	24	20.744	10.006	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-5	18	0.006	0.005	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-5 (D/S)	18	0.002	0.002	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-4	12	6.448	3.145	263.5	4.100	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD22A-2-FWH24B CV to FWH23B***									***Sorted By: Flow Order***	
4EXD-37 (D/S)	12	6.268	3.058	263.5	3.977	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2-1	1	4.680	2.283	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-37P US	62	2.836	1.384	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2	4	5.247	2.560	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2P	54	4.538	2.214	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-2N	30	5.673	2.767	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-VALVE-LCV-1116	24	20.744	10.006	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-38	18	5.765	5.603	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-38 (D/S)	18	2.125	2.075	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-37	12	6.448	3.145	263.5	4.100	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD23A-2-FWH24C CV to FWH23C***									***Sorted By: Flow Order***	
4EXD-58 (D/S)	12	6.592	3.216	263.5	4.199	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-58P	62	2.836	1.384	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-3-1	1	4.680	2.283	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-3	4	5.247	2.560	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-3P	54	4.538	2.214	263.5	3.669	0.0	6.625	7.015	0.000	11.97	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:	***HD23A-2-FWH24C CV to FWH23C***									***Sorted By: Flow Order***	
4EXD-3N	30	5.673	2.767	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-VALVE-LCV-1117	24	20.744	10.006	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-59	18	11.617	5.603	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-59 (D/S)	18	4.254	2.075	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-58	12	6.465	3.153	263.5	4.112	0.0	6.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/23/2010 1:38:55PM

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.230

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD21A-2-FWH24A CV to FWH23A**					***Sorted By:Remaining Life***		
4EXD-VALVE- LCV-1115	0.000	-0.312	0.012	0.012	-156,653	No	222,946
4EXD-1N	0.000	0.136	0.022	0.022	359,652	No	222,946
4EXD-1	0.312	0.200	0.022	0.022	596,376	Yes	222,946
4EXD-1-1	0.000	0.183	0.022	0.022	618,899	Yes	222,946
4EXD-4	0.444	0.289	0.022	0.022	743,073	Yes	222,946
4EXD-1P	0.000	0.221	0.026	0.026	771,179	Yes	222,946
4EXD-4 (D/S)	0.419	0.323	0.022	0.022	852,357	Yes	222,946
4EXD-4P	0.000	0.217	0.026	0.026	1,208,607	No	222,946
4EXD-5 (D/S)	0.000	0.280	0.026	0.026	100,000,000	No	86,338
4EXD-5	0.000	0.216	0.014	0.014	100,000,000	No	86,338
===>Grouped by Line: **HD22A-2-FWH24B CV to FWH23B**					***Sorted By:Remaining Life***		
4EXD-VALVE-LCV-1116	0.000	-0.312	0.012	0.012	-156,653	No	222,946
4EXD-2N	0.000	0.136	0.022	0.022	359,652	No	222,946
4EXD-38	0.000	0.270	0.012	0.012	404,201	Yes	73,373
4EXD-2	0.000	0.146	0.022	0.022	425,870	No	222,946
4EXD-2-1	0.000	0.161	0.022	0.022	532,888	No	222,946
4EXD-2P	0.000	0.165	0.026	0.026	548,890	No	222,946
4EXD-37 (D/S)	0.400	0.300	0.022	0.022	797,622	Yes	222,946
4EXD-37	0.444	0.316	0.022	0.022	818,270	Yes	222,946
4EXD-38 (D/S)	0.000	0.246	0.022	0.022	946,783	Yes	73,373
4EXD-37P US	0.000	0.219	0.026	0.026	1,221,270	Yes	222,946
===>Grouped by Line: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Remaining Life***		
4EXD-VALVE-LCV-1117	0.000	-0.312	0.012	0.012	-156,653	No	222,946
4EXD-59	0.000	0.103	0.012	0.012	143,006	No	222,946
4EXD-3N	0.000	0.136	0.022	0.022	359,652	No	222,946
4EXD-3	0.000	0.146	0.022	0.022	425,870	No	222,946
4EXD-3-1	0.000	0.161	0.022	0.022	532,888	No	222,946
4EXD-3P	0.000	0.165	0.026	0.026	548,890	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Remaining Life***		
4EXD-58	0.448	0.252	0.022	0.022	639,597	Yes	222,946
4EXD-58 (D/S)	0.478	0.289	0.022	0.022	727,973	Yes	222,946
4EXD-59 (D/S)	0.000	0.223	0.022	0.022	846,690	No	222,946
4EXD-58P	0.000	0.208	0.026	0.026	1,152,442	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.230

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD21A-2-FWH24A CV to FWH23A**					***Sorted By:Flow Order***		
4EXD-4 (D/S)	0.419	0.323	0.022	0.022	852,357	Yes	222,946
4EXD-4P	0.000	0.217	0.026	0.026	1,208,607	No	222,946
4EXD-1-1	0.000	0.183	0.022	0.022	618,899	Yes	222,946
4EXD-1	0.312	0.200	0.022	0.022	596,376	Yes	222,946
4EXD-1P	0.000	0.221	0.026	0.026	771,179	Yes	222,946
4EXD-1N	0.000	0.136	0.022	0.022	359,652	No	222,946
4EXD-VALVE- LCV-1115	0.000	-0.312	0.012	0.012	-156,653	No	222,946
4EXD-5	0.000	0.216	0.014	0.014	100,000,000	No	86,338
4EXD-5 (D/S)	0.000	0.280	0.026	0.026	100,000,000	No	86,338
4EXD-4	0.444	0.289	0.022	0.022	743,073	Yes	222,946
===>Grouped by Line: **HD22A-2-FWH24B CV to FWH23B**					***Sorted By:Flow Order***		
4EXD-37 (D/S)	0.400	0.300	0.022	0.022	797,622	Yes	222,946
4EXD-2-1	0.000	0.161	0.022	0.022	532,888	No	222,946
4EXD-37P US	0.000	0.219	0.026	0.026	1,221,270	Yes	222,946
4EXD-2	0.000	0.146	0.022	0.022	425,870	No	222,946
4EXD-2P	0.000	0.165	0.026	0.026	548,890	No	222,946
4EXD-2N	0.000	0.136	0.022	0.022	359,652	No	222,946
4EXD-VALVE-LCV-1116	0.000	-0.312	0.012	0.012	-156,653	No	222,946
4EXD-38	0.000	0.270	0.012	0.012	404,201	Yes	73,373
4EXD-38 (D/S)	0.000	0.246	0.022	0.022	946,783	Yes	73,373
4EXD-37	0.444	0.316	0.022	0.022	818,270	Yes	222,946
===>Grouped by Line: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Flow Order***		
4EXD-58 (D/S)	0.478	0.289	0.022	0.022	727,973	Yes	222,946
4EXD-58P	0.000	0.208	0.026	0.026	1,152,442	No	222,946
4EXD-3-1	0.000	0.161	0.022	0.022	532,888	No	222,946
4EXD-3	0.000	0.146	0.022	0.022	425,870	No	222,946
4EXD-3P	0.000	0.165	0.026	0.026	548,890	No	222,946
4EXD-3N	0.000	0.136	0.022	0.022	359,652	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD23A-2-FWH24C CV to FWH23C**					***Sorted By:Flow Order***		
4EXD-VALVE-LCV-1117	0.000	-0.312	0.012	0.012	-156,653	No	222,946
4EXD-59	0.000	0.103	0.012	0.012	143,006	No	222,946
4EXD-59 (D/S)	0.000	0.223	0.022	0.022	846,690	No	222,946
4EXD-58	0.448	0.252	0.022	0.022	639,597	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 24 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.230

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:	**HD21A-2-FWH24A CV to FWH23A**											***Sorted By: Flow Order***
4EXD-4 (D/S)	0.419	140.6	75.0	140.6	75.0	0.344	MT	165,113	278.4	344.0	20.8	165,113
4EXD-1-1	0.000	73.4	78.0	73.4	78.0	0.229	MT	106,128	206.6	229.0	45.7	106,128
4EXD-1	0.312	84.0	60.0	84.0	60.0	0.252	MT	106,128	228.0	252.0	52.2	106,128
4EXD-1P	0.000	112.2	60.0	112.2	60.0	0.224	MT	209,806	167.8	224.0	3.3	209,806
4EXD-4	0.444	142.9	134.0	142.9	134.0	0.310	MT	165,113	301.1	310.0	21.2	165,113
===>Grouped by Line:	**HD22A-2-FWH24B CV to FWH23B**											***Sorted By: Flow Order***
4EXD-37 (D/S)	0.400	138.9	79.0	138.9	79.0	0.321	MT	165,113	261.1	321.0	20.6	165,113
4EXD-37P US	0.000	62.9	140.0	62.9	140.0	0.228	MT	165,113	217.1	228.0	9.3	165,113
4EXD-38	0.000	266.8	324.0	19.5	50.0	0.299	MT	178,596	196.5	299.0	28.8	178,596
4EXD-38 (D/S)	0.000	97.6	217.0	7.1	62.0	0.257	MT	178,596	272.9	257.0	10.7	178,596
4EXD-37	0.444	142.9	107.0	142.9	107.0	0.337	MT	165,113	301.1	337.0	21.2	165,113
===>Grouped by Line:	**HD23A-2-FWH24C CV to FWH23C**											***Sorted By: Flow Order***
4EXD-58 (D/S)	0.478	116.0	137.0	116.0	137.0	0.341	MT	119,088	362.0	341.0	51.7	119,088
4EXD-58	0.448	113.8	145.0	113.8	145.0	0.303	MT	119,088	334.2	303.0	50.7	119,088

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:23:37PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.131

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD21A-1-FWH24A to CV***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-4EX-8	22	13.661	6.589	263.5	8.434	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-6 (D/S)	7	12.206	5.888	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-6P	57	9.536	4.600	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-6	7	9.485	4.575	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-7 (D/S)	16	8.401	4.052	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-13N	31	6.519	3.180	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-11	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-10	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-9	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-8	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-12	3	4.564	2.226	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13T (D/S)	15	3.912	1.908	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13T	15	3.912	1.908	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13P	61	3.520	1.717	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-11P	53	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-10P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-9P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-8P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-7P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-7	16	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13P-1	65	2.608	1.272	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD22A-1-FWH24B to CV***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-4EX-8-1	22	13.661	6.589	263.5	8.434	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-39 (D/S)	7	12.206	5.888	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-39P	57	9.536	4.600	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-39	7	9.485	4.575	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-40 (D/S)	16	8.401	4.052	263.5	8.326	0.0	4.500	7.015	0.000	11.97	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:	***HD22A-1-FWH24B to CV***								***Sorted By: Average Wear Rate***		
4EXD-48N	31	6.519	3.180	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-47 (D/S)	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-47	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-46	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-45	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-43	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-42	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-41	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-44	3	4.564	2.226	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-48	1	4.303	2.099	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-48P	61	3.520	1.717	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-45P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-44P	53	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-42P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-41P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40P US	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40P DS	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40	16	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-47P	51	2.869	1.399	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-46P	62	2.608	1.272	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD23A-1-FWH24C to CV***								***Sorted By: Average Wear Rate***		
4EXD-VALVE-4EX-8-2	22	13.661	6.589	263.5	8.434	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-60 (D/S)	7	12.206	5.888	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-60P	57	9.536	4.600	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-60	7	9.485	4.575	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-61 (D/S)	16	8.401	4.052	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-71N	31	6.519	3.180	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-69 (D/S)	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-69	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-67	2	4.908	2.394	263.5	3.737	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-68	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-71	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-70	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-66	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-65	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-64	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	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:	***HD23A-1-FWH24C to CV***								***Sorted By: Average Wear Rate***		
4EXD-63	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-62	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-71P	61	3.520	1.717	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-70P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-67P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-66P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-65P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-64P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-63P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-62P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-61P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-61	16	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-69P	62	2.608	1.272	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:37PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.131

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD21A-1-FWH24A to CV***									***Sorted By: Flow Order***	
4EXD-13N	31	6.519	3.180	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13P	61	3.520	1.717	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13T	15	3.912	1.908	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13T (D/S)	15	3.912	1.908	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13P-1	65	2.608	1.272	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-13	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-12	3	4.564	2.226	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-11P	53	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-11	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-10P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-10	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-9P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-9	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-8P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-8	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-7P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-7	16	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-7 (D/S)	16	8.401	4.052	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-VALVE-4EX-8	22	13.661	6.589	263.5	8.434	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-6	7	9.485	4.575	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-6 (D/S)	7	12.206	5.888	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-6P	57	9.536	4.600	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD22A-1-FWH24B to CV***									***Sorted By: Flow Order***	
4EXD-48N	31	6.519	3.180	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-48P	61	3.520	1.717	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-48	1	4.303	2.099	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-47P	51	2.869	1.399	263.5	3.669	0.0	6.625	7.015	0.000	11.97	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:	***HD22A-1-FWH24B to CV***									***Sorted By: Flow Order***	
4EXD-47	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-47 (D/S)	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-46P	62	2.608	1.272	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-46	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-45P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-45	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-44	3	4.564	2.226	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-44P	53	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-43	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-42P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-42	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-41P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-41	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40P US	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40P DS	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40	16	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-40 (D/S)	16	8.401	4.052	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-VALVE-4EX-8-1	22	13.661	6.589	263.5	8.434	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-39	7	9.485	4.575	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-39 (D/S)	7	12.206	5.888	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-39P	57	9.536	4.600	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
===>Grouped by Line:	***HD23A-1-FWH24C to CV***									***Sorted By: Flow Order***	
4EXD-71N	31	6.519	3.180	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-71P	61	3.520	1.717	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-71	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-70P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-70	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-69	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-69 (D/S)	12	5.346	2.608	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-69P	62	2.608	1.272	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-68	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-67P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-67	2	4.908	2.394	263.5	3.737	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-66P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-66	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-65P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	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:	***HD23A-1-FWH24C to CV***									***Sorted By: Flow Order***	
4EXD-65	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-64P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-64	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-63P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-63	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-62P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-62	2	4.824	2.353	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-61P	52	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-61	16	3.260	1.590	263.5	3.669	0.0	6.625	7.015	0.000	11.97	ARD
4EXD-61 (D/S)	16	8.401	4.052	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-VALVE-4EX-8-2	22	13.661	6.589	263.5	8.434	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-60	7	9.485	4.575	263.5	8.326	0.0	4.500	7.015	0.000	11.97	ARD
4EXD-60 (D/S)	7	12.206	5.888	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD
4EXD-60P	57	9.536	4.600	263.5	14.337	0.0	3.500	7.015	0.000	11.97	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:37PM

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.131

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD21A-1-FWH24A to CV**					***Sorted By:Remaining Life***		
4EXD-VALVE-4EX-8	0.000	-0.111	0.016	0.016	-113,657	No	222,946
4EXD-13N	0.000	0.114	0.022	0.022	253,566	No	222,946
4EXD-7 (D/S)	0.000	0.185	0.015	0.015	368,168	No	222,946
4EXD-6	0.000	0.212	0.015	0.015	377,543	No	222,946
4EXD-6 (D/S)	0.000	0.267	0.012	0.012	380,196	No	222,946
4EXD-9	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-11	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-10	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-6P	0.000	0.281	0.012	0.012	512,915	No	222,946
4EXD-12	0.000	0.187	0.022	0.022	650,938	Yes	222,946
4EXD-13	0.000	0.203	0.022	0.022	673,277	Yes	222,946
4EXD-8	0.000	0.205	0.022	0.022	681,622	Yes	222,946
4EXD-13T	0.000	0.180	0.022	0.022	727,297	No	222,946
4EXD-13T (D/S)	0.000	0.180	0.022	0.022	727,297	No	222,946
4EXD-13P	0.000	0.190	0.026	0.026	839,639	No	222,946
4EXD-9P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-10P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-7P	0.000	0.217	0.026	0.026	1,055,652	Yes	222,946
4EXD-8P	0.000	0.217	0.026	0.026	1,055,652	Yes	222,946
4EXD-11P	0.000	0.228	0.026	0.026	1,114,904	Yes	222,946
4EXD-7	0.000	0.237	0.022	0.022	1,186,622	No	222,946
4EXD-13P-1	0.000	0.233	0.026	0.026	1,423,687	Yes	222,946
===>Grouped by Line: **HD22A-1-FWH24B to CV**					***Sorted By:Remaining Life***		
4EXD-VALVE-4EX-8-1	0.000	-0.111	0.016	0.016	-113,657	No	222,946
4EXD-48N	0.000	0.114	0.022	0.022	253,566	No	222,946
4EXD-39 (D/S)	0.000	0.203	0.012	0.012	285,115	No	222,946
4EXD-39	0.000	0.180	0.015	0.015	315,195	No	222,946
4EXD-39P	0.000	0.226	0.014	0.014	405,115	No	222,946
4EXD-47	0.000	0.144	0.022	0.022	409,550	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD22A-1-FWH24B to CV**					***Sorted By:Remaining Life***		
4EXD-47 (D/S)	0.000	0.144	0.022	0.022	409,550	No	222,946
4EXD-46	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-45	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-43	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-40 (D/S)	0.000	0.253	0.015	0.015	514,426	No	222,946
4EXD-44	0.000	0.164	0.022	0.022	558,107	No	222,946
4EXD-42	0.000	0.188	0.022	0.022	617,442	Yes	222,946
4EXD-48	0.000	0.170	0.022	0.022	619,630	No	222,946
4EXD-41	0.000	0.236	0.022	0.022	797,014	No	222,946
4EXD-48P	0.000	0.190	0.026	0.026	839,639	No	222,946
4EXD-44P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-42P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-40P US	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-45P	0.000	0.222	0.026	0.026	1,081,850	Yes	222,946
4EXD-40P DS	0.000	0.227	0.026	0.026	1,109,395	No	222,946
4EXD-41P	0.000	0.229	0.026	0.026	1,121,760	Yes	222,946
4EXD-46P	0.000	0.214	0.026	0.026	1,293,474	No	222,946
4EXD-47P	0.000	0.234	0.026	0.026	1,303,364	Yes	222,946
4EXD-40	0.000	0.272	0.022	0.022	1,374,999	No	222,946
===>Grouped by Line: **HD23A-1-FWH24C to CV**					***Sorted By:Remaining Life***		
4EXD-VALVE-4EX-8-2	0.000	-0.111	0.016	0.016	-113,657	No	222,946
4EXD-60P	0.000	-0.027	0.014	0.014	-74,251	No	222,946
4EXD-71N	0.000	0.114	0.022	0.022	253,566	No	222,946
4EXD-60	0.000	0.156	0.015	0.015	270,296	No	222,946
4EXD-60 (D/S)	0.000	0.261	0.012	0.012	371,269	No	222,946
4EXD-69	0.000	0.144	0.022	0.022	409,550	No	222,946
4EXD-69 (D/S)	0.000	0.144	0.022	0.022	409,550	No	222,946
4EXD-68	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-66	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-65	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-64	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-62	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-61 (D/S)	0.000	0.249	0.015	0.015	505,779	Yes	222,946
4EXD-63	0.000	0.192	0.022	0.022	632,331	Yes	222,946
4EXD-71	0.000	0.198	0.022	0.022	654,665	Yes	222,946
4EXD-67	0.308	0.214	0.022	0.022	702,664	Yes	222,946
4EXD-70	0.000	0.229	0.022	0.022	770,057	No	222,946
4EXD-67P	0.000	0.197	0.026	0.026	943,373	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **HD23A-1-FWH24C to CV**					***Sorted By:Remaining Life***		
4EXD-66P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-65P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-64P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-63P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-62P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-61P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-71P	0.000	0.226	0.026	0.026	1,019,332	Yes	222,946
4EXD-70P	0.000	0.254	0.026	0.026	1,255,047	Yes	222,946
4EXD-69P	0.000	0.214	0.026	0.026	1,293,474	No	222,946
4EXD-61	0.000	0.284	0.022	0.022	1,441,107	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.131

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD21A-1-FWH24A to CV**					***Sorted By:Flow Order***		
4EXD-13N	0.000	0.114	0.022	0.022	253,566	No	222,946
4EXD-13P	0.000	0.190	0.026	0.026	839,639	No	222,946
4EXD-13T	0.000	0.180	0.022	0.022	727,297	No	222,946
4EXD-13T (D/S)	0.000	0.180	0.022	0.022	727,297	No	222,946
4EXD-13P-1	0.000	0.233	0.026	0.026	1,423,687	Yes	222,946
4EXD-13	0.000	0.203	0.022	0.022	673,277	Yes	222,946
4EXD-12	0.000	0.187	0.022	0.022	650,938	Yes	222,946
4EXD-11P	0.000	0.228	0.026	0.026	1,114,904	Yes	222,946
4EXD-11	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-10P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-10	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-9P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-9	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-8P	0.000	0.217	0.026	0.026	1,055,652	Yes	222,946
4EXD-8	0.000	0.205	0.022	0.022	681,622	Yes	222,946
4EXD-7P	0.000	0.217	0.026	0.026	1,055,652	Yes	222,946
4EXD-7	0.000	0.237	0.022	0.022	1,186,622	No	222,946
4EXD-7 (D/S)	0.000	0.185	0.015	0.015	368,168	No	222,946
4EXD-VALVE-4EX-8	0.000	-0.111	0.016	0.016	-113,657	No	222,946
4EXD-6	0.000	0.212	0.015	0.015	377,543	No	222,946
4EXD-6 (D/S)	0.000	0.267	0.012	0.012	380,196	No	222,946
4EXD-6P	0.000	0.281	0.012	0.012	512,915	No	222,946
===>Grouped by Line: **HD22A-1-FWH24B to CV**					***Sorted By:Flow Order***		
4EXD-48N	0.000	0.114	0.022	0.022	253,566	No	222,946
4EXD-48P	0.000	0.190	0.026	0.026	839,639	No	222,946
4EXD-48	0.000	0.170	0.022	0.022	619,630	No	222,946
4EXD-47P	0.000	0.234	0.026	0.026	1,303,364	Yes	222,946
4EXD-47	0.000	0.144	0.022	0.022	409,550	No	222,946
4EXD-47 (D/S)	0.000	0.144	0.022	0.022	409,550	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD22A-1-FWH24B to CV**					***Sorted By:Flow Order***		
4EXD-46P	0.000	0.214	0.026	0.026	1,293,474	No	222,946
4EXD-46	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-45P	0.000	0.222	0.026	0.026	1,081,850	Yes	222,946
4EXD-45	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-44	0.000	0.164	0.022	0.022	558,107	No	222,946
4EXD-44P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-43	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-42P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-42	0.000	0.188	0.022	0.022	617,442	Yes	222,946
4EXD-41P	0.000	0.229	0.026	0.026	1,121,760	Yes	222,946
4EXD-41	0.000	0.236	0.022	0.022	797,014	No	222,946
4EXD-40P US	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-40P DS	0.000	0.227	0.026	0.026	1,109,395	No	222,946
4EXD-40	0.000	0.272	0.022	0.022	1,374,999	No	222,946
4EXD-40 (D/S)	0.000	0.253	0.015	0.015	514,426	No	222,946
4EXD-VALVE-4EX-8-1	0.000	-0.111	0.016	0.016	-113,657	No	222,946
4EXD-39	0.000	0.180	0.015	0.015	315,195	No	222,946
4EXD-39 (D/S)	0.000	0.203	0.012	0.012	285,115	No	222,946
4EXD-39P	0.000	0.226	0.014	0.014	405,115	No	222,946
===>Grouped by Line: **HD23A-1-FWH24C to CV**					***Sorted By:Flow Order***		
4EXD-71N	0.000	0.114	0.022	0.022	253,566	No	222,946
4EXD-71P	0.000	0.226	0.026	0.026	1,019,332	Yes	222,946
4EXD-71	0.000	0.198	0.022	0.022	654,665	Yes	222,946
4EXD-70P	0.000	0.254	0.026	0.026	1,255,047	Yes	222,946
4EXD-70	0.000	0.229	0.022	0.022	770,057	No	222,946
4EXD-69	0.000	0.144	0.022	0.022	409,550	No	222,946
4EXD-69 (D/S)	0.000	0.144	0.022	0.022	409,550	No	222,946
4EXD-69P	0.000	0.214	0.026	0.026	1,293,474	No	222,946
4EXD-68	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-67P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-67	0.308	0.214	0.022	0.022	702,664	Yes	222,946
4EXD-66P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-66	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-65P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-65	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-64P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-64	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-63P	0.000	0.197	0.026	0.026	943,373	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD23A-1-FWH24C to CV**					***Sorted By:Flow Order***		
4EXD-63	0.000	0.192	0.022	0.022	632,331	Yes	222,946
4EXD-62P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-62	0.000	0.157	0.022	0.022	503,235	No	222,946
4EXD-61P	0.000	0.197	0.026	0.026	943,373	No	222,946
4EXD-61	0.000	0.284	0.022	0.022	1,441,107	No	222,946
4EXD-61 (D/S)	0.000	0.249	0.015	0.015	505,779	Yes	222,946
4EXD-VALVE-4EX-8-2	0.000	-0.111	0.016	0.016	-113,657	No	222,946
4EXD-60	0.000	0.156	0.015	0.015	270,296	No	222,946
4EXD-60 (D/S)	0.000	0.261	0.012	0.012	371,269	No	222,946
4EXD-60P	0.000	-0.027	0.014	0.014	-74,251	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 24 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.131

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:	**HD21A-1-FWH24A to CV**											***Sorted By: Flow Order***
4EXD-13P-1	0.000	40.9	71.0	40.9	71.0	0.258	MT	106,128	239.1	258.0	25.5	106,128
4EXD-13	0.000	75.7	68.0	75.7	68.0	0.250	MT	106,128	204.3	250.0	47.1	106,128
4EXD-12	0.000	71.6	68.0	71.6	68.0	0.232	MT	106,128	208.4	232.0	44.6	106,128
4EXD-11P	0.000	51.1	49.0	51.1	49.0	0.260	MT	106,128	228.9	260.0	31.8	106,128
4EXD-8P	0.000	57.4	67.0	57.4	67.0	0.243	MT	119,088	222.6	243.0	25.6	119,088
4EXD-8	0.000	84.9	80.0	84.9	80.0	0.243	MT	119,088	195.1	243.0	37.9	119,088
4EXD-7P	0.000	57.4	74.0	57.4	74.0	0.243	MT	119,088	222.6	243.0	25.6	119,088
===>Grouped by Line:	**HD22A-1-FWH24B to CV**											***Sorted By: Flow Order***
4EXD-47P	0.000	45.0	45.0	45.0	45.0	0.262	MT	106,128	235.0	262.0	28.0	106,128
4EXD-45P	0.000	51.1	40.0	51.1	40.0	0.254	MT	106,128	228.9	254.0	31.8	106,128
4EXD-42	0.000	75.7	79.0	75.7	79.0	0.235	MT	106,128	204.3	235.0	47.1	106,128
4EXD-41P	0.000	57.4	69.0	57.4	69.0	0.255	MT	119,088	222.6	255.0	25.6	119,088
===>Grouped by Line:	**HD23A-1-FWH24C to CV**											***Sorted By: Flow Order***
4EXD-71P	0.000	55.2	62.0	55.2	62.0	0.260	MT	106,128	224.8	260.0	34.4	106,128
4EXD-71	0.000	75.7	82.0	75.7	82.0	0.245	MT	106,128	204.3	245.0	47.1	106,128
4EXD-70P	0.000	35.5	84.0	35.5	84.0	0.256	MT	209,806	199.4	256.0	2.4	209,806
4EXD-67	0.308	77.0	46.0	77.0	46.0	0.262	MT	106,128	231.0	262.0	47.9	106,128
4EXD-63	0.000	75.7	68.0	75.7	68.0	0.239	MT	106,128	204.3	239.0	47.1	106,128
4EXD-61 (D/S)	0.000	207.7	109.0	207.7	109.0	0.255	MT	209,806	29.3	255.0	6.1	209,806

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:23:47PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.922

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD9-1-FWH25A to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-VALVE-5EX-8	22	3.911	1.635	386.3	3.438	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-21N	31	3.735	1.562	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20N	30	2.988	1.249	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-15	4	2.825	1.181	386.3	3.350	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20	2	2.819	1.179	386.3	3.342	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-17	2	2.810	1.175	386.3	3.330	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-21	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-16	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-18	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-19	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-16P	54	2.391	0.999	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-21P	61	2.017	0.843	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-15P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-17P US	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-17P DS	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-18P	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-19P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20P	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20P DS	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
===>Grouped by Line:	***HD9-2-FWH25B to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-VALVE-5EX-8-1	22	3.911	1.635	386.3	3.438	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-9N	31	3.735	1.562	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14N	30	2.988	1.249	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-10	2	2.824	1.181	386.3	3.349	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-9	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-11	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-12	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-13	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	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:	***HD9-2-FWH25B to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-14	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-9P	61	2.017	0.843	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-10P DS	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-11P US	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-12P	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-13P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14P	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14P DS	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
===>Grouped by Line:	***HD9-3-FWH25C to HTR DRN TK***								***Sorted By: Average Wear Rate***		
5EXD-VALVE-5EX-8-2	22	3.911	1.635	386.3	3.438	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-1N	31	3.735	1.562	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-8N	30	2.988	1.249	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-3	2	2.811	1.175	386.3	3.332	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-5	2	2.810	1.175	386.3	3.330	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-4	2	2.800	1.170	386.3	3.317	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-6	2	2.800	1.170	386.3	3.317	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-7	4	2.794	1.168	386.3	3.311	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-1	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-2	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-8	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-8P	54	2.391	0.999	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-1P	61	2.017	0.843	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-2P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-3P US	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-3P DS	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-4P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-5P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-6P	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:47PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.922

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD9-1-FWH25A to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-21N	31	3.735	1.562	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-21P	61	2.017	0.843	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-21	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-15P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-15	4	2.825	1.181	386.3	3.350	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-16P	54	2.391	0.999	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-16	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-17P US	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-17P DS	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-17	2	2.810	1.175	386.3	3.330	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-18P	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-18	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-19P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-19	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20P	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20P DS	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20	2	2.819	1.179	386.3	3.342	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-VALVE-5EX-8	22	3.911	1.635	386.3	3.438	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-20N	30	2.988	1.249	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
===>Grouped by Line:	***HD9-2-FWH25B to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-9N	31	3.735	1.562	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-9P	61	2.017	0.843	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-9	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-10P DS	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-10	2	2.824	1.181	386.3	3.349	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-11P US	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-11	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	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:	***HD9-2-FWH25B to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-12P	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-12	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-13P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-13	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14P	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14P DS	52	1.868	0.781	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-VALVE-5EX-8-1	22	3.911	1.635	386.3	3.438	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-14N	30	2.988	1.249	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
===>Grouped by Line:	***HD9-3-FWH25C to HTR DRN TK***									***Sorted By: Flow Order***	
5EXD-1N	31	3.735	1.562	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-1P	61	2.017	0.843	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-3	2	2.811	1.175	386.3	3.332	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-2P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-4	2	2.800	1.170	386.3	3.317	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-3P US	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-3P DS	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-5	2	2.810	1.175	386.3	3.330	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-4P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-1	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-5P	52	1.868	0.781	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-2	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-6P	52	1.868	0.781	386.3	3.315	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-6	2	2.800	1.170	386.3	3.317	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-7	4	2.794	1.168	386.3	3.311	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-8P	54	2.391	0.999	386.3	3.298	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-8	2	2.764	1.156	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-VALVE-5EX-8-2	22	3.911	1.635	386.3	3.438	0.0	10.750	6.784	0.000	53.98	ARD
5EXD-8N	30	2.988	1.249	386.3	3.272	0.0	10.750	6.784	0.000	53.98	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:47PM

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.922

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD9-1-FWH25A to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-VALVE-5EX-8	0.000	0.150	0.095	0.095	295,594	No	222,946
5EXD-21N	0.000	0.155	0.089	0.089	369,957	No	222,946
5EXD-20N	0.000	0.174	0.089	0.089	595,771	No	222,946
5EXD-21	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-18	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-20P	0.000	0.169	0.104	0.104	725,501	Yes	222,946
5EXD-21P	0.000	0.199	0.104	0.104	981,730	No	222,946
5EXD-19	0.000	0.219	0.089	0.089	988,685	Yes	222,946
5EXD-16	0.000	0.220	0.089	0.089	996,266	Yes	222,946
5EXD-20	0.304	0.230	0.089	0.089	1,047,375	Yes	222,946
5EXD-16P	0.000	0.225	0.104	0.104	1,060,882	Yes	222,946
5EXD-15	0.310	0.236	0.089	0.089	1,087,327	Yes	222,946
5EXD-19P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-17	0.295	0.241	0.089	0.089	1,133,283	Yes	222,946
5EXD-20P DS	0.000	0.220	0.104	0.104	1,296,347	No	222,946
5EXD-17P US	0.000	0.221	0.104	0.104	1,307,567	Yes	222,946
5EXD-17P DS	0.000	0.226	0.104	0.104	1,363,666	Yes	222,946
5EXD-15P	0.000	0.226	0.104	0.104	1,368,318	Yes	222,946
5EXD-18P	0.000	0.233	0.104	0.104	1,441,577	Yes	222,946
===>Grouped by Line: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-VALVE-5EX-8-1	0.000	0.150	0.095	0.095	295,594	No	222,946
5EXD-9N	0.000	0.155	0.089	0.089	369,957	No	222,946
5EXD-14N	0.000	0.174	0.089	0.089	595,771	No	222,946
5EXD-14P	0.000	0.163	0.104	0.104	664,585	Yes	222,946
5EXD-9	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-11	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-12	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-13	0.000	0.215	0.089	0.089	958,361	Yes	222,946
5EXD-14	0.000	0.215	0.089	0.089	958,361	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-14P DS	0.000	0.191	0.104	0.104	970,971	No	222,946
5EXD-9P	0.000	0.199	0.104	0.104	981,730	No	222,946
5EXD-12P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-13P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-10	0.309	0.267	0.089	0.089	1,317,758	Yes	222,946
5EXD-11P US	0.000	0.232	0.104	0.104	1,435,637	Yes	222,946
5EXD-10P DS	0.000	0.233	0.104	0.104	1,446,857	Yes	222,946
===>Grouped by Line: **HD9-3-FWH25C to HTR DRN TK**					***Sorted By:Remaining Life***		
5EXD-VALVE-5EX-8-2	0.000	0.150	0.095	0.095	295,594	No	222,946
5EXD-1N	0.000	0.155	0.089	0.089	369,957	No	222,946
5EXD-8N	0.000	0.174	0.089	0.089	595,771	No	222,946
5EXD-1	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-8	0.000	0.202	0.089	0.089	859,808	Yes	222,946
5EXD-2	0.000	0.213	0.089	0.089	939,144	Yes	222,946
5EXD-3	0.296	0.218	0.089	0.089	958,263	Yes	222,946
5EXD-8P	0.000	0.223	0.104	0.104	1,041,471	Yes	222,946
5EXD-7	0.280	0.232	0.089	0.089	1,073,280	Yes	222,946
5EXD-4	0.285	0.234	0.089	0.089	1,082,502	Yes	222,946
5EXD-6	0.285	0.234	0.089	0.089	1,086,115	Yes	222,946
5EXD-3P DS	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-6P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-5	0.295	0.237	0.089	0.089	1,103,453	Yes	222,946
5EXD-5P	0.000	0.223	0.104	0.104	1,337,778	Yes	222,946
5EXD-1P	0.000	0.233	0.104	0.104	1,341,781	No	222,946
5EXD-4P	0.000	0.235	0.104	0.104	1,464,017	Yes	222,946
5EXD-2P	0.000	0.235	0.104	0.104	1,472,416	Yes	222,946
5EXD-3P US	0.000	0.245	0.104	0.104	1,582,736	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.922

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD9-1-FWH25A to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-21N	0.000	0.155	0.089	0.089	369,957	No	222,946
5EXD-21P	0.000	0.199	0.104	0.104	981,730	No	222,946
5EXD-21	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-15P	0.000	0.226	0.104	0.104	1,368,318	Yes	222,946
5EXD-15	0.310	0.236	0.089	0.089	1,087,327	Yes	222,946
5EXD-16P	0.000	0.225	0.104	0.104	1,060,882	Yes	222,946
5EXD-16	0.000	0.220	0.089	0.089	996,266	Yes	222,946
5EXD-17P US	0.000	0.221	0.104	0.104	1,307,567	Yes	222,946
5EXD-17P DS	0.000	0.226	0.104	0.104	1,363,666	Yes	222,946
5EXD-17	0.295	0.241	0.089	0.089	1,133,283	Yes	222,946
5EXD-18P	0.000	0.233	0.104	0.104	1,441,577	Yes	222,946
5EXD-18	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-19P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-19	0.000	0.219	0.089	0.089	988,685	Yes	222,946
5EXD-20P	0.000	0.169	0.104	0.104	725,501	Yes	222,946
5EXD-20P DS	0.000	0.220	0.104	0.104	1,296,347	No	222,946
5EXD-20	0.304	0.230	0.089	0.089	1,047,375	Yes	222,946
5EXD-VALVE-5EX-8	0.000	0.150	0.095	0.095	295,594	No	222,946
5EXD-20N	0.000	0.174	0.089	0.089	595,771	No	222,946
===>Grouped by Line: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-9N	0.000	0.155	0.089	0.089	369,957	No	222,946
5EXD-9P	0.000	0.199	0.104	0.104	981,730	No	222,946
5EXD-9	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-10P DS	0.000	0.233	0.104	0.104	1,446,857	Yes	222,946
5EXD-10	0.309	0.267	0.089	0.089	1,317,758	Yes	222,946
5EXD-11P US	0.000	0.232	0.104	0.104	1,435,637	Yes	222,946
5EXD-11	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-12P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-12	0.000	0.180	0.089	0.089	687,317	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD9-2-FWH25B to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-13P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-13	0.000	0.215	0.089	0.089	958,361	Yes	222,946
5EXD-14P	0.000	0.163	0.104	0.104	664,585	Yes	222,946
5EXD-14P DS	0.000	0.191	0.104	0.104	970,971	No	222,946
5EXD-14	0.000	0.215	0.089	0.089	958,361	No	222,946
5EXD-VALVE-5EX-8-1	0.000	0.150	0.095	0.095	295,594	No	222,946
5EXD-14N	0.000	0.174	0.089	0.089	595,771	No	222,946
===>Grouped by Line: **HD9-3-FWH25C to HTR DRN TK**					***Sorted By:Flow Order***		
5EXD-1N	0.000	0.155	0.089	0.089	369,957	No	222,946
5EXD-1P	0.000	0.233	0.104	0.104	1,341,781	No	222,946
5EXD-3	0.296	0.218	0.089	0.089	958,263	Yes	222,946
5EXD-2P	0.000	0.235	0.104	0.104	1,472,416	Yes	222,946
5EXD-4	0.285	0.234	0.089	0.089	1,082,502	Yes	222,946
5EXD-3P US	0.000	0.245	0.104	0.104	1,582,736	Yes	222,946
5EXD-3P DS	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-5	0.295	0.237	0.089	0.089	1,103,453	Yes	222,946
5EXD-4P	0.000	0.235	0.104	0.104	1,464,017	Yes	222,946
5EXD-1	0.000	0.180	0.089	0.089	687,317	No	222,946
5EXD-5P	0.000	0.223	0.104	0.104	1,337,778	Yes	222,946
5EXD-2	0.000	0.213	0.089	0.089	939,144	Yes	222,946
5EXD-6P	0.000	0.202	0.104	0.104	1,102,932	No	222,946
5EXD-6	0.285	0.234	0.089	0.089	1,086,115	Yes	222,946
5EXD-7	0.280	0.232	0.089	0.089	1,073,280	Yes	222,946
5EXD-8P	0.000	0.223	0.104	0.104	1,041,471	Yes	222,946
5EXD-8	0.000	0.202	0.089	0.089	859,808	Yes	222,946
5EXD-VALVE-5EX-8-2	0.000	0.150	0.095	0.095	295,594	No	222,946
5EXD-8N	0.000	0.174	0.089	0.089	595,771	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 25 DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.922

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:	**HD9-1-FWH25A to HTR DRN TK**											***Sorted By: Flow Order***
5EXD-15P	0.000	40.7	74.0	40.7	74.0	0.233	MT	149,573	209.3	233.0	6.9	149,573
5EXD-15	0.310	61.5	64.0	61.5	64.0	0.246	MT	149,573	248.5	246.0	10.4	149,573
5EXD-16P	0.000	52.0	40.0	52.0	40.0	0.234	MT	149,573	198.0	234.0	8.8	149,573
5EXD-16	0.000	44.8	58.0	44.8	58.0	0.246	MT	106,128	205.2	246.0	25.6	106,128
5EXD-17P US	0.000	30.2	27.0	30.2	27.0	0.238	MT	106,128	219.8	238.0	17.3	106,128
5EXD-17P DS	0.000	30.2	57.0	30.2	57.0	0.243	MT	106,128	219.8	243.0	17.3	106,128
5EXD-17	0.295	63.5	45.0	63.5	45.0	0.249	MT	165,113	231.5	249.0	8.0	165,113
5EXD-18P	0.000	42.2	62.0	42.2	62.0	0.238	MT	165,113	207.8	238.0	5.3	165,113
5EXD-19	0.000	44.8	41.0	44.8	41.0	0.245	MT	106,128	205.2	245.0	25.6	106,128
5EXD-20P	0.000	46.4	168.0	46.4	168.0	0.170	MT	209,806	203.6	170.0	1.2	209,806
5EXD-20	0.304	45.6	48.0	45.6	48.0	0.256	MT	106,128	258.4	256.0	26.1	106,128
===>Grouped by Line:	**HD9-2-FWH25B to HTR DRN TK**											***Sorted By: Flow Order***
5EXD-10P DS	0.000	40.7	36.0	40.7	36.0	0.240	MT	149,573	209.3	240.0	6.9	149,573
5EXD-10	0.309	61.5	32.0	61.5	32.0	0.277	MT	149,573	247.5	277.0	10.4	149,573
5EXD-11P US	0.000	40.7	39.0	40.7	39.0	0.239	MT	149,573	209.3	239.0	6.9	149,573
5EXD-13	0.000	44.8	57.0	44.8	57.0	0.241	MT	106,128	205.2	241.0	25.6	106,128
5EXD-14P	0.000	44.9	138.0	44.9	138.0	0.166	MT	193,769	205.1	166.0	2.6	193,769
===>Grouped by Line:	**HD9-3-FWH25C to HTR DRN TK**											***Sorted By: Flow Order***
5EXD-3	0.296	51.1	58.0	51.1	58.0	0.238	MT	119,088	244.9	238.0	20.5	119,088
5EXD-2P	0.000	33.9	48.0	33.9	48.0	0.249	MT	119,088	216.1	249.0	13.6	119,088
5EXD-4	0.285	50.9	31.0	50.9	31.0	0.254	MT	119,088	234.1	254.0	20.4	119,088
5EXD-3P US	0.000	43.8	41.0	43.8	41.0	0.249	GW	181,477	206.2	249.0	3.8	181,477
5EXD-5	0.295	63.5	50.0	63.5	50.0	0.245	MT	165,113	231.5	245.0	8.0	165,113
5EXD-4P	0.000	42.2	35.0	42.2	35.0	0.240	MT	165,113	207.8	240.0	5.3	165,113
5EXD-5P	0.000	33.9	42.0	33.9	42.0	0.237	MT	119,088	216.1	237.0	13.6	119,088
5EXD-2	0.000	50.2	53.0	50.2	53.0	0.233	MT	119,088	199.8	233.0	20.1	119,088

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:	**HD9-3-FWH25C to HTR DRN TK**											***Sorted By: Flow Order***
5EXD-6	0.285	58.3	38.0	58.3	38.0	0.247	MT	136,608	226.7	247.0	12.9	136,608
5EXD-7	0.280	58.2	35.0	58.2	35.0	0.245	MT	136,608	221.8	245.0	12.9	136,608
5EXD-8P	0.000	49.8	38.0	49.8	38.0	0.234	MT	136,608	200.2	234.0	11.0	136,608
5EXD-8	0.000	44.8	50.0	44.8	50.0	0.228	MT	106,128	205.2	228.0	25.6	106,128

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:23:51PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.485

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD12-4-FWH26A CV to HTR DR TK***								***Sorted By: Average Wear Rate***		
6EX1D-N2	30	2.512	0.988	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX1D-VALVE-LCV-1101	24	0.052	0.020	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX1D-R2	18	0.007	0.003	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX1D-R2 (D/S)	18	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX1D-P2	68	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-5-FWH26B CV to HTR DR TK***								***Sorted By: Average Wear Rate***		
6EX2D-N2	30	2.512	0.988	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX2D-VALVE-LCV-1102	24	0.052	0.020	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX2D-R2	18	0.007	0.003	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX2D-R2 (D/S)	18	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX2D-P2	68	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-6-FWH26C CV to HTR DR TK***								***Sorted By: Average Wear Rate***		
6EX3D-N2	30	2.512	0.988	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX3D-VALVE-LCV-1103	24	0.052	0.020	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX3D-R2	18	0.007	0.003	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX3D-R2 (D/S)	18	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX3D-P2	68	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:51PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.485

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD12-4-FWH26A CV to HTR DR TK***									***Sorted By: Flow Order***	
6EX1D-VALVE-LCV-1101	24	0.052	0.020	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX1D-R2	18	0.007	0.003	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX1D-R2 (D/S)	18	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX1D-P2	68	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX1D-N2	30	2.512	0.988	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-5-FWH26B CV to HTR DR TK***									***Sorted By: Flow Order***	
6EX2D-VALVE-LCV-1102	24	0.052	0.020	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX2D-R2	18	0.007	0.003	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX2D-R2 (D/S)	18	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX2D-P2	68	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX2D-N2	30	2.512	0.988	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-6-FWH26C CV to HTR DR TK***									***Sorted By: Flow Order***	
6EX3D-VALVE-LCV-1103	24	0.052	0.020	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX3D-R2	18	0.007	0.003	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EX3D-R2 (D/S)	18	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX3D-P2	68	0.003	0.001	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD
6EX3D-N2	30	2.512	0.988	389.7	5.364	0.0	10.750	6.770	0.000	53.98	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:51PM

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.485

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD12-4-FWH26A CV to HTR DR TK**					***Sorted By:Remaining Life***		
6EX1D-N2	0.000	0.301	0.159	0.159	1,256,776	No	222,946
6EX1D-VALVE-LCV-1101	0.000	0.279	0.105	0.105	74,280,872	No	222,946
6EX1D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX1D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX1D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
===>Grouped by Line: **HD12-5-FWH26B CV to HTR DR TK**					***Sorted By:Remaining Life***		
6EX2D-N2	0.000	0.371	0.159	0.159	1,877,526	Yes	222,946
6EX2D-VALVE-LCV-1102	0.000	0.279	0.105	0.105	74,280,872	No	222,946
6EX2D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX2D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX2D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
===>Grouped by Line: **HD12-6-FWH26C CV to HTR DR TK**					***Sorted By:Remaining Life***		
6EX3D-N2	0.000	0.301	0.159	0.159	1,256,776	No	222,946
6EX3D-VALVE-LCV-1103	0.000	0.279	0.105	0.105	74,280,872	No	222,946
6EX3D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX3D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX3D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.485

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD12-4-FWH26A CV to HTR DR TK**					***Sorted By:Flow Order***		
6EX1D-VALVE-LCV-1101	0.000	0.279	0.105	0.105	74,280,872	No	222,946
6EX1D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX1D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX1D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX1D-N2	0.000	0.301	0.159	0.159	1,256,776	No	222,946
===>Grouped by Line: **HD12-5-FWH26B CV to HTR DR TK**					***Sorted By:Flow Order***		
6EX2D-VALVE-LCV-1102	0.000	0.279	0.105	0.105	74,280,872	No	222,946
6EX2D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX2D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX2D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX2D-N2	0.000	0.371	0.159	0.159	1,877,526	Yes	222,946
===>Grouped by Line: **HD12-6-FWH26C CV to HTR DR TK**					***Sorted By:Flow Order***		
6EX3D-VALVE-LCV-1103	0.000	0.279	0.105	0.105	74,280,872	No	222,946
6EX3D-R2	0.000	0.280	0.104	0.104	100,000,000	No	222,946
6EX3D-R2 (D/S)	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX3D-P2	0.000	0.365	0.169	0.169	100,000,000	No	222,946
6EX3D-N2	0.000	0.301	0.159	0.159	1,256,776	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 26 DRNS DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.485

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:	**HD12-5-FWH26B CV to HTR DR TK**											***Sorted By: Flow Order***
6EX2D-N2	0.000	55.0	55.0	55.0	55.0	0.380	MT	149,573	310.0	380.0	8.9	149,573

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:23:57PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.664

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD12-1-FWH26A to CV***								***Sorted By: Average Wear Rate***		
6EXD-9N	31	6.750	2.655	389.7	9.519	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1-1R (D/S)	17	3.256	1.281	389.7	15.157	0.0	6.625	6.770	0.000	53.98	ARD
6EXD-1	2	3.218	1.265	389.7	5.429	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-8	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-7	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-6	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-9P US	61	2.273	0.894	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1-1R	17	2.187	0.860	389.7	5.462	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-8P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-7P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-6P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-2-FWH26B to CV***								***Sorted By: Average Wear Rate***		
6EXD-13N	31	4.210	1.655	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2	2	3.233	1.271	389.7	5.455	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2-1R (D/S)	17	3.211	1.263	389.7	14.827	0.0	6.625	6.770	0.000	53.98	ARD
6EXD-12	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-11	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-13P	61	2.273	0.894	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2-1R	17	2.183	0.858	389.7	5.451	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-12P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-11P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-3-FWH26C to CV***								***Sorted By: Average Wear Rate***		
6EXD-18N	31	4.210	1.655	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3-1R (D/S)	17	3.186	1.253	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD
6EXD-18	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	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:	***HD12-3-FWH26C to CV***								***Sorted By: Average Wear Rate***		
6EXD-17	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-16	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-15	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-18P	61	2.273	0.894	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-17P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-16P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-15P-1	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-15P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3-1R	17	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:57PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.664

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD12-1-FWH26A to CV***									***Sorted By: Flow Order***	
6EXD-9N	31	6.750	2.655	389.7	9.519	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-9P US	61	2.273	0.894	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-8	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-8P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-7	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-7P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-6	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-6P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1	2	3.218	1.265	389.7	5.429	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1-1R	17	2.187	0.860	389.7	5.462	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-1-1R (D/S)	17	3.256	1.281	389.7	15.157	0.0	6.625	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-2-FWH26B to CV***									***Sorted By: Flow Order***	
6EXD-13N	31	4.210	1.655	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-13P	61	2.273	0.894	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-12	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-12P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-11	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-11P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2	2	3.233	1.271	389.7	5.455	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2-1R	17	2.183	0.858	389.7	5.451	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-2-1R (D/S)	17	3.211	1.263	389.7	14.827	0.0	6.625	6.770	0.000	53.98	ARD
===>Grouped by Line:	***HD12-3-FWH26C to CV***									***Sorted By: Flow Order***	
6EXD-18N	31	4.210	1.655	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-18P	61	2.273	0.894	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-18	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	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:	***HD12-3-FWH26C to CV***									***Sorted By: Flow Order***	
6EXD-17P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-17	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-16P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-16	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-15P-1	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-15	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-15P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3	2	3.115	1.225	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3P	52	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3-1R	17	2.105	0.828	389.7	5.242	0.0	10.750	6.770	0.000	53.98	ARD
6EXD-3-1R (D/S)	17	3.186	1.253	389.7	14.641	0.0	6.625	6.770	0.000	53.98	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:23:57PM

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.664

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD12-1-FWH26A to CV**					***Sorted By:Remaining Life***		
6EXD-7	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-8	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-1	0.395	0.292	0.159	0.159	916,823	Yes	222,946
6EXD-8P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-1P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-7P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-9P US	0.000	0.273	0.159	0.159	1,111,948	Yes	222,946
6EXD-1-1R (D/S)	0.332	0.265	0.098	0.098	1,141,342	Yes	222,946
6EXD-6P	0.000	0.278	0.159	0.159	1,255,995	Yes	222,946
6EXD-6	0.000	0.372	0.159	0.159	1,521,472	Yes	222,946
6EXD-1-1R	0.410	0.348	0.159	0.159	1,922,139	Yes	222,946
6EXD-9N	1.614	1.528	0.159	0.159	4,514,040	No	222,946
===>Grouped by Line: **HD12-2-FWH26B to CV**					***Sorted By:Remaining Life***		
6EXD-13N	0.000	0.200	0.159	0.159	214,426	No	222,946
6EXD-12	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-11	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-2	0.407	0.283	0.159	0.159	850,823	Yes	222,946
6EXD-13P	0.000	0.249	0.159	0.159	880,094	No	222,946
6EXD-2-1R (D/S)	0.299	0.233	0.098	0.098	931,804	Yes	222,946
6EXD-2P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-11P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-12P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-2-1R	0.405	0.347	0.159	0.159	1,917,768	Yes	222,946
===>Grouped by Line: **HD12-3-FWH26C to CV**					***Sorted By:Remaining Life***		
6EXD-18N	0.000	0.200	0.159	0.159	214,426	No	222,946
6EXD-18	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-17	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-16	0.000	0.228	0.159	0.159	488,985	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD12-3-FWH26C to CV**					***Sorted By:Remaining Life***		
6EXD-3	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-15	0.000	0.244	0.159	0.159	602,933	Yes	222,946
6EXD-3-1R (D/S)	0.000	0.199	0.098	0.098	703,997	No	222,946
6EXD-18P	0.000	0.249	0.159	0.159	880,094	No	222,946
6EXD-17P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-16P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-3P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-3-1R	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-15P	0.000	0.266	0.159	0.159	1,127,832	Yes	222,946
6EXD-15P-1	0.000	0.276	0.159	0.159	1,233,673	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.664

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD12-1-FWH26A to CV**					***Sorted By:Flow Order***		
6EXD-9N	1.614	1.528	0.159	0.159	4,514,040	No	222,946
6EXD-9P US	0.000	0.273	0.159	0.159	1,111,948	Yes	222,946
6EXD-8	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-8P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-7	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-7P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-6	0.000	0.372	0.159	0.159	1,521,472	Yes	222,946
6EXD-6P	0.000	0.278	0.159	0.159	1,255,995	Yes	222,946
6EXD-1	0.395	0.292	0.159	0.159	916,823	Yes	222,946
6EXD-1P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-1-1R	0.410	0.348	0.159	0.159	1,922,139	Yes	222,946
6EXD-1-1R (D/S)	0.332	0.265	0.098	0.098	1,141,342	Yes	222,946
===>Grouped by Line: **HD12-2-FWH26B to CV**					***Sorted By:Flow Order***		
6EXD-13N	0.000	0.200	0.159	0.159	214,426	No	222,946
6EXD-13P	0.000	0.249	0.159	0.159	880,094	No	222,946
6EXD-12	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-12P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-11	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-11P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-2	0.407	0.283	0.159	0.159	850,823	Yes	222,946
6EXD-2P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-2-1R	0.405	0.347	0.159	0.159	1,917,768	Yes	222,946
6EXD-2-1R (D/S)	0.299	0.233	0.098	0.098	931,804	Yes	222,946
===>Grouped by Line: **HD12-3-FWH26C to CV**					***Sorted By:Flow Order***		
6EXD-18N	0.000	0.200	0.159	0.159	214,426	No	222,946
6EXD-18P	0.000	0.249	0.159	0.159	880,094	No	222,946
6EXD-18	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-17P	0.000	0.253	0.159	0.159	995,862	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD12-3-FWH26C to CV**					***Sorted By:Flow Order***		
6EXD-17	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-16P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-16	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-15P-1	0.000	0.276	0.159	0.159	1,233,673	Yes	222,946
6EXD-15	0.000	0.244	0.159	0.159	602,933	Yes	222,946
6EXD-15P	0.000	0.266	0.159	0.159	1,127,832	Yes	222,946
6EXD-3	0.000	0.228	0.159	0.159	488,985	No	222,946
6EXD-3P	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-3-1R	0.000	0.253	0.159	0.159	995,862	No	222,946
6EXD-3-1R (D/S)	0.000	0.199	0.098	0.098	703,997	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: FWH 26 DRNS USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.664

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:	**HD12-1-FWH26A to CV**										***Sorted By: Flow Order***	
6EXD-9P US	0.000	47.7	47.0	47.7	47.0	0.283	MT	136,608	259.3	283.0	10.2	136,608
6EXD-6	0.000	73.4	63.0	73.4	63.0	0.378	GW	181,477	233.6	378.0	5.9	181,477
6EXD-6P	0.000	49.6	57.0	49.6	57.0	0.282	GW	181,477	257.4	282.0	4.0	181,477
6EXD-1	0.395	77.7	138.0	77.7	138.0	0.296	MT	193,769	317.3	296.0	4.2	193,769
6EXD-1-1R	0.410	49.7	56.0	49.7	56.0	0.354		165,113	360.3	354.0	6.0	165,113
6EXD-1-1R (D/S)	0.332	73.9	58.0	73.9	58.0	0.274		165,113	258.1	274.0	8.9	165,113
===>Grouped by Line:	**HD12-2-FWH26B to CV**										***Sorted By: Flow Order***	
6EXD-2	0.407	59.1	77.0	59.1	77.0	0.306	MT	119,088	347.9	306.0	23.2	119,088
6EXD-2-1R	0.405	47.8	50.0	47.8	50.0	0.355	MT	149,573	357.2	355.0	7.8	149,573
6EXD-2-1R (D/S)	0.299	70.3	55.0	70.3	55.0	0.244	MT	149,573	228.7	244.0	11.4	149,573
===>Grouped by Line:	**HD12-3-FWH26C to CV**										***Sorted By: Flow Order***	
6EXD-15P-1	0.000	38.5	30.0	38.5	30.0	0.291	MT	119,088	268.5	291.0	15.1	119,088
6EXD-15	0.000	56.9	35.0	56.9	35.0	0.266	MT	119,088	250.1	266.0	22.4	119,088
6EXD-15P	0.000	38.5	39.0	38.5	39.0	0.281	MT	119,088	268.5	281.0	15.1	119,088

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:24:02PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 21A Drain to Cond 23***								***Sorted By: Average Wear Rate***		
1HD-208-1N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-LCV1124	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-1R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-1EX-1-5	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-2N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-1R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-1P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 21B Drain to Cond 22***								***Sorted By: Average Wear Rate***		
1HD-208-4N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-LCV1125	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-4R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-1EX-1-3	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-5N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-4R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-4P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 21C Drain to Cond 21***								***Sorted By: Average Wear Rate***		
1HD-208-6N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-LCV1126	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-6R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-1EX-1-1	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-7N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-6R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-6P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:02PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 21A Drain to Cond 23***									***Sorted By: Flow Order***	
1HD-208-1N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-LCV1124	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-1R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-1R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-Valve-1EX-1-5	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-1P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-2N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 21B Drain to Cond 22***									***Sorted By: Flow Order***	
1HD-208-4N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-LCV1125	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-4R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-4R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-Valve-1EX-1-3	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-4P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-5N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 21C Drain to Cond 21***									***Sorted By: Flow Order***	
1HD-208-6N	31	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-Valve-LCV1126	24	3.798	1.785	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-6R	18	2.127	1.000	100.0	9.141	0.0	8.625	7.015	0.000	11.97	HBD
1HD-208-6R (D/S)	18	1.140	0.536	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-Valve-1EX-1-1	22	1.899	0.894	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-6P	58	0.836	0.393	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD
1HD-208-7N	30	1.519	0.715	100.0	4.021	0.0	12.750	7.015	0.000	11.97	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:02PM

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 21A Drain to Cond 23**					***Sorted By:Remaining Life***		
1HD-208-Valve-LCV1124	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-1N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-1R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-Valve-1EX-1-5	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-2N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
1HD-208-1R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-1P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
===>Grouped by Line: **HD-FWH 21B Drain to Cond 22**					***Sorted By:Remaining Life***		
1HD-208-Valve-LCV1125	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-4N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-4R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-Valve-1EX-1-3	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-5N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
1HD-208-4R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-4P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
===>Grouped by Line: **HD-FWH 21C Drain to Cond 21**					***Sorted By:Remaining Life***		
1HD-208-Valve-LCV1126	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-6N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-6R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-Valve-1EX-1-1	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-7N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
1HD-208-6R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-6P	0.000	0.229	0.021	0.021	4,621,033	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: HD - FWH 21 TO COND
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 21A Drain to Cond 23**					***Sorted By:Flow Order***		
1HD-208-1N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-Valve-LCV1124	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-1R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-1R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-Valve-1EX-1-5	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-1P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
1HD-208-2N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
===>Grouped by Line: **HD-FWH 21B Drain to Cond 22**					***Sorted By:Flow Order***		
1HD-208-4N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-Valve-LCV1125	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-4R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-4R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-Valve-1EX-1-3	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-4P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
1HD-208-5N	0.000	0.211	0.021	0.021	2,328,428	No	222,946
===>Grouped by Line: **HD-FWH 21C Drain to Cond 21**					***Sorted By:Flow Order***		
1HD-208-6N	0.000	0.153	0.014	0.014	681,943	No	222,946
1HD-208-Valve-LCV1126	0.000	0.153	0.015	0.015	676,918	No	222,946
1HD-208-6R	0.000	0.196	0.014	0.014	1,590,460	No	222,946
1HD-208-6R (D/S)	0.000	0.221	0.021	0.021	3,262,452	No	222,946
1HD-208-Valve-1EX-1-1	0.000	0.202	0.023	0.023	1,753,182	No	222,946
1HD-208-6P	0.000	0.229	0.021	0.021	4,621,033	No	222,946
1HD-208-7N	0.000	0.211	0.021	0.021	2,328,428	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC2(v3).DB

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:24:06PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 22A Drain to FWH 21A***								***Sorted By: Average Wear Rate***		
2EX-A-1N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 22B Drain to FWH 21B***								***Sorted By: Average Wear Rate***		
2EX-234-1N	31	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-Valve-2EX-1-1	22	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-Valve-LCV1122	25	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-31E	2	3.089	1.511	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-36R	18	2.337	1.143	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-Valve-2EX-7-1	22	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-5T	13	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-33P	58	1.836	0.898	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-3E	3	1.361	0.666	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-36R (D/S)	18	1.167	0.571	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-5T (D/S)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-5T (BR/SE)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-4P	53	0.972	0.476	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-6N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-9N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-3P	58	0.856	0.419	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-8E	2	0.795	0.389	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-9P	52	0.537	0.263	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-6P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-7P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 22C Drain to FWH 21C***								***Sorted By: Average Wear Rate***		
2EX-C-45N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:06PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 22A Drain to FWH 21A***									***Sorted By: Flow Order***	
2EX-A-1N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 22B Drain to FWH 21B***									***Sorted By: Flow Order***	
2EX-234-1N	31	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-31E	2	3.089	1.511	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-Valve-2EX-1-1	22	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-33P	58	1.836	0.898	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-Valve-LCV1122	25	4.174	2.042	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-36R	18	2.337	1.143	169.4	6.351	0.0	8.625	7.015	0.000	11.97	HBD
2EX-234-36R (D/S)	18	1.167	0.571	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-Valve-2EX-7-1	22	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-3P	58	0.856	0.419	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-3E	3	1.361	0.666	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-4P	53	0.972	0.476	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-5T	13	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-5T (BR/SE)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-6P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-6N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-5T (D/S)	13	1.074	0.526	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-7P	63	0.430	0.210	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-8E	2	0.795	0.389	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-9P	52	0.537	0.263	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
2EX-234-9N	30	0.859	0.420	169.4	1.401	0.0	12.750	7.015	0.000	11.97	HBD
===>Grouped by Line:	***HD-FWH 22C Drain to FWH 21C***									***Sorted By: Flow Order***	
2EX-C-45N	31	1.945	0.951	169.4	2.794	0.0	12.750	7.015	0.000	11.97	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:06PM

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 22A Drain to FWH 21A**					***Sorted By:Remaining Life***		
2EX-A-1N	0.000	0.201	0.021	0.021	1,650,718	No	222,946
===>Grouped by Line: **HD-FWH 22B Drain to FWH 21B**					***Sorted By:Remaining Life***		
2EX-234-Valve-2EX-1-1	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-Valve-LCV1122	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-1N	0.000	0.144	0.014	0.014	555,233	No	222,946
2EX-234-31E	0.000	0.171	0.014	0.014	910,429	No	222,946
2EX-234-36R	0.000	0.191	0.014	0.014	1,349,546	No	222,946
2EX-234-Valve-2EX-7-1	0.000	0.201	0.023	0.023	1,636,781	No	222,946
2EX-234-5T	0.000	0.201	0.021	0.021	1,650,718	No	222,946
2EX-234-33P	0.000	0.203	0.014	0.014	1,841,888	No	222,946
2EX-234-3E	0.000	0.215	0.021	0.021	2,553,472	No	222,946
2EX-234-36R (D/S)	0.000	0.220	0.021	0.021	3,055,003	No	222,946
2EX-234-5T (BR/SE)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-5T (D/S)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-4P	0.000	0.225	0.021	0.021	3,757,145	No	222,946
2EX-234-6N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
2EX-234-9N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
2EX-234-3P	0.000	0.228	0.021	0.021	4,331,626	No	222,946
2EX-234-8E	0.000	0.230	0.021	0.021	4,697,534	No	222,946
2EX-234-9P	0.000	0.236	0.021	0.021	7,171,092	No	222,946
2EX-234-6P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
2EX-234-7P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
===>Grouped by Line: **HD-FWH 22C Drain to FWH 21C**					***Sorted By:Remaining Life***		
2EX-C-45N	0.000	0.201	0.021	0.021	1,650,718	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: HD - FWH 22 TO FWH 21
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD-FWH 22A Drain to FWH 21A**					***Sorted By:Flow Order***		
2EX-A-1N	0.000	0.201	0.021	0.021	1,650,718	No	222,946
===>Grouped by Line: **HD-FWH 22B Drain to FWH 21B**					***Sorted By:Flow Order***		
2EX-234-1N	0.000	0.144	0.014	0.014	555,233	No	222,946
2EX-234-31E	0.000	0.171	0.014	0.014	910,429	No	222,946
2EX-234-Valve-2EX-1-1	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-33P	0.000	0.203	0.014	0.014	1,841,888	No	222,946
2EX-234-Valve-LCV1122	0.000	0.144	0.015	0.015	550,840	No	222,946
2EX-234-36R	0.000	0.191	0.014	0.014	1,349,546	No	222,946
2EX-234-36R (D/S)	0.000	0.220	0.021	0.021	3,055,003	No	222,946
2EX-234-Valve-2EX-7-1	0.000	0.201	0.023	0.023	1,636,781	No	222,946
2EX-234-3P	0.000	0.228	0.021	0.021	4,331,626	No	222,946
2EX-234-3E	0.000	0.215	0.021	0.021	2,553,472	No	222,946
2EX-234-4P	0.000	0.225	0.021	0.021	3,757,145	No	222,946
2EX-234-5T	0.000	0.201	0.021	0.021	1,650,718	No	222,946
2EX-234-5T (BR/SE)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-6P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
2EX-234-6N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
2EX-234-5T (D/S)	0.000	0.223	0.021	0.021	3,357,691	No	222,946
2EX-234-7P	0.000	0.239	0.021	0.021	9,077,792	No	222,946
2EX-234-8E	0.000	0.230	0.021	0.021	4,697,534	No	222,946
2EX-234-9P	0.000	0.236	0.021	0.021	7,171,092	No	222,946
2EX-234-9N	0.000	0.228	0.021	0.021	4,311,041	No	222,946
===>Grouped by Line: **HD-FWH 22C Drain to FWH 21C**					***Sorted By:Flow Order***		
2EX-C-45N	0.000	0.201	0.021	0.021	1,650,718	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC2(v3).DB

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:24:15PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.464

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD20-1-HDP21 to BFP SUCTION***								***Sorted By: Average Wear Rate***		
HD-VALVE-LCV-1127	24	13.656	4.456	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-8N	31	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-1	25	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-2	22	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-7	18	7.647	2.496	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-3	2	6.212	2.027	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-8P	58	6.180	2.017	365.0	29.301	0.0	8.625	6.813	0.000	68.82	HBD
HD-7 (D/S)	18	5.037	1.644	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-3P	52	4.197	1.370	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-3P-1	52	4.197	1.370	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-5P US	9	2.134	0.717	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-5P DS	9	2.134	0.717	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
===>Grouped by Line:	***HD20-2-HDP22 to BFP SUCTION***								***Sorted By: Average Wear Rate***		
HD-VALVE-LCV-1127A	24	13.656	4.456	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-10N	31	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-1-1	25	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-2-1	22	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-9	18	7.647	2.496	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-4	2	6.212	2.027	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-10P	58	6.009	1.961	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-6 (D/S)	12	5.199	1.696	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-6	12	5.199	1.696	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-9 (D/S)	18	5.037	1.644	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-4A	52	4.197	1.370	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-4P	58	3.694	1.205	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-5AP US	62	2.536	0.828	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-5AP DS	62	2.536	0.828	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-6P DS	9	2.134	0.717	365.0	12.928	0.0	12.750	6.813	0.000	68.82	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:	***HD20-3-HDP DIS T to BFP SUC***								***Sorted By: Average Wear Rate***		
HD-5 (D/S)	12	7.659	2.499	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-11	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-1	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-2	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-13	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-14	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-15	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-16	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-12	1	6.164	2.012	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-5 (BR/SE)	12	5.708	1.863	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-17 (D/S)	15	5.604	1.829	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-17	15	5.604	1.829	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-5	12	5.199	1.696	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-2P US	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-1P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-12P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-14P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-15P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-15P-1 DS	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-16P US	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-13P	51	4.110	1.341	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-11P DS	62	3.736	1.219	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-17P	65	3.736	1.219	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:15PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.464

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD20-1-HDP21 to BFP SUCTION***									***Sorted By: Flow Order***	
HD-8N	31	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-1	25	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-8P	58	6.180	2.017	365.0	29.301	0.0	8.625	6.813	0.000	68.82	HBD
HD-VALVE-LCV-1127	24	13.656	4.456	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-7	18	7.647	2.496	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-7 (D/S)	18	5.037	1.644	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-2	22	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-3P	52	4.197	1.370	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-3	2	6.212	2.027	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-3P-1	52	4.197	1.370	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-5P US	9	2.134	0.717	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-5P DS	9	2.134	0.717	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
===>Grouped by Line:	***HD20-2-HDP22 to BFP SUCTION***									***Sorted By: Flow Order***	
HD-10N	31	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-1-1	25	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-10P	58	6.009	1.961	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-VALVE-LCV-1127A	24	13.656	4.456	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-9	18	7.647	2.496	365.0	28.023	0.0	8.625	6.813	0.000	68.82	HBD
HD-9 (D/S)	18	5.037	1.644	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-VALVE-HD-2-1	22	8.395	2.739	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-4P	58	3.694	1.205	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-4	2	6.212	2.027	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-4A	52	4.197	1.370	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-6P DS	9	2.134	0.717	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-6	12	5.199	1.696	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-6 (D/S)	12	5.199	1.696	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-5AP US	62	2.536	0.828	365.0	8.274	0.0	16.000	6.813	0.000	68.82	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:	***HD20-2-HDP22 to BFP SUCTION***									***Sorted By: Flow Order***	
HD-5AP DS	62	2.536	0.828	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
===>Grouped by Line:	***HD20-3-HDP DIS T to BFP SUC***									***Sorted By: Flow Order***	
HD-5 (BR/SE)	12	5.708	1.863	365.0	12.928	0.0	12.750	6.813	0.000	68.82	HBD
HD-5	12	5.199	1.696	365.0	8.274	0.0	16.000	6.813	0.000	68.82	HBD
HD-5 (D/S)	12	7.659	2.499	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-11P DS	62	3.736	1.219	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-11	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-2P US	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-2	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-12P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-12	1	6.164	2.012	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-13P	51	4.110	1.341	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-13	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-14P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-14	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-15P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-15	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-15P-1 DS	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-16	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-16P US	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-17	15	5.604	1.829	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-17 (D/S)	15	5.604	1.829	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-17P	65	3.736	1.219	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-1	2	6.912	2.255	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD
HD-1P	52	4.670	1.524	365.0	16.547	0.0	16.000	6.813	0.000	68.82	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:15PM

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.464

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD20-1-HDP21 to BFP SUCTION**					***Sorted By:Remaining Life***		
HD-VALVE-LCV-1127	0.000	-0.026	0.220	0.220	-176,102	No	222,946
HD-VALVE-HD-1	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-VALVE-HD-2	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-8N	0.000	0.286	0.304	0.304	-54,206	No	222,946
HD-3	0.000	0.342	0.304	0.304	162,365	No	222,946
HD-7	0.000	0.284	0.206	0.206	274,070	No	222,946
HD-3P-1	0.000	0.393	0.304	0.304	568,242	No	222,946
HD-8P	0.410	0.330	0.177	0.177	664,008	No	222,946
HD-7 (D/S)	0.000	0.457	0.304	0.304	815,302	No	222,946
HD-3P	0.000	0.489	0.304	0.304	1,183,731	Yes	222,946
HD-5P DS	0.000	0.447	0.304	0.304	1,744,248	Yes	222,946
HD-5P US	0.000	0.447	0.304	0.304	1,748,222	Yes	222,946
===>Grouped by Line: **HD20-2-HDP22 to BFP SUCTION**					***Sorted By:Remaining Life***		
HD-VALVE-LCV-1127A	0.000	-0.026	0.220	0.220	-176,102	No	222,946
HD-VALVE-HD-1-1	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-VALVE-HD-2-1	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-4	0.000	0.342	0.304	0.304	162,365	No	222,946
HD-9	0.000	0.267	0.206	0.206	214,025	Yes	222,946
HD-10P	0.000	0.285	0.206	0.206	351,789	No	222,946
HD-10N	0.000	0.481	0.304	0.304	564,064	No	222,946
HD-4P	0.000	0.406	0.304	0.304	738,894	No	222,946
HD-9 (D/S)	0.000	0.508	0.304	0.304	1,085,459	Yes	222,946
HD-6 (D/S)	0.000	0.608	0.382	0.382	1,165,613	No	222,946
HD-6	0.000	0.615	0.382	0.382	1,201,760	No	222,946
HD-4A	0.000	0.493	0.304	0.304	1,206,333	Yes	222,946
HD-5AP US	0.000	0.591	0.382	0.382	2,218,356	No	222,946
HD-5AP DS	0.000	0.591	0.382	0.382	2,218,356	No	222,946
HD-6P DS	0.000	0.496	0.304	0.304	2,339,838	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD20-3-HDP DIS T to BFP SUC**					***Sorted By:Remaining Life***		
HD-16	0.000	0.476	0.382	0.382	364,484	Yes	222,946
HD-2	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-13	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-14	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-15	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-12	0.000	0.499	0.382	0.382	510,428	No	222,946
HD-17	0.000	0.513	0.382	0.382	629,792	No	222,946
HD-17 (D/S)	0.000	0.513	0.382	0.382	629,792	No	222,946
HD-5 (BR/SE)	0.000	0.456	0.304	0.304	711,421	No	222,946
HD-5 (D/S)	0.000	0.591	0.382	0.382	732,488	No	222,946
HD-1	0.000	0.603	0.382	0.382	858,707	Yes	222,946
HD-12P	0.000	0.537	0.382	0.382	892,393	No	222,946
HD-14P	0.000	0.537	0.382	0.382	892,393	No	222,946
HD-15P	0.000	0.537	0.382	0.382	892,393	No	222,946
HD-11	0.000	0.612	0.382	0.382	893,653	Yes	222,946
HD-5	0.000	0.593	0.382	0.382	1,092,199	No	222,946
HD-13P	0.000	0.551	0.382	0.382	1,107,247	No	222,946
HD-15P-1 DS	0.000	0.581	0.382	0.382	1,144,260	Yes	222,946
HD-16P US	0.000	0.592	0.382	0.382	1,207,491	No	222,946
HD-1P	0.000	0.593	0.382	0.382	1,215,287	Yes	222,946
HD-17P	0.000	0.561	0.382	0.382	1,286,293	No	222,946
HD-2P US	0.000	0.612	0.382	0.382	1,320,300	Yes	222,946
HD-11P DS	0.000	0.642	0.382	0.382	1,866,529	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.464

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD20-1-HDP21 to BFP SUCTION**					***Sorted By:Flow Order***		
HD-8N	0.000	0.286	0.304	0.304	-54,206	No	222,946
HD-VALVE-HD-1	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-8P	0.410	0.330	0.177	0.177	664,008	No	222,946
HD-VALVE-LCV-1127	0.000	-0.026	0.220	0.220	-176,102	No	222,946
HD-7	0.000	0.284	0.206	0.206	274,070	No	222,946
HD-7 (D/S)	0.000	0.457	0.304	0.304	815,302	No	222,946
HD-VALVE-HD-2	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-3P	0.000	0.489	0.304	0.304	1,183,731	Yes	222,946
HD-3	0.000	0.342	0.304	0.304	162,365	No	222,946
HD-3P-1	0.000	0.393	0.304	0.304	568,242	No	222,946
HD-5P US	0.000	0.447	0.304	0.304	1,748,222	Yes	222,946
HD-5P DS	0.000	0.447	0.304	0.304	1,744,248	Yes	222,946
===>Grouped by Line: **HD20-2-HDP22 to BFP SUCTION**					***Sorted By:Flow Order***		
HD-10N	0.000	0.481	0.304	0.304	564,064	No	222,946
HD-VALVE-HD-1-1	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-10P	0.000	0.285	0.206	0.206	351,789	No	222,946
HD-VALVE-LCV-1127A	0.000	-0.026	0.220	0.220	-176,102	No	222,946
HD-9	0.000	0.267	0.206	0.206	214,025	Yes	222,946
HD-9 (D/S)	0.000	0.508	0.304	0.304	1,085,459	Yes	222,946
HD-VALVE-HD-2-1	0.000	0.286	0.326	0.326	-92,321	No	222,946
HD-4P	0.000	0.406	0.304	0.304	738,894	No	222,946
HD-4	0.000	0.342	0.304	0.304	162,365	No	222,946
HD-4A	0.000	0.493	0.304	0.304	1,206,333	Yes	222,946
HD-6P DS	0.000	0.496	0.304	0.304	2,339,838	Yes	222,946
HD-6	0.000	0.615	0.382	0.382	1,201,760	No	222,946
HD-6 (D/S)	0.000	0.608	0.382	0.382	1,165,613	No	222,946
HD-5AP US	0.000	0.591	0.382	0.382	2,218,356	No	222,946
HD-5AP DS	0.000	0.591	0.382	0.382	2,218,356	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD20-3-HDP DIS T to BFP SUC**					***Sorted By:Flow Order***		
HD-5 (BR/SE)	0.000	0.456	0.304	0.304	711,421	No	222,946
HD-5	0.000	0.593	0.382	0.382	1,092,199	No	222,946
HD-5 (D/S)	0.000	0.591	0.382	0.382	732,488	No	222,946
HD-11P DS	0.000	0.642	0.382	0.382	1,866,529	Yes	222,946
HD-11	0.000	0.612	0.382	0.382	893,653	Yes	222,946
HD-2P US	0.000	0.612	0.382	0.382	1,320,300	Yes	222,946
HD-2	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-12P	0.000	0.537	0.382	0.382	892,393	No	222,946
HD-12	0.000	0.499	0.382	0.382	510,428	No	222,946
HD-13P	0.000	0.551	0.382	0.382	1,107,247	No	222,946
HD-13	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-14P	0.000	0.537	0.382	0.382	892,393	No	222,946
HD-14	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-15P	0.000	0.537	0.382	0.382	892,393	No	222,946
HD-15	0.000	0.480	0.382	0.382	381,386	No	222,946
HD-15P-1 DS	0.000	0.581	0.382	0.382	1,144,260	Yes	222,946
HD-16	0.000	0.476	0.382	0.382	364,484	Yes	222,946
HD-16P US	0.000	0.592	0.382	0.382	1,207,491	No	222,946
HD-17	0.000	0.513	0.382	0.382	629,792	No	222,946
HD-17 (D/S)	0.000	0.513	0.382	0.382	629,792	No	222,946
HD-17P	0.000	0.561	0.382	0.382	1,286,293	No	222,946
HD-1	0.000	0.603	0.382	0.382	858,707	Yes	222,946
HD-1P	0.000	0.593	0.382	0.382	1,215,287	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: HTR DRN PMP DISCH
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.464

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:	**HD20-1-HDP21 to BFP SUCTION**											***Sorted By: Flow Order***
HD-3P	0.000	94.2	46.0	94.2	46.0	0.502	MT	149,573	405.8	502.0	12.6	149,573
HD-5P US	0.000	47.8	72.0	47.8	72.0	0.454	MT	149,573	452.2	454.0	6.5	149,573
HD-5P DS	0.000	42.5	55.0	42.5	55.0	0.459	MT	125,459	457.5	459.0	11.8	125,459
===>Grouped by Line:	**HD20-2-HDP22 to BFP SUCTION**											***Sorted By: Flow Order***
HD-9	0.000	182.5	113.0	182.5	113.0	0.279	MT	181,477	139.5	279.0	12.2	181,477
HD-9 (D/S)	0.000	120.2	121.0	120.2	121.0	0.516	GW	181,477	379.8	516.0	8.0	181,477
HD-4A	0.000	104.8	48.0	104.8	48.0	0.495	MT	209,806	395.2	495.0	2.1	209,806
HD-6P DS	0.000	46.3	52.0	46.3	52.0	0.504	MT	136,608	453.7	504.0	8.1	136,608
===>Grouped by Line:	**HD20-3-HDP DIS T to BFP SUC**											***Sorted By: Flow Order***
HD-11P DS	0.000	70.8	41.0	70.8	41.0	0.666	MT	119,088	585.2	666.0	24.3	119,088
HD-11	0.000	130.9	130.0	130.9	130.0	0.657	MT	119,088	525.1	657.0	45.0	119,088
HD-2P US	0.000	88.4	58.0	88.4	58.0	0.642	MT	119,088	567.6	642.0	30.4	119,088
HD-15P-1 DS	0.000	78.8	82.0	78.8	82.0	0.621	MT	106,128	577.2	621.0	40.0	106,128
HD-16	0.000	116.6	141.0	116.6	141.0	0.535	MT	106,128	539.4	535.0	59.3	106,128
HD-1	0.000	137.9	87.0	137.9	87.0	0.641	MT	125,459	518.1	641.0	38.0	125,459
HD-1P	0.000	93.2	95.0	93.2	95.0	0.619	MT	125,459	562.8	619.0	25.7	125,459

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:24:19PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.554

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD19-1-HDT to HDP 21 SUCT***								***Sorted By: Average Wear Rate***		
5EX-VALVE-5EX-16	22	5.596	1.881	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-23N	30	4.477	1.505	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-22	3	4.007	1.347	365.0	6.057	0.0	18.000	6.813	0.000	68.82	HBD
5EX-21 (D/S)	16	3.570	1.200	365.0	6.097	0.0	18.000	6.813	0.000	68.82	HBD
5EX-21N	31	3.256	1.094	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-22P	53	2.856	0.960	365.0	6.045	0.0	18.000	6.813	0.000	68.82	HBD
5EX-23P-1	58	2.462	0.828	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-21P	61	1.758	0.591	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-21	16	1.644	0.552	365.0	3.337	0.0	24.000	6.813	0.000	68.82	HBD
===>Grouped by Line:	***HD19-2-HDT to HDP 22 SUCT***								***Sorted By: Average Wear Rate***		
5EX-VALVE-5EX-16-1	22	5.596	1.881	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-28N	30	4.477	1.505	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-26 (D/S)	16	3.553	1.194	365.0	6.064	0.0	18.000	6.813	0.000	68.82	HBD
5EX-26N	31	3.256	1.094	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-28P-1	58	2.462	0.828	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-27P	66	2.281	0.767	365.0	6.032	0.0	18.000	6.813	0.000	68.82	HBD
5EX-26P	61	1.758	0.591	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-26	16	1.640	0.551	365.0	3.329	0.0	24.000	6.813	0.000	68.82	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:19PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.554

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***HD19-1-HDT to HDP 21 SUCT***									***Sorted By: Flow Order***	
5EX-21N	31	3.256	1.094	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-21P	61	1.758	0.591	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-21	16	1.644	0.552	365.0	3.337	0.0	24.000	6.813	0.000	68.82	HBD
5EX-21 (D/S)	16	3.570	1.200	365.0	6.097	0.0	18.000	6.813	0.000	68.82	HBD
5EX-22	3	4.007	1.347	365.0	6.057	0.0	18.000	6.813	0.000	68.82	HBD
5EX-22P	53	2.856	0.960	365.0	6.045	0.0	18.000	6.813	0.000	68.82	HBD
5EX-VALVE-5EX-16	22	5.596	1.881	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-23P-1	58	2.462	0.828	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-23N	30	4.477	1.505	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
===>Grouped by Line:	***HD19-2-HDT to HDP 22 SUCT***									***Sorted By: Flow Order***	
5EX-26N	31	3.256	1.094	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-26P	61	1.758	0.591	365.0	3.302	0.0	24.000	6.813	0.000	68.82	HBD
5EX-26	16	1.640	0.551	365.0	3.329	0.0	24.000	6.813	0.000	68.82	HBD
5EX-26 (D/S)	16	3.553	1.194	365.0	6.064	0.0	18.000	6.813	0.000	68.82	HBD
5EX-27P	66	2.281	0.767	365.0	6.032	0.0	18.000	6.813	0.000	68.82	HBD
5EX-VALVE-5EX-16-1	22	5.596	1.881	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-28P-1	58	2.462	0.828	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD
5EX-28N	30	4.477	1.505	365.0	5.912	0.0	18.000	6.813	0.000	68.82	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:19PM

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.554

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD19-1-HDT to HDP 21 SUCT**					***Sorted By:Remaining Life***		
5EX-VALVE-5EX-16	0.000	0.170	0.129	0.129	188,494	No	222,946
5EX-23N	0.000	0.198	0.121	0.121	451,291	No	222,946
5EX-21N	0.000	0.292	0.161	0.161	1,052,028	No	222,946
5EX-23P-1	0.000	0.249	0.141	0.141	1,145,295	No	222,946
5EX-22	0.417	0.322	0.121	0.121	1,308,758	Yes	222,946
5EX-21 (D/S)	0.445	0.376	0.121	0.121	1,861,829	Yes	222,946
5EX-22P	0.408	0.353	0.141	0.141	1,935,729	Yes	222,946
5EX-21P	0.000	0.330	0.188	0.188	2,106,250	No	222,946
5EX-21	0.436	0.388	0.161	0.161	3,607,045	Yes	222,946
===>Grouped by Line: **HD19-2-HDT to HDP 22 SUCT**					***Sorted By:Remaining Life***		
5EX-VALVE-5EX-16-1	0.000	0.170	0.129	0.129	188,494	No	222,946
5EX-28N	0.000	0.198	0.121	0.121	451,291	No	222,946
5EX-26N	0.000	0.292	0.161	0.161	1,052,028	No	222,946
5EX-26 (D/S)	0.422	0.308	0.121	0.121	1,373,139	No	222,946
5EX-28P-1	0.000	0.273	0.141	0.141	1,398,122	Yes	222,946
5EX-26P	0.000	0.339	0.188	0.188	2,242,989	No	222,946
5EX-27P	0.399	0.338	0.141	0.141	2,250,355	Yes	222,946
5EX-26	0.423	0.381	0.161	0.161	3,503,727	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.554

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **HD19-1-HDT to HDP 21 SUCT**					***Sorted By:Flow Order***		
5EX-21N	0.000	0.292	0.161	0.161	1,052,028	No	222,946
5EX-21P	0.000	0.330	0.188	0.188	2,106,250	No	222,946
5EX-21	0.436	0.388	0.161	0.161	3,607,045	Yes	222,946
5EX-21 (D/S)	0.445	0.376	0.121	0.121	1,861,829	Yes	222,946
5EX-22	0.417	0.322	0.121	0.121	1,308,758	Yes	222,946
5EX-22P	0.408	0.353	0.141	0.141	1,935,729	Yes	222,946
5EX-VALVE-5EX-16	0.000	0.170	0.129	0.129	188,494	No	222,946
5EX-23P-1	0.000	0.249	0.141	0.141	1,145,295	No	222,946
5EX-23N	0.000	0.198	0.121	0.121	451,291	No	222,946
===>Grouped by Line: **HD19-2-HDT to HDP 22 SUCT**					***Sorted By:Flow Order***		
5EX-26N	0.000	0.292	0.161	0.161	1,052,028	No	222,946
5EX-26P	0.000	0.339	0.188	0.188	2,242,989	No	222,946
5EX-26	0.423	0.381	0.161	0.161	3,503,727	Yes	222,946
5EX-26 (D/S)	0.422	0.308	0.121	0.121	1,373,139	No	222,946
5EX-27P	0.399	0.338	0.141	0.141	2,250,355	Yes	222,946
5EX-VALVE-5EX-16-1	0.000	0.170	0.129	0.129	188,494	No	222,946
5EX-28P-1	0.000	0.273	0.141	0.141	1,398,122	Yes	222,946
5EX-28N	0.000	0.198	0.121	0.121	451,291	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: HTR DRN TANK DRN
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.554

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:	**HD19-1-HDT to HDP 21 SUCT**											***Sorted By: Flow Order***
5EX-21	0.436	31.1	37.0	31.1	37.0	0.399	MT	119,088	404.9	399.0	10.8	119,088
5EX-21 (D/S)	0.445	67.5	46.0	67.5	46.0	0.399	MT	119,088	377.5	399.0	23.4	119,088
5EX-22	0.417	75.7	69.0	75.7	69.0	0.348	MT	119,088	341.3	348.0	26.3	119,088
5EX-22P	0.408	54.0	36.0	54.0	36.0	0.372	MT	119,088	354.0	372.0	18.7	119,088
===>Grouped by Line:	**HD19-2-HDT to HDP 22 SUCT**											***Sorted By: Flow Order***
5EX-26	0.423	31.0	31.0	31.0	31.0	0.392	MT	119,088	392.0	392.0	10.7	119,088
5EX-27P	0.399	43.1	46.0	43.1	46.0	0.353	MT	119,088	355.9	353.0	14.9	119,088
5EX-28P-1	0.000	56.9	60.0	56.9	60.0	0.279	MT	165,113	255.1	279.0	5.8	165,113

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:24:20PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 MPS A***								***Sorted By: Average Wear Rate***		
TEMP01	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS B***								***Sorted By: Average Wear Rate***		
TEMP02	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS C***								***Sorted By: Average Wear Rate***		
TEMP03	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS D***								***Sorted By: Average Wear Rate***		
TEMP04	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:20PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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 MPS A***									***Sorted By: Flow Order***	
TEMP01	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS B***									***Sorted By: Flow Order***	
TEMP02	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS C***									***Sorted By: Flow Order***	
TEMP03	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***MS-HP Turbine to MPS D***									***Sorted By: Flow Order***	
TEMP04	31	30.860	18.190	387.9	81.292	92.2	32.000	6.947	0.000	298.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:24:20PM

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-HP Turbine to MPS A**					***Sorted By:Remaining Life***		
TEMP01	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS B**					***Sorted By:Remaining Life***		
TEMP02	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS C**					***Sorted By:Remaining Life***		
TEMP03	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS D**					***Sorted By:Remaining Life***		
TEMP04	0.000	-0.410	0.265	0.265	-197,943	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: MS - HP TURB TO MOPS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MS-HP Turbine to MPS A**					***Sorted By:Flow Order***		
TEMP01	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS B**					***Sorted By:Flow Order***		
TEMP02	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS C**					***Sorted By:Flow Order***		
TEMP03	0.000	-0.410	0.265	0.265	-197,943	No	222,946
===>Grouped by Line: **MS-HP Turbine to MPS D**					***Sorted By:Flow Order***		
TEMP04	0.000	-0.410	0.265	0.265	-197,943	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC2(v3).DB

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:25:26PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD33A-1-MSDT 21A to HDT***								***Sorted By: Average Wear Rate***		
1A-VALVE-5EX-29-1	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-15N	30	6.456	1.255	384.5	3.991	0.0	6.625	6.953	0.000	107.96	ARD
1A-12N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-2	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-3	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-4	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-2P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-11 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-10P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-3P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-4P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-5P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-7P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-8P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-9P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-11P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-12 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	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:	***MSD33A-1-MSDT 21A to HDT***								***Sorted By: Average Wear Rate***		
1A-12	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-12P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1A-11	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-12P-1	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD34A-1-MSDT 22A to HDT***								***Sorted By: Average Wear Rate***		
2A-VALVE-5EX-29-2	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-3N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-12	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-6	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-5P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-2P-1	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-7P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-8P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-9P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-10P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-12P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-2P	58	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-6P	51	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-4P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-3 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-3	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-3P-1	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2A-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-3P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	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:	***MSD35A-1-MSDT 23A to HDT***								***Sorted By: Average Wear Rate***		
3A-VALVE-5EX-29-3	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-16N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-3	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-17	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-18	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-19	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-20	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-21	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-3P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3A-1 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-17P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-18P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-19P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3A-20P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-21P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3A-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-16 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-16	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-16P US	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
3A-1	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-1P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD36A-1-MSDT 21B to HDT***								***Sorted By: Average Wear Rate***		
1B-VALVE-5EX-29-4	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-3N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-2	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-9	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	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:	***MSD36A-1-MSDT 21B to HDT***								***Sorted By: Average Wear Rate***		
1B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-14	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-5R (D/S)	7	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-5P	57	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-6P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-7P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-7P-1	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-8P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-9P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-3	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-4	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-5R	7	0.001	0.001	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1B-5 (D/S)	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-5	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-3P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1B-4P	52	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD37A-1-MSDT 22B to HDT***								***Sorted By: Average Wear Rate***		
2B-VALVE-5EX-29-5	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-1N	31	4.384	0.852	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2B-3	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-4	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	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:	***MSD37A-1-MSDT 22B to HDT***								***Sorted By: Average Wear Rate***		
2B-5	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-9	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-3P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-2 (D/S)	16	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-5P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-7P US	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-7P DS	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-8P US	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-8P DS	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-4P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-9P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-9P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-11P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-1 (D/S)	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2B-1	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2B-1P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2B-2	16	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2B-2P	64	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD38A-1-MSDT 23B to HDT***								***Sorted By: Average Wear Rate***		
3B-VALVE-5EX-29-6	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	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:	***MSD38A-1-MSDT 23B to HDT***								***Sorted By: Average Wear Rate***		
3B-3N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-7	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-10	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-11	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-12	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-14	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-2P-1	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-8P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-9P DS	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-7P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-5	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-3 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-3	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-5P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-3P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
3B-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-4P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:25:26PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD33A-1-MSDT 21A to HDT***									***Sorted By: Flow Order***	
1A-12N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-12P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1A-12	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-12 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-12P-1	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1A-11	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1A-11 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-11P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-10P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-VALVE-5EX-29-1	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-2	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-2P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-3	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-3P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-4	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-4P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-5P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-7P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-8P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-9P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	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:	***MSD33A-1-MSDT 21A to HDT***									***Sorted By: Flow Order***	
1A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1A-15N	30	6.456	1.255	384.5	3.991	0.0	6.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD34A-1-MSDT 22A to HDT***									***Sorted By: Flow Order***	
2A-3N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-3P-1	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2A-3	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-3 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-3P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2A-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2A-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-4P	66	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-5	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-5P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-1	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-VALVE-5EX-29-2	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-2P	58	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-2P-1	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-6	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-6P	51	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-7	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-7P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-8	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-8P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-9P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-10	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-10P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-12	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-12P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2A-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	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:	***MSD35A-1-MSDT 23A to HDT***									***Sorted By: Flow Order***	
3A-16N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-16P US	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
3A-16	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-16 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-1P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
3A-1	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3A-1 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-VALVE-5EX-29-3	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-3	4	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-3P	54	0.002	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3A-17	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-17P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-18	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-18P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-19	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-19P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3A-20	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-20P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-21	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-21P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3A-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3A-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD36A-1-MSDT 21B to HDT***									***Sorted By: Flow Order***	
1B-3N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-3P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1B-3	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-4P	52	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-4	2	0.001	0.001	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-5	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-5 (D/S)	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
1B-5R	7	0.001	0.001	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
1B-5R (D/S)	7	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	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:	***MSD36A-1-MSDT 21B to HDT***									***Sorted By: Flow Order***	
1B-5P	57	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-VALVE-5EX-29-4	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-2	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-6P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-7P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-7P-1	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-8P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-9	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-9P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-14	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
1B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
1B-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD37A-1-MSDT 22B to HDT***									***Sorted By: Flow Order***	
2B-1N	31	4.384	0.852	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2B-1P	61	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
2B-1	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2B-1 (D/S)	15	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2B-2P	64	0.000	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	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:	***MSD37A-1-MSDT 22B to HDT***									***Sorted By: Flow Order***	
2B-2	16	0.000	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
2B-2 (D/S)	16	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-3	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-3P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-4	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-VALVE-5EX-29-5	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-4P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-5	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-5P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-6	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-7	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-7P US	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-7P DS	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-8P US	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-8P DS	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-9	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-9P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-9P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-10	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-11	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-11P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-12	1	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-12P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-13	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
2B-15	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
2B-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD38A-1-MSDT 23B to HDT***									***Sorted By: Flow Order***	
3B-3N	31	4.384	0.852	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-3P	61	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	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:	***MSD38A-1-MSDT 23B to HDT***									***Sorted By: Flow Order***	
3B-3	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-3 (D/S)	15	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-4P	64	0.001	0.000	384.5	2.096	0.0	8.625	6.953	0.000	107.96	ARD
3B-4	16	0.001	0.000	384.5	2.069	0.0	8.625	6.953	0.000	107.96	ARD
3B-4 (D/S)	16	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-5	4	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-5P	54	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-1	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-VALVE-5EX-29-6	25	7.305	1.420	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-2P	58	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-2	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-2P-1	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-6	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-6P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-7	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-7P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-8	2	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-8P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-9	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-9P DS	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-10	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-10P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-10P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-11	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-11P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-11P DS	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-12	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-12P US	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-14	1	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-14P	51	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-13	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-13P	52	0.001	0.001	384.5	3.693	0.0	6.625	6.953	0.000	107.96	ARD
3B-15	2	0.002	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-15P	52	0.001	0.001	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD
3B-15N	30	5.844	1.136	384.5	3.585	0.0	6.625	6.953	0.000	107.96	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:25:26PM

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD33A-1-MSDT 21A to HDT**					***Sorted By:Remaining Life***		
1A-VALVE-5EX-29-1	0.000	0.094	0.048	0.048	287,136	No	222,946
1A-12N	0.000	0.210	0.058	0.058	1,568,826	No	222,946
1A-15N	0.438	0.341	0.044	0.044	2,066,948	Yes	222,946
1A-11P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-11 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-10P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-3P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-4	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-4P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-5P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-9P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-15	0.000	0.352	0.044	0.044	100,000,000	No	103,858
1A-11	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12P-1	0.000	0.322	0.068	0.068	100,000,000	No	103,858
1A-12 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD33A-1-MSDT 21A to HDT**					***Sorted By:Remaining Life***		
1A-12	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12P	0.000	0.409	0.068	0.068	100,000,000	No	103,858
===>Grouped by Line: **MSD34A-1-MSDT 22A to HDT**					***Sorted By:Remaining Life***		
2A-VALVE-5EX-29-2	0.000	0.094	0.048	0.048	287,136	No	222,946
2A-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
2A-3N	0.000	0.210	0.058	0.058	1,568,826	No	222,946
2A-3P-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3P	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-4P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2P-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
===>Grouped by Line: **MSD35A-1-MSDT 23A to HDT**					***Sorted By:Remaining Life***		
3A-VALVE-5EX-29-3	0.000	0.094	0.044	0.044	306,569	No	222,946
3A-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
3A-16N	0.000	0.693	0.058	0.058	6,527,030	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD35A-1-MSDT 23A to HDT**					***Sorted By:Remaining Life***		
3A-16P US	0.000	0.428	0.058	0.058	100,000,000	No	103,858
3A-16	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-16 (D/S)	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-1P	0.000	0.423	0.068	0.068	100,000,000	No	103,858
3A-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
3A-1 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
===>Grouped by Line: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Remaining Life***		
1B-VALVE-5EX-29-4	0.000	0.094	0.048	0.048	287,136	No	222,946
1B-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
1B-3N	0.000	0.268	0.058	0.058	2,156,539	No	222,946
1B-3P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-3	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-2P	0.000	0.280	0.051	0.051	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Remaining Life***		
1B-2	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
===>Grouped by Line: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Remaining Life***		
2B-VALVE-5EX-29-5	0.000	0.094	0.048	0.048	287,136	No	222,946
2B-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
2B-1N	0.000	0.288	0.058	0.058	2,362,069	No	222,946
2B-1P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2 (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-4	0.000	0.280	0.051	0.051	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Remaining Life***		
2B-4P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
===>Grouped by Line: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Remaining Life***		
3B-VALVE-5EX-29-6	0.000	0.094	0.048	0.048	287,136	No	222,946
3B-3N	0.000	0.210	0.058	0.058	1,568,826	No	222,946
3B-15N	0.000	0.290	0.044	0.044	1,897,188	No	222,946
3B-11	0.000	0.346	0.044	0.044	100,000,000	No	103,858
3B-11P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-3P	0.000	0.322	0.068	0.068	100,000,000	No	103,858
3B-3	0.000	0.427	0.058	0.058	100,000,000	No	103,858
3B-3 (D/S)	0.000	0.429	0.058	0.058	100,000,000	No	103,858
3B-4P	0.000	0.428	0.068	0.068	100,000,000	No	103,858
3B-4	0.000	0.455	0.058	0.058	100,000,000	No	103,858
3B-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Remaining Life***		
3B-5	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-5P	0.000	0.280	0.052	0.052	100,000,000	No	88,449
3B-1	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-2P-1	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-8	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-9P DS	0.000	0.250	0.052	0.052	100,000,000	No	103,858
3B-10	0.000	0.183	0.044	0.044	100,000,000	No	103,858
3B-10P US	0.000	0.238	0.052	0.052	100,000,000	No	103,858
3B-10P DS	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-11P DS	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-12	0.000	0.347	0.044	0.044	100,000,000	No	103,858
3B-12P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-14	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-14P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-15P	0.000	0.349	0.052	0.052	100,000,000	No	103,858

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD33A-1-MSDT 21A to HDT**					***Sorted By:Flow Order***		
1A-12N	0.000	0.210	0.058	0.058	1,568,826	No	222,946
1A-12P	0.000	0.409	0.068	0.068	100,000,000	No	103,858
1A-12	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-12P-1	0.000	0.322	0.068	0.068	100,000,000	No	103,858
1A-11	0.000	0.322	0.058	0.058	100,000,000	No	103,858
1A-11 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-11P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-10P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-VALVE-5EX-29-1	0.000	0.094	0.048	0.048	287,136	No	222,946
1A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-3P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-4	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-4P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-5P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-9P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
1A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
1A-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD33A-1-MSDT 21A to HDT**				***Sorted By:Flow Order***		
1A-15	0.000	0.352	0.044	0.044	100,000,000	No	103,858
1A-15N	0.438	0.341	0.044	0.044	2,066,948	Yes	222,946
===>Grouped by Line:	**MSD34A-1-MSDT 22A to HDT**				***Sorted By:Flow Order***		
2A-3N	0.000	0.210	0.058	0.058	1,568,826	No	222,946
2A-3P-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3 (D/S)	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-3P	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4	0.000	0.322	0.058	0.058	100,000,000	No	103,858
2A-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-4P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-5P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-VALVE-5EX-29-2	0.000	0.094	0.048	0.048	287,136	No	222,946
2A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-2P-1	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-6P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-7P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-8P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-9P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-10P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-12P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
2A-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
===>Grouped by Line:	**MSD35A-1-MSDT 23A to HDT**				***Sorted By:Flow Order***		
3A-16N	0.000	0.693	0.058	0.058	6,527,030	No	222,946
3A-16P US	0.000	0.428	0.058	0.058	100,000,000	No	103,858

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD35A-1-MSDT 23A to HDT**					***Sorted By:Flow Order***		
3A-16	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-16 (D/S)	0.000	0.422	0.058	0.058	100,000,000	No	103,858
3A-1P	0.000	0.423	0.068	0.068	100,000,000	No	103,858
3A-1	0.000	0.322	0.058	0.058	100,000,000	No	103,858
3A-1 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-VALVE-5EX-29-3	0.000	0.094	0.044	0.044	306,569	No	222,946
3A-2P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-3P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-17P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-18P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-19P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-20P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-21P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-13P	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3A-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
===>Grouped by Line: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Flow Order***		
1B-3N	0.000	0.268	0.058	0.058	2,156,539	No	222,946
1B-3P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-3	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-4	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R	0.000	0.322	0.066	0.066	100,000,000	No	86,338
1B-5R (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-VALVE-5EX-29-4	0.000	0.094	0.048	0.048	287,136	No	222,946
1B-2P	0.000	0.280	0.051	0.051	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD36A-1-MSDT 21B to HDT**					***Sorted By:Flow Order***		
1B-2	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-7P-1	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-8P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-9P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-11P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-14P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
1B-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
===>Grouped by Line: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Flow Order***		
2B-1N	0.000	0.288	0.058	0.058	2,362,069	No	222,946
2B-1P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-1 (D/S)	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2P	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2	0.000	0.322	0.066	0.066	100,000,000	No	86,338
2B-2 (D/S)	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-3P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-4	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-VALVE-5EX-29-5	0.000	0.094	0.048	0.048	287,136	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD37A-1-MSDT 22B to HDT**					***Sorted By:Flow Order***		
2B-4P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-5P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-6P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-7P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-8P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-9P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-10P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-11P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P US	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-12P DS	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-13P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15P	0.000	0.280	0.051	0.051	100,000,000	No	86,338
2B-15N	0.000	0.131	0.044	0.044	669,861	No	222,946
===>Grouped by Line: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Flow Order***		
3B-3N	0.000	0.210	0.058	0.058	1,568,826	No	222,946
3B-3P	0.000	0.322	0.068	0.068	100,000,000	No	103,858
3B-3	0.000	0.427	0.058	0.058	100,000,000	No	103,858
3B-3 (D/S)	0.000	0.429	0.058	0.058	100,000,000	No	103,858
3B-4P	0.000	0.428	0.068	0.068	100,000,000	No	103,858
3B-4	0.000	0.455	0.058	0.058	100,000,000	No	103,858
3B-4 (D/S)	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-5	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-5P	0.000	0.280	0.052	0.052	100,000,000	No	88,449
3B-1	0.000	0.280	0.044	0.044	100,000,000	No	88,449

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD38A-1-MSDT 23B to HDT**					***Sorted By:Flow Order***		
3B-VALVE-5EX-29-6	0.000	0.094	0.048	0.048	287,136	No	222,946
3B-2P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-2	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-2P-1	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-6	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-6P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-7	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-7P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-8	0.000	0.280	0.044	0.044	100,000,000	No	88,449
3B-8P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-9	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-9P DS	0.000	0.250	0.052	0.052	100,000,000	No	103,858
3B-10	0.000	0.183	0.044	0.044	100,000,000	No	103,858
3B-10P US	0.000	0.238	0.052	0.052	100,000,000	No	103,858
3B-10P DS	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-11	0.000	0.346	0.044	0.044	100,000,000	No	103,858
3B-11P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-11P DS	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-12	0.000	0.347	0.044	0.044	100,000,000	No	103,858
3B-12P US	0.000	0.347	0.052	0.052	100,000,000	No	103,858
3B-14	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-14P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-13	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-13P	0.000	0.280	0.052	0.052	100,000,000	No	103,858
3B-15	0.000	0.280	0.044	0.044	100,000,000	No	103,858
3B-15P	0.000	0.349	0.052	0.052	100,000,000	No	103,858
3B-15N	0.000	0.290	0.044	0.044	1,897,188	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

6

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: MSDT DRNS TO HDT
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	**MSD33A-1-MSDT 21A to HDT**											***Sorted By: Flow Order***
1A-15N	0.438	153.9	87.0	153.9	87.0	0.351	MT	149,573	284.1	351.0	10.4	149,573
===>Grouped by Line:	**MSD36A-1-MSDT 21B to HDT**											***Sorted By: Flow Order***
1B-4P	0.000	45.6	47.0	0.0	0.0	0.322	ER	136,608	322.0	322.0	0.0	0
1B-4	0.000	14.3	37.0	0.0	0.0	0.322	ER	136,608	322.0	322.0	0.0	0
1B-5R	0.000	64.8	109.0	0.0	0.0	0.322	ER	136,608	322.0	322.0	0.0	0
1B-5P	0.000	74.9	58.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-6P	0.000	76.4	86.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-9P	0.000	75.4	40.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-10	0.000	100.7	59.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-10P US	0.000	66.4	56.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-10P DS	0.000	66.1	44.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-11	0.000	100.0	73.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-11P US	0.000	66.5	58.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-11P DS	0.000	66.6	63.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-12	0.000	101.0	83.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-12P US	0.000	66.6	53.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-12P DS	0.000	67.2	71.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
1B-14	0.000	103.0	103.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
===>Grouped by Line:	**MSD37A-1-MSDT 22B to HDT**											***Sorted By: Flow Order***
2B-1P	0.000	48.5	100.0	0.0	0.0	0.322	ER	136,608	322.0	322.0	0.0	0
2B-2	0.000	45.0	99.0	0.0	0.0	0.322	ER	136,608	322.0	322.0	0.0	0
2B-2 (D/S)	0.000	92.9	136.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-3	0.000	110.9	180.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-3P	0.000	95.9	63.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-4P	0.000	66.0	44.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-5P	0.000	74.9	78.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	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:	**MSD37A-1-MSDT 22B to HDT**											***Sorted By: Flow Order***
2B-7P DS	0.000	74.9	47.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-8	0.000	110.9	112.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-8P US	0.000	74.9	55.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-8P DS	0.000	74.9	66.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-9P US	0.000	66.0	70.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-9P DS	0.000	66.0	55.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-10P US	0.000	58.8	100.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-10P DS	0.000	66.0	96.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-11	0.000	88.2	128.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-11P	0.000	66.0	78.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-12	0.000	98.9	76.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-12P US	0.000	66.0	117.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-12P DS	0.000	66.0	106.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-13	0.000	110.9	83.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-13P	0.000	74.9	90.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-15	0.000	110.9	172.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	0.0	0
2B-15P	0.000	74.9	72.0	0.0	0.0	0.280	ER	136,608	280.0	280.0	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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:25:58PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.228

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD27-1-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-16P-1	61	1.449	0.282	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
1A-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-2-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-17N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-17P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-3-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-19P-1	61	1.448	0.282	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
1A-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-4-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-17 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
1A-17	12	2.197	0.427	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
1A-17 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-5-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-18 (BR/SE)	11	6.618	1.287	384.5	0.888	0.0	12.750	6.953	0.000	107.96	ARD
1A-VALVE-5EX-19L	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-VALVE-5EX-19M	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-20	2	5.114	0.994	384.5	0.930	0.0	12.750	6.953	0.000	107.96	ARD
1A-18	11	4.871	0.947	384.5	0.619	0.0	12.750	6.953	0.000	107.96	ARD
1A-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	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:	***MSD27-5-MS21A to MSDT 21A***								***Sorted By: Average Wear Rate***		
1A-18P DS	62	2.626	0.511	384.5	0.880	0.0	12.750	6.953	0.000	107.96	ARD
1A-18P US	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-18 (D/S)	11	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-1-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-16P-1	61	1.446	0.281	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
2A-16P	62	1.070	0.208	384.5	0.307	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-2-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-17N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-17P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-3-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-4-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-17 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2A-17	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-17P	62	1.855	0.361	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2A-17 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-5-MS22A to MSDT 22A***								***Sorted By: Average Wear Rate***		
2A-18 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-VALVE-5EX-19J	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-VALVE-5EX-19K	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-18	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2A-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-18P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-18 (D/S)	11	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-1-MS23A to MSDT 23A***								***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:	***MSD29-1-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-2-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-17N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-17P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-3-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-4-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-17 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3A-17P	61	2.504	0.487	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3A-17	12	2.195	0.427	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
3A-17 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-5-MS23A to MSDT 23A***								***Sorted By: Average Wear Rate***		
3A-18 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-VALVE-5EX-19G	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-VALVE-5EX-19H	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-21N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-21	2	4.920	0.957	384.5	0.892	0.0	12.750	6.953	0.000	107.96	ARD
3A-18	11	4.845	0.942	384.5	0.615	0.0	12.750	6.953	0.000	107.96	ARD
3A-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-21P	52	3.311	0.644	384.5	0.888	0.0	12.750	6.953	0.000	107.96	ARD
3A-20P-1 DS	58	2.901	0.564	384.5	0.884	0.0	12.750	6.953	0.000	107.96	ARD
3A-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-20P-1 US	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-18P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-18 (D/S)	11	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-1-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	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:	***MSD30-1-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-16P-1	61	1.461	0.284	384.5	0.311	0.0	12.750	6.953	0.000	107.96	ARD
1B-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-2-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-18N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-18P	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-3-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-19P-1	61	1.448	0.282	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
1B-19P	62	1.069	0.208	384.5	0.307	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-4-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-18 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
1B-18	12	2.191	0.426	384.5	0.307	0.0	12.750	6.953	0.000	107.96	ARD
1B-18 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-5-MS21B to MSDT 21B***								***Sorted By: Average Wear Rate***		
1B-17 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-VALVE-5EX-19	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-VALVE-5EX-19F	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-17 (D/S)	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
1B-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-17	11	2.688	0.523	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
1B-17P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-1-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-16P-1	61	1.451	0.282	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
2B-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-2-MS22B to MSDT 22B***								***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:	***MSD31-2-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-18N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-18P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-3-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-19P-1	61	1.453	0.283	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
2B-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-4-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-18 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2B-18P	61	2.504	0.487	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2B-18	12	2.171	0.422	384.5	0.304	0.0	12.750	6.953	0.000	107.96	ARD
2B-18 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-5-MS22B to MSDT 22B***								***Sorted By: Average Wear Rate***		
2B-17 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-VALVE-5EX-19D	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-VALVE-5EX-19E	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-17 (D/S)	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2B-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-17	11	2.684	0.522	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
2B-17P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-1-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-2-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-18N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-18P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-3-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	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:	***MSD32-3-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-19P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-4-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-18 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3B-18P	61	2.504	0.487	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3B-18	12	2.205	0.429	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
3B-18 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-5-MS23B to MSDT 23B***								***Sorted By: Average Wear Rate***		
3B-17 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-VALVE-5EX-19B	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-VALVE-5EX-19C	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-21N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-21	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-17 (D/S)	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3B-21P	52	3.269	0.636	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-17	11	2.706	0.526	384.5	0.311	0.0	12.750	6.953	0.000	107.96	ARD
3B-17P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:25:58PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.228

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD27-1-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-16P-1	61	1.449	0.282	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
1A-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-2-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-17N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-17P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-3-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-19P-1	61	1.448	0.282	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
1A-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-4-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-17	12	2.197	0.427	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
1A-17 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-17 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD27-5-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-18 (D/S)	11	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1A-18	11	4.871	0.947	384.5	0.619	0.0	12.750	6.953	0.000	107.96	ARD
1A-18 (BR/SE)	11	6.618	1.287	384.5	0.888	0.0	12.750	6.953	0.000	107.96	ARD
1A-18P US	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-18P DS	62	2.626	0.511	384.5	0.880	0.0	12.750	6.953	0.000	107.96	ARD
1A-20	2	5.114	0.994	384.5	0.930	0.0	12.750	6.953	0.000	107.96	ARD
1A-VALVE-5EX-19L	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	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:	***MSD27-5-MS21A to MSDT 21A***									***Sorted By: Flow Order***	
1A-VALVE-5EX-19M	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1A-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-1-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-16P-1	61	1.446	0.281	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
2A-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-16P	62	1.070	0.208	384.5	0.307	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-2-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-17N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-17P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-3-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-4-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-17	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-17 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-17 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2A-17P	62	1.855	0.361	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD28-5-MS22A to MSDT 22A***									***Sorted By: Flow Order***	
2A-18 (D/S)	11	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2A-18	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2A-18 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-18P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-VALVE-5EX-19J	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-VALVE-5EX-19K	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2A-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-1-MS23A to MSDT 23A***									***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:	***MSD29-1-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-2-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-17N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-17P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-3-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-4-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-17	12	2.195	0.427	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
3A-17 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-17 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3A-17P	61	2.504	0.487	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD29-5-MS23A to MSDT 23A***									***Sorted By: Flow Order***	
3A-18 (D/S)	11	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3A-18	11	4.845	0.942	384.5	0.615	0.0	12.750	6.953	0.000	107.96	ARD
3A-18 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-18P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-VALVE-5EX-19G	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-VALVE-5EX-19H	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-20P-1 US	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3A-20P-1 DS	58	2.901	0.564	384.5	0.884	0.0	12.750	6.953	0.000	107.96	ARD
3A-21	2	4.920	0.957	384.5	0.892	0.0	12.750	6.953	0.000	107.96	ARD
3A-21P	52	3.311	0.644	384.5	0.888	0.0	12.750	6.953	0.000	107.96	ARD
3A-21N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-1-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-16P-1	61	1.461	0.284	384.5	0.311	0.0	12.750	6.953	0.000	107.96	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:	***MSD30-1-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-2-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-18N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-18P	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-3-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-19P-1	61	1.448	0.282	384.5	0.308	0.0	12.750	6.953	0.000	107.96	ARD
1B-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-19P	62	1.069	0.208	384.5	0.307	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-4-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-18 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
1B-18	12	2.191	0.426	384.5	0.307	0.0	12.750	6.953	0.000	107.96	ARD
1B-18 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD30-5-MS21B to MSDT 21B***									***Sorted By: Flow Order***	
1B-17	11	2.688	0.523	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
1B-17 (D/S)	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
1B-17 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-17P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-VALVE-5EX-19	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-VALVE-5EX-19F	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
1B-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-1-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-16P-1	61	1.451	0.282	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
2B-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-2-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-18N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	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:	***MSD31-2-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-18P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-3-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-19P-1	61	1.453	0.283	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
2B-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-4-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-18 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
2B-18	12	2.171	0.422	384.5	0.304	0.0	12.750	6.953	0.000	107.96	ARD
2B-18 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2B-18P	61	2.504	0.487	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD31-5-MS22B to MSDT 22B***									***Sorted By: Flow Order***	
2B-17	11	2.684	0.522	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
2B-17 (D/S)	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
2B-17 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-17P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-VALVE-5EX-19D	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-VALVE-5EX-19E	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
2B-20N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-1-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-16N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-16P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-2-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-18N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-18P1	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-3-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-19N	31	2.555	0.497	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-19P-1	61	1.380	0.268	384.5	0.293	0.0	12.750	6.953	0.000	107.96	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:	***MSD32-3-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-19 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-19 (D/S)	12	2.095	0.407	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-19P	62	1.022	0.199	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-4-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-18 (BR/SE)	12	1.737	0.338	384.5	0.293	0.0	12.750	6.953	0.000	107.96	ARD
3B-18	12	2.205	0.429	384.5	0.309	0.0	12.750	6.953	0.000	107.96	ARD
3B-18 (D/S)	12	3.802	0.739	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3B-18P	61	2.504	0.487	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
===>Grouped by Line:	***MSD32-5-MS23B to MSDT 23B***									***Sorted By: Flow Order***	
3B-17	11	2.706	0.526	384.5	0.311	0.0	12.750	6.953	0.000	107.96	ARD
3B-17 (D/S)	11	4.637	0.902	384.5	0.587	0.0	12.750	6.953	0.000	107.96	ARD
3B-17 (BR/SE)	11	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-17P	62	2.615	0.508	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-20	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-VALVE-5EX-19B	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-20P	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-VALVE-5EX-19C	25	6.538	1.271	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-20P-1	58	2.877	0.559	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-21	2	4.838	0.941	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-21P	52	3.269	0.636	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD
3B-21N	30	5.230	1.017	384.5	0.876	0.0	12.750	6.953	0.000	107.96	ARD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:25:58PM

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.228

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD27-1-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1A-16 (BR/SE)	0.000	0.208	0.085	0.085	3,190,965	No	222,946
1A-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
1A-16 (D/S)	0.000	0.360	0.085	0.085	5,898,653	No	222,946
1A-16P-1	0.410	0.371	0.100	0.100	8,421,192	Yes	222,946
===>Grouped by Line: **MSD27-2-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-17N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1A-17P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
===>Grouped by Line: **MSD27-3-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1A-19 (BR/SE)	0.000	0.239	0.085	0.085	3,994,910	No	222,946
1A-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
1A-19 (D/S)	0.000	0.363	0.085	0.085	5,963,171	No	222,946
1A-19P-1	0.408	0.372	0.100	0.100	8,457,690	No	222,946
===>Grouped by Line: **MSD27-4-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-17 (D/S)	0.000	0.349	0.085	0.085	3,126,416	No	222,946
1A-17 (BR/SE)	0.000	0.216	0.085	0.085	3,398,435	No	222,946
1A-17	0.405	0.352	0.085	0.085	5,470,156	No	222,946
===>Grouped by Line: **MSD27-5-MS21A to MSDT 21A**					***Sorted By:Remaining Life***		
1A-VALVE-5EX-19L	0.000	0.084	0.091	0.091	-53,388	No	222,946
1A-VALVE-5EX-19M	0.000	0.084	0.091	0.091	-53,388	No	222,946
1A-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
1A-18 (BR/SE)	0.290	0.181	0.085	0.085	653,342	No	222,946
1A-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
1A-18P US	0.000	0.183	0.100	0.100	1,437,948	No	222,946
1A-20	0.430	0.272	0.085	0.085	1,639,615	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: MSD27-5-MS21A to MSDT 21A					Sorted By:Remaining Life		
1A-20P	0.000	0.207	0.100	0.100	1,680,766	Yes	222,946
1A-18P DS	0.263	0.220	0.100	0.100	2,059,200	Yes	222,946
1A-18	0.410	0.340	0.085	0.085	2,354,761	No	222,946
1A-18 (D/S)	0.000	0.350	0.085	0.085	4,673,461	No	222,946
===>Grouped by Line: MSD28-1-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-16 (BR/SE)	0.000	0.239	0.085	0.085	3,972,108	No	222,946
2A-16 (D/S)	0.000	0.336	0.085	0.085	5,389,437	No	222,946
2A-16P-1	0.404	0.373	0.100	0.100	8,499,663	No	222,946
2A-16P	0.399	0.312	0.100	0.100	8,943,244	No	222,946
===>Grouped by Line: MSD28-2-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-17N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-17P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line: MSD28-3-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-19 (D/S)	0.000	0.197	0.085	0.085	2,393,503	No	222,946
2A-19 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
2A-19P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
2A-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line: MSD28-4-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-17 (D/S)	0.000	0.153	0.085	0.085	803,829	No	222,946
2A-17	0.000	0.197	0.085	0.085	2,393,503	No	222,946
2A-17P	0.000	0.203	0.100	0.100	2,497,525	No	222,946
2A-17 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
===>Grouped by Line: MSD28-5-MS22A to MSDT 22A					Sorted By:Remaining Life		
2A-VALVE-5EX-19J	0.000	0.084	0.091	0.091	-53,388	No	222,946
2A-VALVE-5EX-19K	0.000	0.084	0.091	0.091	-53,388	No	222,946
2A-18 (BR/SE)	0.000	0.084	0.085	0.085	-12,280	No	222,946
2A-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
2A-20	0.000	0.127	0.085	0.085	386,264	No	222,946
2A-18	0.000	0.132	0.085	0.085	452,752	No	222,946
2A-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
2A-18P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
2A-20P	0.000	0.206	0.100	0.100	1,665,882	Yes	222,946
2A-18 (D/S)	0.000	0.185	0.085	0.085	1,756,284	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD29-1-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3A-16 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
3A-16P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3A-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
3A-16 (D/S)	0.000	0.347	0.085	0.085	5,619,075	No	222,946
===>Grouped by Line:	**MSD29-2-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-17N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3A-17P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD29-3-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3A-19 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
3A-19P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3A-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
3A-19 (D/S)	0.000	0.342	0.085	0.085	5,511,545	No	222,946
===>Grouped by Line:	**MSD29-4-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-17P	0.000	0.186	0.100	0.100	1,552,752	No	222,946
3A-17 (D/S)	0.000	0.342	0.100	0.100	2,870,668	No	222,946
3A-17 (BR/SE)	0.000	0.227	0.100	0.100	3,305,480	No	222,946
3A-17	0.402	0.348	0.100	0.100	5,094,054	No	222,946
===>Grouped by Line:	**MSD29-5-MS23A to MSDT 23A**				***Sorted By:Remaining Life***		
3A-VALVE-5EX-19G	0.000	0.084	0.091	0.091	-53,388	No	222,946
3A-VALVE-5EX-19H	0.000	0.084	0.091	0.091	-53,388	No	222,946
3A-20	0.000	0.127	0.085	0.085	386,264	No	222,946
3A-18 (BR/SE)	0.000	0.195	0.085	0.085	753,659	No	222,946
3A-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3A-20P-1 US	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3A-21	0.305	0.218	0.085	0.085	1,210,578	Yes	222,946
3A-18P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
3A-21N	0.000	0.260	0.085	0.085	1,504,005	No	222,946
3A-21P	0.292	0.214	0.100	0.100	1,546,978	Yes	222,946
3A-20P-1 DS	0.278	0.213	0.100	0.100	1,762,103	Yes	222,946
3A-18	0.393	0.326	0.085	0.085	2,238,261	No	222,946
3A-18 (D/S)	0.000	0.224	0.085	0.085	2,451,461	No	222,946
===>Grouped by Line:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-16 (BR/SE)	0.000	0.248	0.085	0.085	4,228,314	No	222,946
1B-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
1B-16 (D/S)	0.000	0.354	0.085	0.085	5,769,617	No	222,946
1B-16P-1	0.435	0.393	0.100	0.100	9,032,556	Yes	222,946
===>Grouped by Line:	**MSD30-2-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-18N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1B-18P	0.000	0.215	0.100	0.100	3,752,826	No	222,946
===>Grouped by Line:	**MSD30-3-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1B-19 (BR/SE)	0.000	0.219	0.085	0.085	3,476,236	No	222,946
1B-19 (D/S)	0.000	0.347	0.085	0.085	5,619,075	No	222,946
1B-19P-1	0.407	0.371	0.100	0.100	8,429,277	No	222,946
1B-19P	0.398	0.355	0.100	0.100	10,757,568	Yes	222,946
===>Grouped by Line:	**MSD30-4-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-18 (D/S)	0.000	0.343	0.085	0.085	3,055,324	No	222,946
1B-18 (BR/SE)	0.000	0.229	0.085	0.085	3,735,573	No	222,946
1B-18	0.396	0.346	0.085	0.085	5,362,754	No	222,946
===>Grouped by Line:	**MSD30-5-MS21B to MSDT 21B**				***Sorted By:Remaining Life***		
1B-VALVE-5EX-19	0.000	0.084	0.091	0.091	-53,388	No	222,946
1B-VALVE-5EX-19F	0.000	0.084	0.091	0.091	-53,388	No	222,946
1B-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
1B-20	0.000	0.127	0.085	0.085	386,264	No	222,946
1B-17 (BR/SE)	0.000	0.208	0.085	0.085	843,241	No	222,946
1B-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
1B-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
1B-17P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
1B-17 (D/S)	0.000	0.334	0.085	0.085	2,416,795	No	222,946
1B-17	0.415	0.351	0.085	0.085	4,447,767	No	222,946
===>Grouped by Line:	**MSD31-1-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2B-16 (BR/SE)	0.000	0.254	0.085	0.085	4,383,916	No	222,946
2B-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
2B-16 (D/S)	0.000	0.351	0.085	0.085	5,705,099	No	222,946
2B-16P-1	0.413	0.376	0.100	0.100	8,568,403	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD31-2-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-18N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2B-18P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD31-3-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2B-19 (BR/SE)	0.000	0.226	0.100	0.100	3,279,546	No	222,946
2B-19 (D/S)	0.000	0.338	0.100	0.100	5,111,870	No	222,946
2B-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
2B-19P-1	0.419	0.369	0.100	0.100	8,334,948	Yes	222,946
===>Grouped by Line:	**MSD31-4-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-18P	0.000	0.186	0.100	0.100	1,552,752	No	222,946
2B-18 (BR/SE)	0.000	0.206	0.100	0.100	2,744,121	No	222,946
2B-18 (D/S)	0.000	0.334	0.100	0.100	2,775,878	No	222,946
2B-18	0.367	0.334	0.100	0.100	4,861,667	No	222,946
===>Grouped by Line:	**MSD31-5-MS22B to MSDT 22B**				***Sorted By:Remaining Life***		
2B-VALVE-5EX-19D	0.000	0.084	0.091	0.091	-53,388	No	222,946
2B-VALVE-5EX-19E	0.000	0.084	0.091	0.091	-53,388	No	222,946
2B-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
2B-20	0.000	0.127	0.085	0.085	386,264	No	222,946
2B-17 (BR/SE)	0.000	0.196	0.100	0.100	660,050	No	222,946
2B-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
2B-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
2B-17P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
2B-17 (D/S)	0.000	0.337	0.100	0.100	2,304,242	No	222,946
2B-17	0.411	0.348	0.100	0.100	4,158,488	No	222,946
===>Grouped by Line:	**MSD32-1-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3B-16P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3B-16 (BR/SE)	0.000	0.235	0.085	0.085	3,891,175	No	222,946
3B-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
3B-16 (D/S)	0.000	0.341	0.085	0.085	5,490,040	No	222,946
===>Grouped by Line:	**MSD32-2-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		
3B-18N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3B-18P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD32-3-MS23B to MSDT 23B**				***Sorted By:Remaining Life***		

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD32-3-MS23B to MSDT 23B**					***Sorted By:Remaining Life***		
3B-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3B-19P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3B-19 (BR/SE)	0.000	0.238	0.085	0.085	3,968,976	No	222,946
3B-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
3B-19 (D/S)	0.000	0.360	0.085	0.085	5,898,653	No	222,946
===>Grouped by Line: **MSD32-4-MS23B to MSDT 23B**					***Sorted By:Remaining Life***		
3B-18P	0.000	0.186	0.100	0.100	1,552,752	No	222,946
3B-18 (D/S)	0.000	0.355	0.085	0.085	3,197,509	No	222,946
3B-18 (BR/SE)	0.000	0.221	0.085	0.085	3,528,104	No	222,946
3B-18	0.417	0.361	0.085	0.085	5,632,746	No	222,946
===>Grouped by Line: **MSD32-5-MS23B to MSDT 23B**					***Sorted By:Remaining Life***		
3B-VALVE-5EX-19B	0.000	0.084	0.091	0.091	-53,388	No	222,946
3B-VALVE-5EX-19C	0.000	0.084	0.091	0.091	-53,388	No	222,946
3B-21N	0.000	0.117	0.085	0.085	271,300	No	222,946
3B-21	0.000	0.127	0.085	0.085	386,264	No	222,946
3B-17 (BR/SE)	0.000	0.202	0.100	0.100	701,396	No	222,946
3B-21P	0.000	0.167	0.100	0.100	921,039	No	222,946
3B-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3B-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3B-17P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
3B-17 (D/S)	0.000	0.343	0.100	0.100	2,362,538	No	222,946
3B-20	0.000	0.349	0.085	0.085	2,453,520	Yes	222,946
3B-17	0.437	0.348	0.100	0.100	4,123,035	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.228

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD27-1-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1A-16P-1	0.410	0.371	0.100	0.100	8,421,192	Yes	222,946
1A-16 (BR/SE)	0.000	0.208	0.085	0.085	3,190,965	No	222,946
1A-16 (D/S)	0.000	0.360	0.085	0.085	5,898,653	No	222,946
1A-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line: **MSD27-2-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-17N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1A-17P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
===>Grouped by Line: **MSD27-3-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1A-19P-1	0.408	0.372	0.100	0.100	8,457,690	No	222,946
1A-19 (BR/SE)	0.000	0.239	0.085	0.085	3,994,910	No	222,946
1A-19 (D/S)	0.000	0.363	0.085	0.085	5,963,171	No	222,946
1A-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line: **MSD27-4-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-17	0.405	0.352	0.085	0.085	5,470,156	No	222,946
1A-17 (BR/SE)	0.000	0.216	0.085	0.085	3,398,435	No	222,946
1A-17 (D/S)	0.000	0.349	0.085	0.085	3,126,416	No	222,946
===>Grouped by Line: **MSD27-5-MS21A to MSDT 21A**					***Sorted By:Flow Order***		
1A-18 (D/S)	0.000	0.350	0.085	0.085	4,673,461	No	222,946
1A-18	0.410	0.340	0.085	0.085	2,354,761	No	222,946
1A-18 (BR/SE)	0.290	0.181	0.085	0.085	653,342	No	222,946
1A-18P US	0.000	0.183	0.100	0.100	1,437,948	No	222,946
1A-18P DS	0.263	0.220	0.100	0.100	2,059,200	Yes	222,946
1A-20	0.430	0.272	0.085	0.085	1,639,615	Yes	222,946
1A-VALVE-5EX-19L	0.000	0.084	0.091	0.091	-53,388	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD27-5-MS21A to MSDT 21A**				***Sorted By:Flow Order***		
1A-20P	0.000	0.207	0.100	0.100	1,680,766	Yes	222,946
1A-VALVE-5EX-19M	0.000	0.084	0.091	0.091	-53,388	No	222,946
1A-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
1A-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
===>Grouped by Line:	**MSD28-1-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-16P-1	0.404	0.373	0.100	0.100	8,499,663	No	222,946
2A-16 (BR/SE)	0.000	0.239	0.085	0.085	3,972,108	No	222,946
2A-16 (D/S)	0.000	0.336	0.085	0.085	5,389,437	No	222,946
2A-16P	0.399	0.312	0.100	0.100	8,943,244	No	222,946
===>Grouped by Line:	**MSD28-2-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-17N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-17P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD28-3-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-19P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
2A-19 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
2A-19 (D/S)	0.000	0.197	0.085	0.085	2,393,503	No	222,946
2A-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD28-4-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-17	0.000	0.197	0.085	0.085	2,393,503	No	222,946
2A-17 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
2A-17 (D/S)	0.000	0.153	0.085	0.085	803,829	No	222,946
2A-17P	0.000	0.203	0.100	0.100	2,497,525	No	222,946
===>Grouped by Line:	**MSD28-5-MS22A to MSDT 22A**				***Sorted By:Flow Order***		
2A-18 (D/S)	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2A-18	0.000	0.132	0.085	0.085	452,752	No	222,946
2A-18 (BR/SE)	0.000	0.084	0.085	0.085	-12,280	No	222,946
2A-18P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
2A-20	0.000	0.127	0.085	0.085	386,264	No	222,946
2A-VALVE-5EX-19J	0.000	0.084	0.091	0.091	-53,388	No	222,946
2A-20P	0.000	0.206	0.100	0.100	1,665,882	Yes	222,946
2A-VALVE-5EX-19K	0.000	0.084	0.091	0.091	-53,388	No	222,946
2A-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
2A-20N	0.000	0.117	0.085	0.085	271,300	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD29-1-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3A-16P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3A-16 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
3A-16 (D/S)	0.000	0.347	0.085	0.085	5,619,075	No	222,946
3A-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD29-2-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-17N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3A-17P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD29-3-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3A-19P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3A-19 (BR/SE)	0.000	0.206	0.085	0.085	3,122,347	No	222,946
3A-19 (D/S)	0.000	0.342	0.085	0.085	5,511,545	No	222,946
3A-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD29-4-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-17	0.402	0.348	0.100	0.100	5,094,054	No	222,946
3A-17 (BR/SE)	0.000	0.227	0.100	0.100	3,305,480	No	222,946
3A-17 (D/S)	0.000	0.342	0.100	0.100	2,870,668	No	222,946
3A-17P	0.000	0.186	0.100	0.100	1,552,752	No	222,946
===>Grouped by Line:	**MSD29-5-MS23A to MSDT 23A**				***Sorted By:Flow Order***		
3A-18 (D/S)	0.000	0.224	0.085	0.085	2,451,461	No	222,946
3A-18	0.393	0.326	0.085	0.085	2,238,261	No	222,946
3A-18 (BR/SE)	0.000	0.195	0.085	0.085	753,659	No	222,946
3A-18P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
3A-20	0.000	0.127	0.085	0.085	386,264	No	222,946
3A-VALVE-5EX-19G	0.000	0.084	0.091	0.091	-53,388	No	222,946
3A-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3A-VALVE-5EX-19H	0.000	0.084	0.091	0.091	-53,388	No	222,946
3A-20P-1 US	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3A-20P-1 DS	0.278	0.213	0.100	0.100	1,762,103	Yes	222,946
3A-21	0.305	0.218	0.085	0.085	1,210,578	Yes	222,946
3A-21P	0.292	0.214	0.100	0.100	1,546,978	Yes	222,946
3A-21N	0.000	0.260	0.085	0.085	1,504,005	No	222,946
===>Grouped by Line:	**MSD30-1-MS21B to MSDT 21B**				***Sorted By:Flow Order***		
1B-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD30-1-MS21B to MSDT 21B**					***Sorted By:Flow Order***		
1B-16P-1	0.435	0.393	0.100	0.100	9,032,556	Yes	222,946
1B-16 (BR/SE)	0.000	0.248	0.085	0.085	4,228,314	No	222,946
1B-16 (D/S)	0.000	0.354	0.085	0.085	5,769,617	No	222,946
1B-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line: **MSD30-2-MS21B to MSDT 21B**					***Sorted By:Flow Order***		
1B-18N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1B-18P	0.000	0.215	0.100	0.100	3,752,826	No	222,946
===>Grouped by Line: **MSD30-3-MS21B to MSDT 21B**					***Sorted By:Flow Order***		
1B-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
1B-19P-1	0.407	0.371	0.100	0.100	8,429,277	No	222,946
1B-19 (BR/SE)	0.000	0.219	0.085	0.085	3,476,236	No	222,946
1B-19 (D/S)	0.000	0.347	0.085	0.085	5,619,075	No	222,946
1B-19P	0.398	0.355	0.100	0.100	10,757,568	Yes	222,946
===>Grouped by Line: **MSD30-4-MS21B to MSDT 21B**					***Sorted By:Flow Order***		
1B-18 (BR/SE)	0.000	0.229	0.085	0.085	3,735,573	No	222,946
1B-18	0.396	0.346	0.085	0.085	5,362,754	No	222,946
1B-18 (D/S)	0.000	0.343	0.085	0.085	3,055,324	No	222,946
===>Grouped by Line: **MSD30-5-MS21B to MSDT 21B**					***Sorted By:Flow Order***		
1B-17	0.415	0.351	0.085	0.085	4,447,767	No	222,946
1B-17 (D/S)	0.000	0.334	0.085	0.085	2,416,795	No	222,946
1B-17 (BR/SE)	0.000	0.208	0.085	0.085	843,241	No	222,946
1B-17P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
1B-20	0.000	0.127	0.085	0.085	386,264	No	222,946
1B-VALVE-5EX-19	0.000	0.084	0.091	0.091	-53,388	No	222,946
1B-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
1B-VALVE-5EX-19F	0.000	0.084	0.091	0.091	-53,388	No	222,946
1B-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
1B-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
===>Grouped by Line: **MSD31-1-MS22B to MSDT 22B**					***Sorted By:Flow Order***		
2B-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2B-16P-1	0.413	0.376	0.100	0.100	8,568,403	No	222,946
2B-16 (BR/SE)	0.000	0.254	0.085	0.085	4,383,916	No	222,946
2B-16 (D/S)	0.000	0.351	0.085	0.085	5,705,099	No	222,946
2B-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD31-2-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-18N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2B-18P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD31-3-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
2B-19P-1	0.419	0.369	0.100	0.100	8,334,948	Yes	222,946
2B-19 (BR/SE)	0.000	0.226	0.100	0.100	3,279,546	No	222,946
2B-19 (D/S)	0.000	0.338	0.100	0.100	5,111,870	No	222,946
2B-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD31-4-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-18 (BR/SE)	0.000	0.206	0.100	0.100	2,744,121	No	222,946
2B-18	0.367	0.334	0.100	0.100	4,861,667	No	222,946
2B-18 (D/S)	0.000	0.334	0.100	0.100	2,775,878	No	222,946
2B-18P	0.000	0.186	0.100	0.100	1,552,752	No	222,946
===>Grouped by Line:	**MSD31-5-MS22B to MSDT 22B**				***Sorted By:Flow Order***		
2B-17	0.411	0.348	0.100	0.100	4,158,488	No	222,946
2B-17 (D/S)	0.000	0.337	0.100	0.100	2,304,242	No	222,946
2B-17 (BR/SE)	0.000	0.196	0.100	0.100	660,050	No	222,946
2B-17P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
2B-20	0.000	0.127	0.085	0.085	386,264	No	222,946
2B-VALVE-5EX-19D	0.000	0.084	0.091	0.091	-53,388	No	222,946
2B-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
2B-VALVE-5EX-19E	0.000	0.084	0.091	0.091	-53,388	No	222,946
2B-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
2B-20N	0.000	0.117	0.085	0.085	271,300	No	222,946
===>Grouped by Line:	**MSD32-1-MS23B to MSDT 23B**				***Sorted By:Flow Order***		
3B-16N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3B-16P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3B-16 (BR/SE)	0.000	0.235	0.085	0.085	3,891,175	No	222,946
3B-16 (D/S)	0.000	0.341	0.085	0.085	5,490,040	No	222,946
3B-16P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD32-2-MS23B to MSDT 23B**				***Sorted By:Flow Order***		
3B-18N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3B-18P1	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line:	**MSD32-3-MS23B to MSDT 23B**				***Sorted By:Flow Order***		

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD32-3-MS23B to MSDT 23B**					***Sorted By:Flow Order***		
3B-19N	0.000	0.185	0.085	0.085	1,756,284	No	222,946
3B-19P-1	0.000	0.215	0.100	0.100	3,752,826	No	222,946
3B-19 (BR/SE)	0.000	0.238	0.085	0.085	3,968,976	No	222,946
3B-19 (D/S)	0.000	0.360	0.085	0.085	5,898,653	No	222,946
3B-19P	0.000	0.224	0.100	0.100	5,467,625	No	222,946
===>Grouped by Line: **MSD32-4-MS23B to MSDT 23B**					***Sorted By:Flow Order***		
3B-18 (BR/SE)	0.000	0.221	0.085	0.085	3,528,104	No	222,946
3B-18	0.417	0.361	0.085	0.085	5,632,746	No	222,946
3B-18 (D/S)	0.000	0.355	0.085	0.085	3,197,509	No	222,946
3B-18P	0.000	0.186	0.100	0.100	1,552,752	No	222,946
===>Grouped by Line: **MSD32-5-MS23B to MSDT 23B**					***Sorted By:Flow Order***		
3B-17	0.437	0.348	0.100	0.100	4,123,035	No	222,946
3B-17 (D/S)	0.000	0.343	0.100	0.100	2,362,538	No	222,946
3B-17 (BR/SE)	0.000	0.202	0.100	0.100	701,396	No	222,946
3B-17P	0.000	0.183	0.100	0.100	1,437,948	No	222,946
3B-20	0.000	0.349	0.085	0.085	2,453,520	Yes	222,946
3B-VALVE-5EX-19B	0.000	0.084	0.091	0.091	-53,388	No	222,946
3B-20P	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3B-VALVE-5EX-19C	0.000	0.084	0.091	0.091	-53,388	No	222,946
3B-20P-1	0.000	0.177	0.100	0.100	1,202,989	No	222,946
3B-21	0.000	0.127	0.085	0.085	386,264	No	222,946
3B-21P	0.000	0.167	0.100	0.100	921,039	No	222,946
3B-21N	0.000	0.117	0.085	0.085	271,300	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

6

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: MSR SHELL DRAINS
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 3.228

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:	**MSD27-1-MS21A to MSDT 21A**										***Sorted By: Flow Order***	
1A-16P-1	0.410	29.7	32.0	29.7	32.0	0.378	MT	119,088	380.3	378.0	7.1	119,088
===>Grouped by Line:	**MSD27-5-MS21A to MSDT 21A**										***Sorted By: Flow Order***	
1A-18P DS	0.263	61.8	38.0	61.8	38.0	0.225	MT	136,608	201.2	225.0	5.0	136,608
1A-20	0.430	128.7	41.0	128.7	41.0	0.273	MT	209,806	301.3	273.0	1.5	209,806
1A-20P	0.000	69.5	97.0	69.5	97.0	0.211	MT	165,113	180.5	211.0	3.7	165,113
===>Grouped by Line:	**MSD28-5-MS22A to MSDT 22A**										***Sorted By: Flow Order***	
2A-20P	0.000	68.6	87.0	68.6	87.0	0.211	MT	149,573	181.4	211.0	4.7	149,573
===>Grouped by Line:	**MSD29-5-MS23A to MSDT 23A**										***Sorted By: Flow Order***	
3A-20P-1 DS	0.278	68.3	59.0	68.3	59.0	0.219	MT	136,608	209.7	219.0	5.5	136,608
3A-21	0.305	115.8	76.0	115.8	76.0	0.227		136,608	189.2	227.0	9.4	136,608
3A-21P	0.292	77.9	72.0	77.9	72.0	0.220		136,608	214.1	220.0	6.3	136,608
===>Grouped by Line:	**MSD30-1-MS21B to MSDT 21B**										***Sorted By: Flow Order***	
1B-16P-1	0.435	30.0	35.0	30.0	35.0	0.400	MT	119,088	405.0	400.0	7.2	119,088
===>Grouped by Line:	**MSD30-3-MS21B to MSDT 21B**										***Sorted By: Flow Order***	
1B-19P	0.398	19.6	35.0	19.6	35.0	0.363	MT	106,128	378.4	363.0	7.7	106,128
===>Grouped by Line:	**MSD31-3-MS22B to MSDT 22B**										***Sorted By: Flow Order***	
2B-19P-1	0.419	29.8	43.0	29.8	43.0	0.376	MT	119,088	389.2	376.0	7.2	119,088
===>Grouped by Line:	**MSD32-5-MS23B to MSDT 23B**										***Sorted By: Flow Order***	
3B-20	0.000	120.0	97.0	120.0	97.0	0.352	GW	193,769	130.0	352.0	3.1	193,769

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:26:01PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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-MPS A to Separating Tk A***								***Sorted By: Average Wear Rate***		
TEMP07	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***PD-MPS B to Separating Tk A***								***Sorted By: Average Wear Rate***		
TEMP08	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***PD-MPS C to Separating Tk B***								***Sorted By: Average Wear Rate***		
TEMP09	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***PD-MPS D to Separating Tk B***								***Sorted By: Average Wear Rate***		
TEMP10	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:26:01PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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-MPS A to Separating Tk A***									***Sorted By: Flow Order***	
TEMP07	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***PD-MPS B to Separating Tk A***									***Sorted By: Flow Order***	
TEMP08	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***PD-MPS C to Separating Tk B***									***Sorted By: Flow Order***	
TEMP09	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD
===>Grouped by Line:	***PD-MPS D to Separating Tk B***									***Sorted By: Flow Order***	
TEMP10	31	18.068	10.356	387.9	17.603	92.2	20.000	6.947	0.000	298.02	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:26:01PM

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-MPS A to Separating Tk A**					***Sorted By:Remaining Life***		
TEMP07	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS B to Separating Tk A**					***Sorted By:Remaining Life***		
TEMP08	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS C to Separating Tk B**					***Sorted By:Remaining Life***		
TEMP09	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS D to Separating Tk B**					***Sorted By:Remaining Life***		
TEMP10	0.000	-0.085	0.166	0.166	-142,007	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: PD - MPS TO SEP TNK A
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **PD-MPS A to Separating Tk A**					***Sorted By:Flow Order***		
TEMP07	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS B to Separating Tk A**					***Sorted By:Flow Order***		
TEMP08	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS C to Separating Tk B**					***Sorted By:Flow Order***		
TEMP09	0.000	-0.085	0.166	0.166	-142,007	No	222,946
===>Grouped by Line: **PD-MPS D to Separating Tk B**					***Sorted By:Flow Order***		
TEMP10	0.000	-0.085	0.166	0.166	-142,007	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

1

Wear Report

Company:
Plant:
Unit:
DB Name: IPEC2(v3).DB

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 11:54:05AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD45A-1-RHDT21A to CV***								***Sorted By: Average Wear Rate***		
MS-1A11N	31	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A24FE	6	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A12	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A28	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A13	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A29	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A15	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A16	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A17	4	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A20	3	3.761	1.269	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30R-1 (D/S)	17	3.600	1.256	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1A26	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A27	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14A	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A18	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A19	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A17P US	54	3.438	1.160	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A17P DS	54	3.438	1.160	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A25 (D/S)	15	3.223	1.088	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A25	15	3.223	1.088	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21R	18	3.008	1.015	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11P-1	61	2.901	0.979	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD45A-1-RHDT21A to CV***								***Sorted By: Average Wear Rate***		
MS-1A12P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A28P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A12P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A28P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A13P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A13P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A29P US	52	2.686	0.906	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A29P DS	52	2.686	0.906	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30P-1	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14AP	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30R-1	17	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A15P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A15P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A16P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A20P	53	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A26P	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A27P	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A18P	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21P US	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21P DS	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A22	2	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A23	2	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24	4	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A25P	65	2.149	0.725	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A24P-1	67	2.149	0.725	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A24P DS	54	2.041	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24R (D/S)	17	1.934	0.653	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21R (D/S)	18	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A21P-1	68	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22P US	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22P DS	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22P-1	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24R	17	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A25P-1	56	1.094	0.369	495.9	7.053	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 11:54:05AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD45A-1-RHDT21A to CV***									***Sorted By: Flow Order***	
MS-1A11N	31	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11P-1	61	2.901	0.979	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A11P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A12	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A12P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A12P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A13	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A13P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A13P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14AP	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A14A	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A15	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A15P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A15P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A16	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A16P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A17	4	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A17P US	54	3.438	1.160	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A17P DS	54	3.438	1.160	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A18	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A18P	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A19	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD45A-1-RHDT21A to CV***									***Sorted By: Flow Order***	
MS-1A20	3	3.761	1.269	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A20P	53	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21P US	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21P DS	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21R	18	3.008	1.015	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A21R (D/S)	18	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A21P-1	68	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22	2	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22P US	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22P DS	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A22P-1	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A23	2	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24	4	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24P DS	54	2.041	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24R	17	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A24R (D/S)	17	1.934	0.653	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A24P-1	67	2.149	0.725	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A24FE	6	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A25P-1	56	1.094	0.369	495.9	7.053	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A25	15	3.223	1.088	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A25 (D/S)	15	3.223	1.088	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A25P	65	2.149	0.725	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A26	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A26P	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A27	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A27P	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A28	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A28P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A28P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A29	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A29P US	52	2.686	0.906	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A29P DS	52	2.686	0.906	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30P-1	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30R-1	17	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD45A-1-RHDT21A to CV***									***Sorted By: Flow Order***	
MS-1A30R-1 (D/S)	17	3.600	1.256	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 11:54:05AM

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45A-1-RHDT21A to CV**					***Sorted By:Remaining Life***		
MS-1A11N	0.000	0.295	0.233	0.233	301,580	No	222,946
MS-1A24FE	0.000	0.341	0.233	0.233	523,866	No	222,946
MS-1A30R-1	0.000	0.297	0.233	0.233	616,325	No	222,946
MS-1A15	0.000	0.351	0.233	0.233	770,280	Yes	222,946
MS-1A14A	0.000	0.343	0.233	0.233	804,619	Yes	222,946
MS-1A12	0.000	0.361	0.233	0.233	835,581	Yes	222,946
MS-1A30	0.000	0.373	0.233	0.233	913,943	Yes	222,946
MS-1A17	0.000	0.373	0.233	0.233	913,943	Yes	222,946
MS-1A30R-1 (D/S)	0.000	0.290	0.158	0.158	921,172	No	222,946
MS-1A11	0.000	0.379	0.233	0.233	953,124	Yes	222,946
MS-1A28	0.000	0.380	0.233	0.233	959,654	Yes	222,946
MS-1A14	0.000	0.380	0.233	0.233	959,654	Yes	222,946
MS-1A19	0.000	0.366	0.233	0.233	973,018	Yes	222,946
MS-1A16	0.000	0.384	0.233	0.233	985,775	Yes	222,946
MS-1A21	0.000	0.378	0.233	0.233	1,060,878	Yes	222,946
MS-1A29	0.000	0.396	0.233	0.233	1,067,757	Yes	222,946
MS-1A13	0.000	0.397	0.233	0.233	1,070,666	Yes	222,946
MS-1A17P US	0.000	0.376	0.233	0.233	1,084,475	Yes	222,946
MS-1A20	0.000	0.391	0.233	0.233	1,093,665	Yes	222,946
MS-1A17P DS	0.000	0.380	0.233	0.233	1,114,677	Yes	222,946
MS-1A27	0.000	0.390	0.233	0.233	1,148,738	Yes	222,946
MS-1A18	0.000	0.396	0.233	0.233	1,192,668	Yes	222,946
MS-1A26	0.000	0.404	0.233	0.233	1,251,242	Yes	222,946
MS-1A11P US	0.000	0.363	0.233	0.233	1,254,190	Yes	222,946
MS-1A11P DS	0.000	0.367	0.233	0.233	1,292,848	Yes	222,946
MS-1A12P DS	0.000	0.375	0.233	0.233	1,378,488	Yes	222,946
MS-1A28P US	0.000	0.376	0.233	0.233	1,379,830	Yes	222,946
MS-1A16P	0.000	0.377	0.233	0.233	1,394,894	Yes	222,946
MS-1A12P US	0.000	0.378	0.233	0.233	1,407,481	Yes	222,946
MS-1A11P-1	0.000	0.390	0.233	0.233	1,407,655	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45A-1-RHDT21A to CV**					***Sorted By:Remaining Life***		
MS-1A13P DS	0.000	0.381	0.233	0.233	1,428,153	Yes	222,946
MS-1A13P US	0.000	0.386	0.233	0.233	1,476,476	Yes	222,946
MS-1A14P US	0.000	0.389	0.233	0.233	1,505,470	Yes	222,946
MS-1A21P US	0.000	0.371	0.233	0.233	1,515,311	Yes	222,946
MS-1A30P-1	0.000	0.391	0.233	0.233	1,524,800	Yes	222,946
MS-1A14P DS	0.000	0.391	0.233	0.233	1,524,800	Yes	222,946
MS-1A26P	0.000	0.372	0.233	0.233	1,526,293	No	222,946
MS-1A14AP	0.000	0.392	0.233	0.233	1,534,464	Yes	222,946
MS-1A20P	0.000	0.393	0.233	0.233	1,544,129	Yes	222,946
MS-1A15P US	0.000	0.397	0.233	0.233	1,582,787	Yes	222,946
MS-1A15P DS	0.000	0.400	0.233	0.233	1,611,781	Yes	222,946
MS-1A28P DS	0.000	0.401	0.233	0.233	1,629,768	Yes	222,946
MS-1A23	0.000	0.452	0.303	0.303	1,635,588	Yes	222,946
MS-1A29P US	0.000	0.403	0.233	0.233	1,649,097	Yes	222,946
MS-1A18P	0.000	0.384	0.233	0.233	1,658,084	Yes	222,946
MS-1A21P DS	0.000	0.384	0.233	0.233	1,658,084	Yes	222,946
MS-1A29P DS	0.000	0.408	0.233	0.233	1,689,098	Yes	222,946
MS-1A27P	0.000	0.389	0.233	0.233	1,712,996	Yes	222,946
MS-1A24	0.000	0.460	0.303	0.303	1,723,582	Yes	222,946
MS-1A24P-1	0.000	0.384	0.233	0.233	1,829,557	Yes	222,946
MS-1A21R	0.000	0.446	0.233	0.233	1,842,904	No	222,946
MS-1A25P	0.000	0.388	0.233	0.233	1,877,880	Yes	222,946
MS-1A25	0.000	0.471	0.233	0.233	1,920,859	No	222,946
MS-1A25 (D/S)	0.000	0.475	0.233	0.233	1,953,074	No	222,946
MS-1A22	0.000	0.482	0.303	0.303	1,965,566	Yes	222,946
MS-1A24P DS	0.000	0.458	0.303	0.303	1,969,749	Yes	222,946
MS-1A21R (D/S)	0.000	0.459	0.303	0.303	2,112,897	No	222,946
MS-1A22P US	0.000	0.460	0.303	0.303	2,554,690	Yes	222,946
MS-1A22P DS	0.000	0.461	0.303	0.303	2,570,969	Yes	222,946
MS-1A21P-1	0.000	0.467	0.303	0.303	2,668,642	Yes	222,946
MS-1A22P-1	0.000	0.469	0.303	0.303	2,701,200	Yes	222,946
MS-1A24R	0.000	0.480	0.303	0.303	2,880,268	No	222,946
MS-1A24R (D/S)	0.000	0.478	0.233	0.233	3,287,483	No	222,946
MS-1A25P-1	0.000	0.397	0.233	0.233	3,882,940	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45A-1-RHDT21A to CV**					***Sorted By:Flow Order***		
MS-1A11N	0.000	0.295	0.233	0.233	301,580	No	222,946
MS-1A11P-1	0.000	0.390	0.233	0.233	1,407,655	Yes	222,946
MS-1A11	0.000	0.379	0.233	0.233	953,124	Yes	222,946
MS-1A11P US	0.000	0.363	0.233	0.233	1,254,190	Yes	222,946
MS-1A11P DS	0.000	0.367	0.233	0.233	1,292,848	Yes	222,946
MS-1A12	0.000	0.361	0.233	0.233	835,581	Yes	222,946
MS-1A12P US	0.000	0.378	0.233	0.233	1,407,481	Yes	222,946
MS-1A12P DS	0.000	0.375	0.233	0.233	1,378,488	Yes	222,946
MS-1A13	0.000	0.397	0.233	0.233	1,070,666	Yes	222,946
MS-1A13P US	0.000	0.386	0.233	0.233	1,476,476	Yes	222,946
MS-1A13P DS	0.000	0.381	0.233	0.233	1,428,153	Yes	222,946
MS-1A14	0.000	0.380	0.233	0.233	959,654	Yes	222,946
MS-1A14P US	0.000	0.389	0.233	0.233	1,505,470	Yes	222,946
MS-1A14AP	0.000	0.392	0.233	0.233	1,534,464	Yes	222,946
MS-1A14P DS	0.000	0.391	0.233	0.233	1,524,800	Yes	222,946
MS-1A14A	0.000	0.343	0.233	0.233	804,619	Yes	222,946
MS-1A15	0.000	0.351	0.233	0.233	770,280	Yes	222,946
MS-1A15P US	0.000	0.397	0.233	0.233	1,582,787	Yes	222,946
MS-1A15P DS	0.000	0.400	0.233	0.233	1,611,781	Yes	222,946
MS-1A16	0.000	0.384	0.233	0.233	985,775	Yes	222,946
MS-1A16P	0.000	0.377	0.233	0.233	1,394,894	Yes	222,946
MS-1A17	0.000	0.373	0.233	0.233	913,943	Yes	222,946
MS-1A17P US	0.000	0.376	0.233	0.233	1,084,475	Yes	222,946
MS-1A17P DS	0.000	0.380	0.233	0.233	1,114,677	Yes	222,946
MS-1A18	0.000	0.396	0.233	0.233	1,192,668	Yes	222,946
MS-1A18P	0.000	0.384	0.233	0.233	1,658,084	Yes	222,946
MS-1A19	0.000	0.366	0.233	0.233	973,018	Yes	222,946
MS-1A20	0.000	0.391	0.233	0.233	1,093,665	Yes	222,946
MS-1A20P	0.000	0.393	0.233	0.233	1,544,129	Yes	222,946
MS-1A21	0.000	0.378	0.233	0.233	1,060,878	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45A-1-RHDT21A to CV**					***Sorted By:Flow Order***		
MS-1A21P US	0.000	0.371	0.233	0.233	1,515,311	Yes	222,946
MS-1A21P DS	0.000	0.384	0.233	0.233	1,658,084	Yes	222,946
MS-1A21R	0.000	0.446	0.233	0.233	1,842,904	No	222,946
MS-1A21R (D/S)	0.000	0.459	0.303	0.303	2,112,897	No	222,946
MS-1A21P-1	0.000	0.467	0.303	0.303	2,668,642	Yes	222,946
MS-1A22	0.000	0.482	0.303	0.303	1,965,566	Yes	222,946
MS-1A22P US	0.000	0.460	0.303	0.303	2,554,690	Yes	222,946
MS-1A22P DS	0.000	0.461	0.303	0.303	2,570,969	Yes	222,946
MS-1A22P-1	0.000	0.469	0.303	0.303	2,701,200	Yes	222,946
MS-1A23	0.000	0.452	0.303	0.303	1,635,588	Yes	222,946
MS-1A24	0.000	0.460	0.303	0.303	1,723,582	Yes	222,946
MS-1A24P DS	0.000	0.458	0.303	0.303	1,969,749	Yes	222,946
MS-1A24R	0.000	0.480	0.303	0.303	2,880,268	No	222,946
MS-1A24R (D/S)	0.000	0.478	0.233	0.233	3,287,483	No	222,946
MS-1A24P-1	0.000	0.384	0.233	0.233	1,829,557	Yes	222,946
MS-1A24FE	0.000	0.341	0.233	0.233	523,866	No	222,946
MS-1A25P-1	0.000	0.397	0.233	0.233	3,882,940	Yes	222,946
MS-1A25	0.000	0.471	0.233	0.233	1,920,859	No	222,946
MS-1A25 (D/S)	0.000	0.475	0.233	0.233	1,953,074	No	222,946
MS-1A25P	0.000	0.388	0.233	0.233	1,877,880	Yes	222,946
MS-1A26	0.000	0.404	0.233	0.233	1,251,242	Yes	222,946
MS-1A26P	0.000	0.372	0.233	0.233	1,526,293	No	222,946
MS-1A27	0.000	0.390	0.233	0.233	1,148,738	Yes	222,946
MS-1A27P	0.000	0.389	0.233	0.233	1,712,996	Yes	222,946
MS-1A28	0.000	0.380	0.233	0.233	959,654	Yes	222,946
MS-1A28P US	0.000	0.376	0.233	0.233	1,379,830	Yes	222,946
MS-1A28P DS	0.000	0.401	0.233	0.233	1,629,768	Yes	222,946
MS-1A29	0.000	0.396	0.233	0.233	1,067,757	Yes	222,946
MS-1A29P US	0.000	0.403	0.233	0.233	1,649,097	Yes	222,946
MS-1A29P DS	0.000	0.408	0.233	0.233	1,689,098	Yes	222,946
MS-1A30	0.000	0.373	0.233	0.233	913,943	Yes	222,946
MS-1A30P-1	0.000	0.391	0.233	0.233	1,524,800	Yes	222,946
MS-1A30R-1	0.000	0.297	0.233	0.233	616,325	No	222,946
MS-1A30R-1 (D/S)	0.000	0.290	0.158	0.158	921,172	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DRN TK 21A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

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:	**MSD45A-1-RHDT21A to CV**											***Sorted By: Flow Order***
MS-1A11P-1	0.000	54.0	48.0	54.0	48.0	0.410	MT	119,088	378.0	410.0	19.8	119,088
MS-1A11	0.000	74.0	56.0	74.0	56.0	0.406	MT	119,088	358.0	406.0	27.2	119,088
MS-1A11P US	0.000	50.0	68.0	50.0	68.0	0.381	MT	119,088	382.0	381.0	18.4	119,088
MS-1A11P DS	0.000	50.0	77.0	50.0	77.0	0.385	MT	119,088	382.0	385.0	18.4	119,088
MS-1A12	0.000	74.0	82.0	74.0	82.0	0.388	MT	119,088	358.0	388.0	27.2	119,088
MS-1A12P US	0.000	61.9	80.0	61.9	80.0	0.385	MT	165,113	370.1	385.0	6.5	165,113
MS-1A12P DS	0.000	61.9	66.0	61.9	66.0	0.382	MT	165,113	370.1	382.0	6.5	165,113
MS-1A13	0.000	74.0	58.0	74.0	58.0	0.424	MT	119,088	358.0	424.0	27.2	119,088
MS-1A13P US	0.000	50.0	65.0	50.0	65.0	0.404	MT	119,088	382.0	404.0	18.4	119,088
MS-1A13P DS	0.000	50.0	54.0	50.0	54.0	0.399	MT	119,088	382.0	399.0	18.4	119,088
MS-1A14	0.000	74.0	58.0	74.0	58.0	0.407	MT	119,088	358.0	407.0	27.2	119,088
MS-1A14P US	0.000	50.0	36.0	50.0	36.0	0.407	MT	119,088	382.0	407.0	18.4	119,088
MS-1A14AP	0.000	50.0	27.0	50.0	27.0	0.410	MT	119,088	382.0	410.0	18.4	119,088
MS-1A14P DS	0.000	50.0	31.0	50.0	31.0	0.409	MT	119,088	382.0	409.0	18.4	119,088
MS-1A14A	0.000	66.0	63.0	66.0	63.0	0.367	MT	119,088	366.0	367.0	24.2	119,088
MS-1A15	0.000	74.0	81.0	74.0	81.0	0.378	MT	119,088	358.0	378.0	27.2	119,088
MS-1A15P US	0.000	50.0	42.0	50.0	42.0	0.415	MT	119,088	382.0	415.0	18.4	119,088
MS-1A15P DS	0.000	50.0	34.0	50.0	34.0	0.418	MT	119,088	382.0	418.0	18.4	119,088
MS-1A16	0.000	74.0	38.0	74.0	38.0	0.411	MT	119,088	358.0	411.0	27.2	119,088
MS-1A16P	0.000	44.6	63.0	44.6	63.0	0.401	MT	106,128	387.4	401.0	23.8	106,128
MS-1A17	0.000	74.0	60.0	74.0	60.0	0.400	MT	119,088	358.0	400.0	27.2	119,088
MS-1A17P US	0.000	64.0	51.0	64.0	51.0	0.400	MT	119,088	368.0	400.0	23.5	119,088
MS-1A17P DS	0.000	64.0	51.0	64.0	51.0	0.404	MT	119,088	368.0	404.0	23.5	119,088
MS-1A18	0.000	66.0	35.0	66.0	35.0	0.420	MT	119,088	366.0	420.0	24.2	119,088
MS-1A18P	0.000	44.0	74.0	44.0	74.0	0.400	MT	119,088	388.0	400.0	16.2	119,088
MS-1A19	0.000	66.0	44.0	66.0	44.0	0.390	MT	119,088	366.0	390.0	24.2	119,088
MS-1A20	0.000	70.0	32.0	70.0	32.0	0.417	MT	119,088	362.0	417.0	25.7	119,088
MS-1A20P	0.000	50.0	48.0	50.0	48.0	0.411	MT	119,088	382.0	411.0	18.4	119,088

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:	**MSD45A-1-RHDT21A to CV**											***Sorted By: Flow Order***
MS-1A21	0.000	66.0	60.0	66.0	60.0	0.402	MT	119,088	366.0	402.0	24.2	119,088
MS-1A21P US	0.000	44.0	98.0	44.0	98.0	0.387	MT	119,088	388.0	387.0	16.2	119,088
MS-1A21P DS	0.000	44.0	72.0	44.0	72.0	0.400	MT	119,088	388.0	400.0	16.2	119,088
MS-1A21P-1	0.000	29.7	65.0	29.7	65.0	0.478	MT	119,088	470.3	478.0	10.9	119,088
MS-1A22	0.000	43.9	49.0	43.9	49.0	0.498	MT	119,088	456.1	498.0	16.1	119,088
MS-1A22P US	0.000	29.7	56.0	29.7	56.0	0.471	MT	119,088	470.3	471.0	10.9	119,088
MS-1A22P DS	0.000	29.7	70.0	29.7	70.0	0.472	MT	119,088	470.3	472.0	10.9	119,088
MS-1A22P-1	0.000	29.7	29.0	29.7	29.0	0.480	MT	119,088	470.3	480.0	10.9	119,088
MS-1A23	0.000	43.9	46.0	43.9	46.0	0.468	MT	119,088	456.1	468.0	16.1	119,088
MS-1A24	0.000	43.9	64.0	43.9	64.0	0.476	MT	119,088	456.1	476.0	16.1	119,088
MS-1A24P DS	0.000	38.0	48.0	38.0	48.0	0.472	MT	119,088	462.0	472.0	14.0	119,088
MS-1A24P-1	0.000	40.0	76.0	40.0	76.0	0.399	MT	119,088	392.0	399.0	14.7	119,088
MS-1A25P-1	0.000	20.4	56.0	20.4	56.0	0.404	MT	119,088	411.6	404.0	7.5	119,088
MS-1A25P	0.000	40.0	56.0	40.0	56.0	0.403	MT	119,088	392.0	403.0	14.7	119,088
MS-1A26	0.000	66.0	43.0	66.0	43.0	0.428	MT	119,088	366.0	428.0	24.2	119,088
MS-1A27	0.000	66.0	82.0	66.0	82.0	0.414	MT	119,088	366.0	414.0	24.2	119,088
MS-1A27P	0.000	44.0	48.0	44.0	48.0	0.405	MT	119,088	388.0	405.0	16.2	119,088
MS-1A28	0.000	74.0	64.0	74.0	64.0	0.407	MT	119,088	358.0	407.0	27.2	119,088
MS-1A28P US	0.000	50.0	79.0	50.0	79.0	0.394	MT	119,088	382.0	394.0	18.4	119,088
MS-1A28P DS	0.000	61.9	62.0	61.9	62.0	0.408		165,113	370.1	408.0	6.5	165,113
MS-1A29	0.000	91.6	59.0	91.6	59.0	0.406	MT	165,113	340.4	406.0	9.6	165,113
MS-1A29P US	0.000	61.9	61.0	61.9	61.0	0.410		165,113	370.1	410.0	6.5	165,113
MS-1A29P DS	0.000	50.0	33.0	50.0	33.0	0.426	MT	119,088	382.0	426.0	18.4	119,088
MS-1A30	0.000	74.0	53.0	74.0	53.0	0.400	MT	119,088	358.0	400.0	27.2	119,088
MS-1A30P-1	0.000	50.0	50.0	50.0	50.0	0.409	MT	119,088	382.0	409.0	18.4	119,088

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 11:41:47AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.840

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD48A-1-RHDT21B to CV***								***Sorted By: Average Wear Rate***		
MS-1B11N	31	4.367	1.474	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14FE	6	4.367	1.474	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B11	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B25	4	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B26	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B12	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B27	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B28	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B29	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B15	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B30	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B16	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B32	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B18	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B19	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B20	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33R (D/S)	17	2.927	1.021	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1B13	1	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B31	1	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B17	1	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B25P	54	2.795	0.943	495.9	7.569	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B24 (D/S)	15	2.620	0.884	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B24	15	2.620	0.884	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B20R	18	2.445	0.825	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B11P-1	61	2.358	0.796	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B11P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD48A-1-RHDT21B to CV***								***Sorted By: Average Wear Rate***		
MS-1B12P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B27P-1	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B27P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B28P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B29P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B15P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B30P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B16P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B32P US	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B18P DS	52	2.183	0.737	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B32P DS	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B19P US	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33R	17	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B13P	51	1.921	0.648	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B31P US	51	1.921	0.648	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B31P DS	51	1.921	0.648	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B17P	51	1.921	0.648	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B21	2	1.918	0.647	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B22	4	1.918	0.647	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23	2	1.918	0.647	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B24P US	65	1.747	0.589	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B22P	54	1.659	0.560	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23R (D/S)	17	1.572	0.530	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B20R (D/S)	18	1.556	0.525	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B20P-1	52	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B20P	68	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23P	52	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23R	17	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B14P-1 US	56	0.873	0.295	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 11:41:47AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.840

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD48A-1-RHDT21B to CV***									***Sorted By: Flow Order***	
MS-1B11N	31	4.367	1.474	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B11P-1	61	2.358	0.796	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B11	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B11P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B12	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B12P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B13	1	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B13P	51	1.921	0.648	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14FE	6	4.367	1.474	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B14P-1 US	56	0.873	0.295	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B15	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B15P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B16	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B16P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B17	1	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B17P	51	1.921	0.648	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B18	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B18P DS	52	2.183	0.737	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B19	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B19P US	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B20	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B20P-1	52	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B20R	18	2.445	0.825	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B20R (D/S)	18	1.556	0.525	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B20P	68	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B21	2	1.918	0.647	495.9	3.910	3.3	8.625	6.379	0.000	55.44	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:	***MSD48A-1-RHDT21B to CV***									***Sorted By: Flow Order***	
MS-1B22	4	1.918	0.647	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B22P	54	1.659	0.560	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23	2	1.918	0.647	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23P	52	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23R	17	1.296	0.437	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B23R (D/S)	17	1.572	0.530	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B24	15	2.620	0.884	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B24 (D/S)	15	2.620	0.884	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B24P US	65	1.747	0.589	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B25	4	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B25P	54	2.795	0.943	495.9	7.569	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B26	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B27P-1	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B27	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B27P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B28	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B28P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B29	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B29P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B30	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B30P	52	2.183	0.737	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B31	1	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B31P US	51	1.921	0.648	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B31P DS	51	1.921	0.648	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B32	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B32P US	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B32P DS	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33	2	3.231	1.090	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33P	52	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33R	17	2.183	0.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33R (D/S)	17	2.927	1.021	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 11:41:47AM

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.840

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD48A-1-RHDT21B to CV**					***Sorted By:Remaining Life***		
MS-1B14FE	0.000	0.321	0.233	0.233	523,137	No	222,946
MS-1B11N	0.000	0.321	0.233	0.233	523,137	No	222,946
MS-1B20	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B18	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B16	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B15	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B14	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B27	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B28	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B29	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B30	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B19	0.000	0.360	0.233	0.233	1,019,067	Yes	222,946
MS-1B33	0.000	0.364	0.233	0.233	1,051,549	Yes	222,946
MS-1B32	0.000	0.367	0.233	0.233	1,075,650	Yes	222,946
MS-1B25	0.000	0.370	0.233	0.233	1,104,609	Yes	222,946
MS-1B17	0.000	0.359	0.233	0.233	1,132,990	No	222,946
MS-1B13	0.000	0.359	0.233	0.233	1,132,990	No	222,946
MS-1B31	0.000	0.359	0.233	0.233	1,132,990	No	222,946
MS-1B12	0.000	0.376	0.233	0.233	1,149,164	Yes	222,946
MS-1B26	0.000	0.393	0.233	0.233	1,289,387	Yes	222,946
MS-1B11	0.000	0.397	0.233	0.233	1,317,871	Yes	222,946
MS-1B33R (D/S)	0.000	0.327	0.158	0.158	1,447,598	Yes	222,946
MS-1B20R	0.000	0.370	0.233	0.233	1,453,290	No	222,946
MS-1B11P	0.000	0.361	0.233	0.233	1,524,369	Yes	222,946
MS-1B25P	0.000	0.399	0.233	0.233	1,547,083	Yes	222,946
MS-1B16P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B15P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B14P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B27P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B28P	0.000	0.376	0.233	0.233	1,706,969	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD48A-1-RHDT21B to CV**					***Sorted By:Remaining Life***		
MS-1B29P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B30P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B11P-1	0.000	0.390	0.233	0.233	1,728,580	Yes	222,946
MS-1B32P US	0.000	0.389	0.233	0.233	1,857,037	Yes	222,946
MS-1B33P	0.000	0.390	0.233	0.233	1,868,927	Yes	222,946
MS-1B12P	0.000	0.392	0.233	0.233	1,892,954	Yes	222,946
MS-1B19P US	0.000	0.397	0.233	0.233	1,952,130	Yes	222,946
MS-1B32P DS	0.000	0.398	0.233	0.233	1,964,046	Yes	222,946
MS-1B21	0.000	0.451	0.303	0.303	2,002,816	No	222,946
MS-1B23	0.000	0.451	0.303	0.303	2,002,816	No	222,946
MS-1B27P-1	0.000	0.403	0.233	0.233	2,021,608	Yes	222,946
MS-1B17P	0.000	0.383	0.233	0.233	2,029,832	No	222,946
MS-1B13P	0.000	0.383	0.233	0.233	2,029,832	No	222,946
MS-1B31P US	0.000	0.383	0.233	0.233	2,029,832	No	222,946
MS-1B18P DS	0.000	0.416	0.233	0.233	2,178,037	Yes	222,946
MS-1B24 (D/S)	0.000	0.458	0.233	0.233	2,227,284	No	222,946
MS-1B31P DS	0.000	0.401	0.233	0.233	2,273,398	No	222,946
MS-1B24	0.000	0.471	0.233	0.233	2,356,091	No	222,946
MS-1B22	0.000	0.480	0.303	0.303	2,392,863	Yes	222,946
MS-1B22P	0.000	0.465	0.303	0.303	2,536,710	Yes	222,946
MS-1B33R	0.000	0.448	0.233	0.233	2,558,537	No	222,946
MS-1B24P US	0.000	0.409	0.233	0.233	2,614,365	Yes	222,946
MS-1B20R (D/S)	0.000	0.460	0.303	0.303	2,624,301	No	222,946
MS-1B23R	0.000	0.455	0.303	0.303	3,043,560	No	222,946
MS-1B20P-1	0.000	0.467	0.303	0.303	3,281,301	No	222,946
MS-1B20P	0.000	0.467	0.303	0.303	3,281,301	No	222,946
MS-1B23P	0.000	0.467	0.303	0.303	3,281,301	No	222,946
MS-1B23R (D/S)	0.000	0.467	0.233	0.233	3,870,585	No	222,946
MS-1B14P-1 US	0.000	0.406	0.233	0.233	5,158,845	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.840

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD48A-1-RHDT21B to CV**					***Sorted By:Flow Order***		
MS-1B11N	0.000	0.321	0.233	0.233	523,137	No	222,946
MS-1B11P-1	0.000	0.390	0.233	0.233	1,728,580	Yes	222,946
MS-1B11	0.000	0.397	0.233	0.233	1,317,871	Yes	222,946
MS-1B11P	0.000	0.361	0.233	0.233	1,524,369	Yes	222,946
MS-1B12	0.000	0.376	0.233	0.233	1,149,164	Yes	222,946
MS-1B12P	0.000	0.392	0.233	0.233	1,892,954	Yes	222,946
MS-1B13	0.000	0.359	0.233	0.233	1,132,990	No	222,946
MS-1B13P	0.000	0.383	0.233	0.233	2,029,832	No	222,946
MS-1B14	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B14P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B14FE	0.000	0.321	0.233	0.233	523,137	No	222,946
MS-1B14P-1 US	0.000	0.406	0.233	0.233	5,158,845	No	222,946
MS-1B15	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B15P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B16	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B16P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B17	0.000	0.359	0.233	0.233	1,132,990	No	222,946
MS-1B17P	0.000	0.383	0.233	0.233	2,029,832	No	222,946
MS-1B18	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B18P DS	0.000	0.416	0.233	0.233	2,178,037	Yes	222,946
MS-1B19	0.000	0.360	0.233	0.233	1,019,067	Yes	222,946
MS-1B19P US	0.000	0.397	0.233	0.233	1,952,130	Yes	222,946
MS-1B20	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B20P-1	0.000	0.467	0.303	0.303	3,281,301	No	222,946
MS-1B20R	0.000	0.370	0.233	0.233	1,453,290	No	222,946
MS-1B20R (D/S)	0.000	0.460	0.303	0.303	2,624,301	No	222,946
MS-1B20P	0.000	0.467	0.303	0.303	3,281,301	No	222,946
MS-1B21	0.000	0.451	0.303	0.303	2,002,816	No	222,946
MS-1B22	0.000	0.480	0.303	0.303	2,392,863	Yes	222,946
MS-1B22P	0.000	0.465	0.303	0.303	2,536,710	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD48A-1-RHDT21B to CV**					***Sorted By:Flow Order***		
MS-1B23	0.000	0.451	0.303	0.303	2,002,816	No	222,946
MS-1B23P	0.000	0.467	0.303	0.303	3,281,301	No	222,946
MS-1B23R	0.000	0.455	0.303	0.303	3,043,560	No	222,946
MS-1B23R (D/S)	0.000	0.467	0.233	0.233	3,870,585	No	222,946
MS-1B24	0.000	0.471	0.233	0.233	2,356,091	No	222,946
MS-1B24 (D/S)	0.000	0.458	0.233	0.233	2,227,284	No	222,946
MS-1B24P US	0.000	0.409	0.233	0.233	2,614,365	Yes	222,946
MS-1B25	0.000	0.370	0.233	0.233	1,104,609	Yes	222,946
MS-1B25P	0.000	0.399	0.233	0.233	1,547,083	Yes	222,946
MS-1B26	0.000	0.393	0.233	0.233	1,289,387	Yes	222,946
MS-1B27P-1	0.000	0.403	0.233	0.233	2,021,608	Yes	222,946
MS-1B27	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B27P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B28	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B28P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B29	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B29P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B30	0.000	0.350	0.233	0.233	939,078	No	222,946
MS-1B30P	0.000	0.376	0.233	0.233	1,706,969	No	222,946
MS-1B31	0.000	0.359	0.233	0.233	1,132,990	No	222,946
MS-1B31P US	0.000	0.383	0.233	0.233	2,029,832	No	222,946
MS-1B31P DS	0.000	0.401	0.233	0.233	2,273,398	No	222,946
MS-1B32	0.000	0.367	0.233	0.233	1,075,650	Yes	222,946
MS-1B32P US	0.000	0.389	0.233	0.233	1,857,037	Yes	222,946
MS-1B32P DS	0.000	0.398	0.233	0.233	1,964,046	Yes	222,946
MS-1B33	0.000	0.364	0.233	0.233	1,051,549	Yes	222,946
MS-1B33P	0.000	0.390	0.233	0.233	1,868,927	Yes	222,946
MS-1B33R	0.000	0.448	0.233	0.233	2,558,537	No	222,946
MS-1B33R (D/S)	0.000	0.327	0.158	0.158	1,447,598	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DRN TK 21B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.840

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:	**MSD48A-1-RHDT21B to CV**											***Sorted By: Flow Order***
MS-1B11P-1	0.000	43.9	70.0	43.9	70.0	0.406	MT	119,088	388.1	406.0	16.1	119,088
MS-1B11	0.000	60.2	55.0	60.2	55.0	0.419	MT	119,088	371.8	419.0	22.1	119,088
MS-1B11P	0.000	40.6	78.0	40.6	78.0	0.376	MT	119,088	391.4	376.0	14.9	119,088
MS-1B12	0.000	60.2	58.0	60.2	58.0	0.398	MT	119,088	371.8	398.0	22.1	119,088
MS-1B12P	0.000	40.6	49.0	40.6	49.0	0.407	MT	119,088	391.4	407.0	14.9	119,088
MS-1B18P DS	0.000	48.6	45.0	48.6	45.0	0.423	MT	149,573	383.4	423.0	6.9	149,573
MS-1B19	0.000	72.0	71.0	72.0	71.0	0.370	MT	149,573	360.0	370.0	10.3	149,573
MS-1B19P US	0.000	48.6	51.0	48.6	51.0	0.404	MT	149,573	383.4	404.0	6.9	149,573
MS-1B22	0.000	31.8	34.0	31.8	34.0	0.497	MT	106,128	468.2	497.0	17.0	106,128
MS-1B22P	0.000	27.5	63.0	27.5	63.0	0.480	MT	106,128	472.5	480.0	14.7	106,128
MS-1B24P US	0.000	40.2	50.0	40.2	50.0	0.413	MT	165,113	391.8	413.0	4.2	165,113
MS-1B25	0.000	53.6	52.0	53.6	52.0	0.399	MT	106,128	378.4	399.0	28.6	106,128
MS-1B25P	0.000	66.5	62.0	66.5	62.0	0.404	GW	181,477	365.5	404.0	4.6	181,477
MS-1B26	0.000	80.6	62.5	80.6	62.5	0.395	MT	209,806	351.4	395.0	1.6	209,806
MS-1B27P-1	0.000	54.5	51.0	54.5	51.0	0.404	MT	209,806	377.5	404.0	1.1	209,806
MS-1B32	0.000	69.0	69.0	69.0	69.0	0.380	MT	136,608	363.0	380.0	13.2	136,608
MS-1B32P US	0.000	46.6	32.0	46.6	32.0	0.398	MT	136,608	385.4	398.0	8.9	136,608
MS-1B32P DS	0.000	46.6	31.0	46.6	31.0	0.407	MT	136,608	385.4	407.0	8.9	136,608
MS-1B33	0.000	69.0	71.0	69.0	71.0	0.377	MT	136,608	363.0	377.0	13.2	136,608
MS-1B33P	0.000	46.6	52.0	46.6	52.0	0.399	MT	136,608	385.4	399.0	8.9	136,608
MS-1B33R (D/S)	0.000	62.4	82.0	62.4	82.0	0.339	MT	136,608	274.6	339.0	12.1	136,608

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 11:01:06AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.357

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD46A-1-RHDT22A to CV***								***Sorted By: Average Wear Rate***		
MS-2A11N	31	7.058	2.382	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15FE	6	7.058	2.382	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A12	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A13	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A14	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A22	4	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23R (D/S)	17	4.730	1.650	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2A22P US	54	4.517	1.524	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A22P DS	54	4.517	1.524	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-1	18	3.953	1.334	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-3	18	3.953	1.334	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11P-1	61	3.811	1.286	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11P US	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11P DS	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A12P US	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A12P DS	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A13P	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A14P	52	3.529	1.191	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23P-1	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23R	17	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A16	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A17	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A18	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A19	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A20	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	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:	***MSD46A-1-RHDT22A to CV***								***Sorted By: Average Wear Rate***		
MS-2A21	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-2	67	2.823	0.953	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-2 (D/S)	17	2.541	0.857	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A21R (D/S)	17	2.541	0.857	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15P-5 (D/S)	15	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15R-1 (D/S)	18	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15R-3 (D/S)	18	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-5	15	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21P DS	52	2.158	0.728	495.9	4.039	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A16P	52	2.095	0.707	495.9	4.917	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A17P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A17P DS	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A18P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A18P DS	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A19P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A19P DS	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-1	68	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A20P	52	2.095	0.707	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15R-2	17	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21R	17	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-4	68	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-6	65	1.676	0.566	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-3	56	1.446	0.488	495.9	7.098	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 11:01:06AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.357

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD46A-1-RHDT22A to CV***									***Sorted By: Flow Order***	
MS-2A11N	31	7.058	2.382	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11P-1	61	3.811	1.286	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11P US	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A11P DS	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A12	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A12P US	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A12P DS	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A13	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A13P	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A14	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A14P	52	3.529	1.191	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-1	18	3.953	1.334	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-1 (D/S)	18	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-1	68	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15R-2	17	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15R-2 (D/S)	17	2.541	0.857	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15P-2	67	2.823	0.953	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15FE	6	7.058	2.382	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15P-3	56	1.446	0.488	495.9	7.098	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-3	18	3.953	1.334	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A15R-3 (D/S)	18	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-4	68	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-5	15	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-5 (D/S)	15	2.514	0.848	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A15P-6	65	1.676	0.566	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A16	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	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:	***MSD46A-1-RHDT22A to CV***									***Sorted By: Flow Order***	
MS-2A16P	52	2.095	0.707	495.9	4.917	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A17	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A17P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A17P DS	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A18	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A18P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A18P DS	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A19	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A19P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A19P DS	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A20	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A20P	52	2.095	0.707	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21	2	3.101	1.046	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21P US	52	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21P DS	52	2.158	0.728	495.9	4.039	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21R	17	2.095	0.707	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2A21R (D/S)	17	2.541	0.857	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A22	4	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A22P US	54	4.517	1.524	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A22P DS	54	4.517	1.524	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23	2	5.223	1.762	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23P-1	52	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23R	17	3.529	1.191	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23R (D/S)	17	4.730	1.650	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 11:01:06AM

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.357

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

===>Grouped by Line: **MSD46A-1-RHDT22A to CV** ***Sorted By:Remaining Life***

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
MS-2A13	0.000	0.323	0.233	0.233	449,466	Yes	222,946
MS-2A15FE	0.000	0.370	0.233	0.233	503,470	No	222,946
MS-2A11	0.000	0.352	0.233	0.233	593,606	Yes	222,946
MS-2A11N	0.000	0.402	0.233	0.233	622,332	No	222,946
MS-2A22	0.000	0.366	0.233	0.233	663,191	Yes	222,946
MS-2A23	0.000	0.366	0.233	0.233	663,191	Yes	222,946
MS-2A14	0.000	0.367	0.233	0.233	668,162	Yes	222,946
MS-2A12	0.000	0.373	0.233	0.233	697,984	Yes	222,946
MS-2A15	0.000	0.376	0.233	0.233	712,895	Yes	222,946
MS-2A22P DS	0.000	0.369	0.233	0.233	783,050	Yes	222,946
MS-2A22P US	0.000	0.370	0.233	0.233	788,796	Yes	222,946
MS-2A23R	0.000	0.348	0.233	0.233	846,021	No	222,946
MS-2A16	0.000	0.415	0.303	0.303	934,621	Yes	222,946
MS-2A12P DS	0.000	0.362	0.233	0.233	949,007	Yes	222,946
MS-2A23R (D/S)	0.000	0.339	0.158	0.158	962,503	No	222,946
MS-2A12P US	0.000	0.369	0.233	0.233	1,000,500	Yes	222,946
MS-2A13P	0.000	0.370	0.233	0.233	1,007,856	Yes	222,946
MS-2A23P-1	0.000	0.378	0.233	0.233	1,066,706	Yes	222,946
MS-2A14P	0.000	0.383	0.233	0.233	1,103,486	Yes	222,946
MS-2A11P DS	0.000	0.383	0.233	0.233	1,103,486	Yes	222,946
MS-2A11P US	0.000	0.383	0.233	0.233	1,103,486	Yes	222,946
MS-2A11P-1	0.000	0.403	0.233	0.233	1,156,888	Yes	222,946
MS-2A21	0.000	0.449	0.303	0.303	1,219,268	No	222,946
MS-2A19	0.000	0.453	0.303	0.303	1,252,756	Yes	222,946
MS-2A15R-1	0.000	0.431	0.233	0.233	1,301,209	No	222,946
MS-2A17	0.000	0.470	0.303	0.303	1,395,080	Yes	222,946
MS-2A15R-3	0.000	0.447	0.233	0.233	1,406,296	No	222,946
MS-2A18	0.000	0.476	0.303	0.303	1,445,312	Yes	222,946
MS-2A20	0.000	0.477	0.303	0.303	1,453,684	Yes	222,946
MS-2A15P-2	0.000	0.400	0.233	0.233	1,534,066	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD46A-1-RHDT22A to CV**					***Sorted By:Remaining Life***		
MS-2A15R-2	0.000	0.444	0.303	0.303	1,741,013	No	222,946
MS-2A18P DS	0.000	0.446	0.303	0.303	1,765,794	Yes	222,946
MS-2A15P-1	0.000	0.453	0.303	0.303	1,852,528	Yes	222,946
MS-2A17P US	0.000	0.454	0.303	0.303	1,864,918	Yes	222,946
MS-2A19P DS	0.000	0.454	0.303	0.303	1,864,918	Yes	222,946
MS-2A15P-4	0.000	0.455	0.303	0.303	1,877,309	Yes	222,946
MS-2A20P	0.000	0.455	0.303	0.303	1,877,309	Yes	222,946
MS-2A18P US	0.000	0.459	0.303	0.303	1,926,871	Yes	222,946
MS-2A15R-3 (D/S)	0.000	0.493	0.303	0.303	1,958,190	No	222,946
MS-2A19P US	0.000	0.462	0.303	0.303	1,964,043	Yes	222,946
MS-2A15R-1 (D/S)	0.000	0.494	0.303	0.303	1,968,515	No	222,946
MS-2A17P DS	0.000	0.464	0.303	0.303	1,988,824	Yes	222,946
MS-2A21P DS	0.560	0.470	0.303	0.303	2,010,053	Yes	222,946
MS-2A16P	0.000	0.467	0.303	0.303	2,025,995	Yes	222,946
MS-2A21P US	0.000	0.469	0.303	0.303	2,050,777	Yes	222,946
MS-2A15R-2 (D/S)	0.000	0.441	0.233	0.233	2,122,693	No	222,946
MS-2A15P-6	0.000	0.442	0.303	0.303	2,143,191	Yes	222,946
MS-2A21R (D/S)	0.000	0.470	0.233	0.233	2,418,982	No	222,946
MS-2A21R	0.000	0.499	0.303	0.303	2,422,492	No	222,946
MS-2A15P-3	0.000	0.401	0.233	0.233	3,020,636	Yes	222,946
MS-2A15P-5	0.000	0.674	0.303	0.303	3,827,095	No	222,946
MS-2A15P-5 (D/S)	0.000	0.674	0.303	0.303	3,827,095	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.357

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD46A-1-RHDT22A to CV**					***Sorted By:Flow Order***		
MS-2A11N	0.000	0.402	0.233	0.233	622,332	No	222,946
MS-2A11P-1	0.000	0.403	0.233	0.233	1,156,888	Yes	222,946
MS-2A11	0.000	0.352	0.233	0.233	593,606	Yes	222,946
MS-2A11P US	0.000	0.383	0.233	0.233	1,103,486	Yes	222,946
MS-2A11P DS	0.000	0.383	0.233	0.233	1,103,486	Yes	222,946
MS-2A12	0.000	0.373	0.233	0.233	697,984	Yes	222,946
MS-2A12P US	0.000	0.369	0.233	0.233	1,000,500	Yes	222,946
MS-2A12P DS	0.000	0.362	0.233	0.233	949,007	Yes	222,946
MS-2A13	0.000	0.323	0.233	0.233	449,466	Yes	222,946
MS-2A13P	0.000	0.370	0.233	0.233	1,007,856	Yes	222,946
MS-2A14	0.000	0.367	0.233	0.233	668,162	Yes	222,946
MS-2A14P	0.000	0.383	0.233	0.233	1,103,486	Yes	222,946
MS-2A15	0.000	0.376	0.233	0.233	712,895	Yes	222,946
MS-2A15R-1	0.000	0.431	0.233	0.233	1,301,209	No	222,946
MS-2A15R-1 (D/S)	0.000	0.494	0.303	0.303	1,968,515	No	222,946
MS-2A15P-1	0.000	0.453	0.303	0.303	1,852,528	Yes	222,946
MS-2A15R-2	0.000	0.444	0.303	0.303	1,741,013	No	222,946
MS-2A15R-2 (D/S)	0.000	0.441	0.233	0.233	2,122,693	No	222,946
MS-2A15P-2	0.000	0.400	0.233	0.233	1,534,066	Yes	222,946
MS-2A15FE	0.000	0.370	0.233	0.233	503,470	No	222,946
MS-2A15P-3	0.000	0.401	0.233	0.233	3,020,636	Yes	222,946
MS-2A15R-3	0.000	0.447	0.233	0.233	1,406,296	No	222,946
MS-2A15R-3 (D/S)	0.000	0.493	0.303	0.303	1,958,190	No	222,946
MS-2A15P-4	0.000	0.455	0.303	0.303	1,877,309	Yes	222,946
MS-2A15P-5	0.000	0.674	0.303	0.303	3,827,095	No	222,946
MS-2A15P-5 (D/S)	0.000	0.674	0.303	0.303	3,827,095	No	222,946
MS-2A15P-6	0.000	0.442	0.303	0.303	2,143,191	Yes	222,946
MS-2A16	0.000	0.415	0.303	0.303	934,621	Yes	222,946
MS-2A16P	0.000	0.467	0.303	0.303	2,025,995	Yes	222,946
MS-2A17	0.000	0.470	0.303	0.303	1,395,080	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD46A-1-RHDT22A to CV**					***Sorted By:Flow Order***		
MS-2A17P US	0.000	0.454	0.303	0.303	1,864,918	Yes	222,946
MS-2A17P DS	0.000	0.464	0.303	0.303	1,988,824	Yes	222,946
MS-2A18	0.000	0.476	0.303	0.303	1,445,312	Yes	222,946
MS-2A18P US	0.000	0.459	0.303	0.303	1,926,871	Yes	222,946
MS-2A18P DS	0.000	0.446	0.303	0.303	1,765,794	Yes	222,946
MS-2A19	0.000	0.453	0.303	0.303	1,252,756	Yes	222,946
MS-2A19P US	0.000	0.462	0.303	0.303	1,964,043	Yes	222,946
MS-2A19P DS	0.000	0.454	0.303	0.303	1,864,918	Yes	222,946
MS-2A20	0.000	0.477	0.303	0.303	1,453,684	Yes	222,946
MS-2A20P	0.000	0.455	0.303	0.303	1,877,309	Yes	222,946
MS-2A21	0.000	0.449	0.303	0.303	1,219,268	No	222,946
MS-2A21P US	0.000	0.469	0.303	0.303	2,050,777	Yes	222,946
MS-2A21P DS	0.560	0.470	0.303	0.303	2,010,053	Yes	222,946
MS-2A21R	0.000	0.499	0.303	0.303	2,422,492	No	222,946
MS-2A21R (D/S)	0.000	0.470	0.233	0.233	2,418,982	No	222,946
MS-2A22	0.000	0.366	0.233	0.233	663,191	Yes	222,946
MS-2A22P US	0.000	0.370	0.233	0.233	788,796	Yes	222,946
MS-2A22P DS	0.000	0.369	0.233	0.233	783,050	Yes	222,946
MS-2A23	0.000	0.366	0.233	0.233	663,191	Yes	222,946
MS-2A23P-1	0.000	0.378	0.233	0.233	1,066,706	Yes	222,946
MS-2A23R	0.000	0.348	0.233	0.233	846,021	No	222,946
MS-2A23R (D/S)	0.000	0.339	0.158	0.158	962,503	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DRN TK 22A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.357

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:	**MSD46A-1-RHDT22A to CV**											***Sorted By: Flow Order***
MS-2A11P-1	0.000	92.7	57.0	92.7	57.0	0.407	GW	193,769	339.3	407.0	4.3	193,769
MS-2A11	0.000	97.2	81.0	97.2	81.0	0.388	MT	119,088	334.8	388.0	35.7	119,088
MS-2A11P US	0.000	65.7	58.0	65.7	58.0	0.407	MT	119,088	366.3	407.0	24.1	119,088
MS-2A11P DS	0.000	65.7	78.0	65.7	78.0	0.407	MT	119,088	366.3	407.0	24.1	119,088
MS-2A12	0.000	97.2	46.0	97.2	46.0	0.409	MT	119,088	334.8	409.0	35.7	119,088
MS-2A12P US	0.000	65.7	106.0	65.7	106.0	0.393	MT	119,088	366.3	393.0	24.1	119,088
MS-2A12P DS	0.000	65.7	62.0	65.7	62.0	0.386	MT	119,088	366.3	386.0	24.1	119,088
MS-2A13	0.000	97.2	77.0	97.2	77.0	0.359	MT	119,088	334.8	359.0	35.7	119,088
MS-2A13P	0.000	65.7	48.0	65.7	48.0	0.394	MT	119,088	366.3	394.0	24.1	119,088
MS-2A14	0.000	97.2	43.0	97.2	43.0	0.403	MT	119,088	334.8	403.0	35.7	119,088
MS-2A14P	0.000	65.7	36.0	65.7	36.0	0.407	MT	119,088	366.3	407.0	24.1	119,088
MS-2A15	0.000	97.2	53.0	97.2	53.0	0.412	MT	119,088	334.8	412.0	35.7	119,088
MS-2A15P-1	0.000	39.0	66.0	39.0	66.0	0.467	MT	119,088	461.0	467.0	14.3	119,088
MS-2A15P-2	0.000	52.6	46.0	52.6	46.0	0.419	MT	119,088	379.4	419.0	19.3	119,088
MS-2A15P-3	0.000	26.9	58.0	26.9	58.0	0.411	MT	119,088	405.1	411.0	9.9	119,088
MS-2A15P-4	0.000	39.0	64.0	39.0	64.0	0.469	MT	119,088	461.0	469.0	14.3	119,088
MS-2A15P-6	0.000	31.2	46.0	31.2	46.0	0.453	MT	119,088	468.8	453.0	11.5	119,088
MS-2A16	0.000	57.7	67.0	57.7	67.0	0.436	MT	119,088	442.3	436.0	21.2	119,088
MS-2A16P	0.000	39.0	50.0	39.0	50.0	0.481	MT	119,088	461.0	481.0	14.3	119,088
MS-2A17	0.000	57.7	61.0	57.7	61.0	0.491	MT	119,088	442.3	491.0	21.2	119,088
MS-2A17P US	0.000	39.0	58.0	39.0	58.0	0.468	MT	119,088	461.0	468.0	14.3	119,088
MS-2A17P DS	0.000	39.0	35.0	39.0	35.0	0.478	MT	119,088	461.0	478.0	14.3	119,088
MS-2A18	0.000	57.7	57.0	57.7	57.0	0.497	MT	119,088	442.3	497.0	21.2	119,088
MS-2A18P US	0.000	39.0	39.0	39.0	39.0	0.473	MT	119,088	461.0	473.0	14.3	119,088
MS-2A18P DS	0.000	39.0	56.0	39.0	56.0	0.460	MT	119,088	461.0	460.0	14.3	119,088
MS-2A19	0.000	57.7	78.0	57.7	78.0	0.474	MT	119,088	442.3	474.0	21.2	119,088
MS-2A19P US	0.000	39.0	44.0	39.0	44.0	0.476	MT	119,088	461.0	476.0	14.3	119,088
MS-2A19P DS	0.000	39.0	60.0	39.0	60.0	0.468	MT	119,088	461.0	468.0	14.3	119,088

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:	**MSD46A-1-RHDT22A to CV**											***Sorted By: Flow Order***
MS-2A20	0.000	57.7	80.0	57.7	80.0	0.498	MT	119,088	442.3	498.0	21.2	119,088
MS-2A20P	0.000	39.0	44.0	39.0	44.0	0.469	MT	119,088	461.0	469.0	14.3	119,088
MS-2A21P US	0.000	39.0	56.0	39.0	56.0	0.483	MT	119,088	461.0	483.0	14.3	119,088
MS-2A21P DS	0.560	40.2	75.0	40.2	75.0	0.485	MT	119,088	519.8	485.0	14.8	119,088
MS-2A22	0.000	97.2	50.0	97.2	50.0	0.402	MT	119,088	334.8	402.0	35.7	119,088
MS-2A22P US	0.000	84.1	71.0	84.1	71.0	0.401	MT	119,088	347.9	401.0	30.9	119,088
MS-2A22P DS	0.000	84.1	52.0	84.1	52.0	0.400	MT	119,088	347.9	400.0	30.9	119,088
MS-2A23	0.000	97.2	41.0	97.2	41.0	0.402	MT	119,088	334.8	402.0	35.7	119,088
MS-2A23P-1	0.000	65.7	44.0	65.7	44.0	0.402	MT	119,088	366.3	402.0	24.1	119,088

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 10:45:27AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.573

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD49A-1-RHDT22B to CV***								***Sorted By: Average Wear Rate***		
MS-2B30R1 (D/S)	7	9.744	3.399	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2B11N	31	8.178	2.760	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17FE	6	8.178	2.760	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B11	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B12	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B13	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B14	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B15	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B16	1	5.398	1.821	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17	1	5.398	1.821	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B28R	18	4.580	1.545	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17R-1	18	4.580	1.545	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B18R	18	4.580	1.545	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B11P-1	61	4.416	1.490	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B11P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B12P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B13P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B14P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B15P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B16P	51	3.598	1.214	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17P-3	51	3.598	1.214	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B27P-2	67	3.271	1.104	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17P-1 US	67	3.271	1.104	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B27R (D/S)	17	2.944	0.993	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17R-2 (D/S)	17	2.944	0.993	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B22	2	2.394	0.808	495.9	2.492	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B29	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	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:	***MSD49A-1-RHDT22B to CV***								***Sorted By: Average Wear Rate***		
MS-2B18	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B20	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B21	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B23	4	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B24	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B25	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B26	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30R1	7	2.231	0.753	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28	1	2.103	0.710	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B19	1	2.103	0.710	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B23P US	54	2.040	0.688	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B23P DS	54	2.040	0.688	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27 (D/S)	15	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28R (D/S)	18	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B17R-1 (D/S)	18	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B18R (D/S)	18	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27	15	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B17P-2 DS	56	1.636	0.552	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17P DS	68	1.620	0.547	495.9	2.495	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27R	17	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28P-1	68	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B29P	52	1.593	0.538	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B17R-2	17	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B18P-1 US	68	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B18P	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B20P	52	1.593	0.538	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B21P US	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B21P DS	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B24P DS	52	1.593	0.538	495.9	3.053	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B25P US	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B26P	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28P	51	1.402	0.473	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B19P	51	1.402	0.473	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27P-1	65	1.275	0.430	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 10:45:27AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.573

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD49A-1-RHDT22B to CV***									***Sorted By: Flow Order***	
MS-2B11N	31	8.178	2.760	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B11P-1	61	4.416	1.490	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B11	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B11P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B12	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B12P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B13	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B13P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B14	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B14P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B15	2	6.052	2.042	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B15P	52	4.089	1.380	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B16	1	5.398	1.821	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B16P	51	3.598	1.214	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17	1	5.398	1.821	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17P-3	51	3.598	1.214	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17R-1	18	4.580	1.545	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17R-1 (D/S)	18	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B17P DS	68	1.620	0.547	495.9	2.495	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B17R-2	17	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B17R-2 (D/S)	17	2.944	0.993	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17P-1 US	67	3.271	1.104	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17FE	6	8.178	2.760	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B17P-2 DS	56	1.636	0.552	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B18R	18	4.580	1.545	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B18R (D/S)	18	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B18P-1 US	68	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B18	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	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:	***MSD49A-1-RHDT22B to CV***									***Sorted By: Flow Order***	
MS-2B18P	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B19	1	2.103	0.710	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B19P	51	1.402	0.473	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B20	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B20P	52	1.593	0.538	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B21	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B21P US	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B21P DS	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B22	2	2.394	0.808	495.9	2.492	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B23	4	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B23P US	54	2.040	0.688	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B23P DS	54	2.040	0.688	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B24	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B24P DS	52	1.593	0.538	495.9	3.053	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B25	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B25P US	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B26	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B26P	52	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27	15	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27 (D/S)	15	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27P-1	65	1.275	0.430	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27R	17	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B27R (D/S)	17	2.944	0.993	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B27P-2	67	3.271	1.104	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B28R	18	4.580	1.545	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B28R (D/S)	18	1.912	0.645	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28P-1	68	1.593	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28	1	2.103	0.710	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B28P	51	1.402	0.473	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B29	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B29P	52	1.593	0.538	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30	2	2.358	0.796	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30R1	7	2.231	0.753	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30R1 (D/S)	7	9.744	3.399	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 10:45:27AM

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.573

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49A-1-RHDT22B to CV**					***Sorted By:Remaining Life***		
MS-2B17FE	0.000	0.224	0.233	0.233	-28,588	No	222,946
MS-2B14	0.000	0.278	0.233	0.233	193,504	No	222,946
MS-2B17R-1	0.000	0.315	0.233	0.233	468,067	No	222,946
MS-2B28R	0.000	0.315	0.233	0.233	468,067	No	222,946
MS-2B11N	0.000	0.393	0.233	0.233	507,867	Yes	222,946
MS-2B17	0.000	0.344	0.233	0.233	535,788	Yes	222,946
MS-2B30R1 (D/S)	0.000	0.380	0.158	0.158	571,683	No	222,946
MS-2B15	0.000	0.373	0.233	0.233	601,445	Yes	222,946
MS-2B16	0.000	0.372	0.233	0.233	670,454	Yes	222,946
MS-2B11	0.000	0.391	0.233	0.233	678,054	Yes	222,946
MS-2B12	0.000	0.404	0.233	0.233	733,819	Yes	222,946
MS-2B13	0.000	0.405	0.233	0.233	739,230	Yes	222,946
MS-2B14P	0.000	0.364	0.233	0.233	834,387	Yes	222,946
MS-2B15P	0.000	0.366	0.233	0.233	847,084	Yes	222,946
MS-2B11P-1	0.000	0.380	0.233	0.233	863,512	Yes	222,946
MS-2B12P	0.000	0.369	0.233	0.233	863,810	Yes	222,946
MS-2B13P	0.000	0.373	0.233	0.233	892,214	Yes	222,946
MS-2B27P-2	0.000	0.349	0.233	0.233	919,572	No	222,946
MS-2B11P	0.000	0.380	0.233	0.233	935,964	Yes	222,946
MS-2B16P	0.000	0.379	0.233	0.233	1,055,537	Yes	222,946
MS-2B22	0.633	0.477	0.378	0.378	1,072,547	Yes	222,946
MS-2B27R (D/S)	0.000	0.357	0.233	0.233	1,095,157	No	222,946
MS-2B17P-3	0.000	0.390	0.233	0.233	1,134,894	Yes	222,946
MS-2B17P-1 US	0.000	0.385	0.233	0.233	1,204,081	Yes	222,946
MS-2B20	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B21	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B24	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B26	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B29	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B30	0.000	0.534	0.378	0.378	1,718,590	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD49A-1-RHDT22B to CV**					***Sorted By:Remaining Life***		
MS-2B30R1	0.000	0.545	0.378	0.378	1,942,120	No	222,946
MS-2B23	0.000	0.558	0.378	0.378	1,988,442	Yes	222,946
MS-2B19	0.000	0.540	0.378	0.378	2,006,988	No	222,946
MS-2B28	0.000	0.540	0.378	0.378	2,006,988	No	222,946
MS-2B25	0.000	0.567	0.378	0.378	2,087,514	Yes	222,946
MS-2B23P DS	0.000	0.542	0.378	0.378	2,090,353	No	222,946
MS-2B23P US	0.000	0.552	0.378	0.378	2,210,222	Yes	222,946
MS-2B17R-1 (D/S)	0.000	0.545	0.378	0.378	2,273,756	No	222,946
MS-2B28R (D/S)	0.000	0.545	0.378	0.378	2,273,756	No	222,946
MS-2B18	0.000	0.586	0.378	0.378	2,295,068	Yes	222,946
MS-2B27	0.000	0.564	0.378	0.378	2,526,186	No	222,946
MS-2B27 (D/S)	0.000	0.567	0.378	0.378	2,566,915	No	222,946
MS-2B17P DS	0.636	0.543	0.378	0.378	2,652,476	Yes	222,946
MS-2B17R-2 (D/S)	0.000	0.537	0.233	0.233	2,681,124	No	222,946
MS-2B17P-2 DS	0.000	0.406	0.233	0.233	2,752,605	Yes	222,946
MS-2B18R (D/S)	0.000	0.581	0.378	0.378	2,755,932	No	222,946
MS-2B18P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B20P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B21P US	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B26P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B27R	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B28P-1	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B29P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B24P DS	0.000	0.559	0.378	0.378	2,949,967	Yes	222,946
MS-2B18P-1 US	0.000	0.569	0.378	0.378	3,117,451	Yes	222,946
MS-2B25P US	0.000	0.572	0.378	0.378	3,161,762	Yes	222,946
MS-2B19P	0.000	0.558	0.378	0.378	3,340,829	No	222,946
MS-2B28P	0.000	0.558	0.378	0.378	3,340,829	No	222,946
MS-2B21P DS	0.000	0.585	0.378	0.378	3,373,555	Yes	222,946
MS-2B18R	0.000	0.832	0.233	0.233	3,395,275	No	222,946
MS-2B17R-2	0.000	0.606	0.378	0.378	3,724,514	No	222,946
MS-2B27P-1	0.000	0.562	0.378	0.378	3,740,981	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.573

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49A-1-RHDT22B to CV**					***Sorted By:Flow Order***		
MS-2B11N	0.000	0.393	0.233	0.233	507,867	Yes	222,946
MS-2B11P-1	0.000	0.380	0.233	0.233	863,512	Yes	222,946
MS-2B11	0.000	0.391	0.233	0.233	678,054	Yes	222,946
MS-2B11P	0.000	0.380	0.233	0.233	935,964	Yes	222,946
MS-2B12	0.000	0.404	0.233	0.233	733,819	Yes	222,946
MS-2B12P	0.000	0.369	0.233	0.233	863,810	Yes	222,946
MS-2B13	0.000	0.405	0.233	0.233	739,230	Yes	222,946
MS-2B13P	0.000	0.373	0.233	0.233	892,214	Yes	222,946
MS-2B14	0.000	0.278	0.233	0.233	193,504	No	222,946
MS-2B14P	0.000	0.364	0.233	0.233	834,387	Yes	222,946
MS-2B15	0.000	0.373	0.233	0.233	601,445	Yes	222,946
MS-2B15P	0.000	0.366	0.233	0.233	847,084	Yes	222,946
MS-2B16	0.000	0.372	0.233	0.233	670,454	Yes	222,946
MS-2B16P	0.000	0.379	0.233	0.233	1,055,537	Yes	222,946
MS-2B17	0.000	0.344	0.233	0.233	535,788	Yes	222,946
MS-2B17P-3	0.000	0.390	0.233	0.233	1,134,894	Yes	222,946
MS-2B17R-1	0.000	0.315	0.233	0.233	468,067	No	222,946
MS-2B17R-1 (D/S)	0.000	0.545	0.378	0.378	2,273,756	No	222,946
MS-2B17P DS	0.636	0.543	0.378	0.378	2,652,476	Yes	222,946
MS-2B17R-2	0.000	0.606	0.378	0.378	3,724,514	No	222,946
MS-2B17R-2 (D/S)	0.000	0.537	0.233	0.233	2,681,124	No	222,946
MS-2B17P-1 US	0.000	0.385	0.233	0.233	1,204,081	Yes	222,946
MS-2B17FE	0.000	0.224	0.233	0.233	-28,588	No	222,946
MS-2B17P-2 DS	0.000	0.406	0.233	0.233	2,752,605	Yes	222,946
MS-2B18R	0.000	0.832	0.233	0.233	3,395,275	No	222,946
MS-2B18R (D/S)	0.000	0.581	0.378	0.378	2,755,932	No	222,946
MS-2B18P-1 US	0.000	0.569	0.378	0.378	3,117,451	Yes	222,946
MS-2B18	0.000	0.586	0.378	0.378	2,295,068	Yes	222,946
MS-2B18P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B19	0.000	0.540	0.378	0.378	2,006,988	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49A-1-RHDT22B to CV**					***Sorted By:Flow Order***		
MS-2B19P	0.000	0.558	0.378	0.378	3,340,829	No	222,946
MS-2B20	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B20P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B21	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B21P US	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B21P DS	0.000	0.585	0.378	0.378	3,373,555	Yes	222,946
MS-2B22	0.633	0.477	0.378	0.378	1,072,547	Yes	222,946
MS-2B23	0.000	0.558	0.378	0.378	1,988,442	Yes	222,946
MS-2B23P US	0.000	0.552	0.378	0.378	2,210,222	Yes	222,946
MS-2B23P DS	0.000	0.542	0.378	0.378	2,090,353	No	222,946
MS-2B24	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B24P DS	0.000	0.559	0.378	0.378	2,949,967	Yes	222,946
MS-2B25	0.000	0.567	0.378	0.378	2,087,514	Yes	222,946
MS-2B25P US	0.000	0.572	0.378	0.378	3,161,762	Yes	222,946
MS-2B26	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B26P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B27	0.000	0.564	0.378	0.378	2,526,186	No	222,946
MS-2B27 (D/S)	0.000	0.567	0.378	0.378	2,566,915	No	222,946
MS-2B27P-1	0.000	0.562	0.378	0.378	3,740,981	No	222,946
MS-2B27R	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B27R (D/S)	0.000	0.357	0.233	0.233	1,095,157	No	222,946
MS-2B27P-2	0.000	0.349	0.233	0.233	919,572	No	222,946
MS-2B28R	0.000	0.315	0.233	0.233	468,067	No	222,946
MS-2B28R (D/S)	0.000	0.545	0.378	0.378	2,273,756	No	222,946
MS-2B28P-1	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B28	0.000	0.540	0.378	0.378	2,006,988	No	222,946
MS-2B28P	0.000	0.558	0.378	0.378	3,340,829	No	222,946
MS-2B29	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B29P	0.000	0.553	0.378	0.378	2,860,646	No	222,946
MS-2B30	0.000	0.534	0.378	0.378	1,718,590	No	222,946
MS-2B30R1	0.000	0.545	0.378	0.378	1,942,120	No	222,946
MS-2B30R1 (D/S)	0.000	0.380	0.158	0.158	571,683	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DRN TK 22B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.573

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:	**MSD49A-1-RHDT22B to CV**											***Sorted By: Flow Order***
MS-2B11N	0.000	204.0	60.0	204.0	60.0	0.397	MT	209,806	228.0	397.0	4.1	209,806
MS-2B11P-1	0.000	110.2	50.0	110.2	50.0	0.382	MT	209,806	321.8	382.0	2.2	209,806
MS-2B11	0.000	151.0	85.0	151.0	85.0	0.394	MT	209,806	281.0	394.0	3.1	209,806
MS-2B11P	0.000	97.4	45.0	97.4	45.0	0.387	MT	181,477	334.6	387.0	6.7	181,477
MS-2B12	0.000	151.0	51.0	151.0	51.0	0.407	MT	209,806	281.0	407.0	3.1	209,806
MS-2B12P	0.000	102.0	102.0	102.0	102.0	0.371	MT	209,806	330.0	371.0	2.1	209,806
MS-2B13	0.000	147.2	68.0	147.2	68.0	0.412	GW	193,769	284.8	412.0	6.8	193,769
MS-2B13P	0.000	99.5	100.0	99.5	100.0	0.378	GW	193,769	332.5	378.0	4.6	193,769
MS-2B14P	0.000	97.4	92.0	97.4	92.0	0.371	GW	181,477	334.6	371.0	6.7	181,477
MS-2B15	0.000	144.1	104.0	144.1	104.0	0.383	GW	181,477	287.9	383.0	9.9	181,477
MS-2B15P	0.000	97.4	119.0	97.4	119.0	0.373	GW	181,477	334.6	373.0	6.7	181,477
MS-2B16	0.000	134.6	86.0	134.6	86.0	0.375	MT	209,806	297.4	375.0	2.7	209,806
MS-2B16P	0.000	89.8	59.0	89.8	59.0	0.381	MT	209,806	342.2	381.0	1.8	209,806
MS-2B17	0.000	134.6	99.0	134.6	99.0	0.347	MT	209,806	297.4	347.0	2.7	209,806
MS-2B17P-3	0.000	89.8	43.0	89.8	43.0	0.392	MT	209,806	342.2	392.0	1.8	209,806
MS-2B17P DS	0.636	34.6	86.0	34.6	86.0	0.550	MT	136,608	601.4	550.0	6.6	136,608
MS-2B17P-1 US	0.000	69.9	81.0	69.9	81.0	0.398	MT	136,608	362.1	398.0	13.4	136,608
MS-2B17P-2 DS	0.000	34.9	54.0	34.9	54.0	0.413	MT	136,608	397.1	413.0	6.7	136,608
MS-2B18P-1 US	0.000	38.8	90.0	38.8	90.0	0.571	GW	193,769	555.2	571.0	1.8	193,769
MS-2B18	0.000	57.4	108.0	57.4	108.0	0.589	GW	193,769	536.6	589.0	2.7	193,769
MS-2B21P DS	0.000	35.5	34.0	35.5	34.0	0.590	MT	149,573	558.5	590.0	5.1	149,573
MS-2B22	0.633	59.7	165.0	59.7	165.0	0.478	MT	209,806	573.3	478.0	1.2	209,806
MS-2B23	0.000	52.5	87.0	52.5	87.0	0.566	MT	149,573	541.5	566.0	7.5	149,573
MS-2B23P US	0.000	45.4	69.0	45.4	69.0	0.558	MT	149,573	548.6	558.0	6.5	149,573
MS-2B24P DS	0.000	35.5	47.0	35.5	47.0	0.564	MT	149,573	558.5	564.0	5.1	149,573
MS-2B25	0.000	52.5	82.0	52.5	82.0	0.575	MT	149,573	541.5	575.0	7.5	149,573
MS-2B25P US	0.000	35.5	48.0	35.5	48.0	0.577	MT	149,573	558.5	577.0	5.1	149,573

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:26:54PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD47-1-RHDT23A to CV***								***Sorted By: Average Wear Rate***		
MS-3A23R (D/S)	7	6.401	2.233	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3A11N	31	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A16FE	6	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A20	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A21	4	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A13	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A22	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A16	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23R	7	3.761	1.269	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A11	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A12	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A14	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A19R (D/S)	7	3.438	1.160	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A17R	18	3.008	1.015	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A11P	61	2.901	0.979	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A19P US	57	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A19P DS	57	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A21P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A14P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A21P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A22P	52	2.686	0.906	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A16P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A12P	51	2.364	0.798	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A13P	51	2.364	0.798	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15P-1 US	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD47-1-RHDT23A to CV***								***Sorted By: Average Wear Rate***		
MS-3A15P-1 DS	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A17	4	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A18	2	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19R	7	2.233	0.753	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A17P	54	2.041	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19 (D/S)	15	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A17R (D/S)	18	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19	15	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A18P	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A17P-1	56	1.074	0.363	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:26:54PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD47-1-RHDT23A to CV***									***Sorted By: Flow Order***	
MS-3A11N	31	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A11P	61	2.901	0.979	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A11	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A12P	51	2.364	0.798	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A12	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A13P	51	2.364	0.798	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A13	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A14P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A14	1	3.546	1.196	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15P-1 US	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15P-1 DS	51	2.364	0.798	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A15P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A16	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A16P	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A16FE	6	5.372	1.813	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A17P-1	56	1.074	0.363	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A17R	18	3.008	1.015	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A17R (D/S)	18	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A17	4	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A17P	54	2.041	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A18	2	2.360	0.796	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A18P	52	1.595	0.538	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19	15	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19 (D/S)	15	1.914	0.646	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19R	7	2.233	0.753	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3A19R (D/S)	7	3.438	1.160	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A19P US	57	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD47-1-RHDT23A to CV***									***Sorted By: Flow Order***	
MS-3A19P DS	57	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A20	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A21	4	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A21P US	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A21P DS	52	2.686	0.906	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A22	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A22P	52	2.686	0.906	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23	2	3.975	1.341	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23R	7	3.761	1.269	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23R (D/S)	7	6.401	2.233	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:26:54PM

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD47-1-RHDT23A to CV**					***Sorted By:Remaining Life***		
MS-3A16FE	0.000	0.295	0.233	0.233	301,581	No	222,946
MS-3A11N	0.000	0.295	0.233	0.233	301,581	No	222,946
MS-3A22	0.000	0.331	0.233	0.233	639,677	No	222,946
MS-3A23	0.000	0.331	0.233	0.233	639,677	No	222,946
MS-3A23R (D/S)	0.000	0.326	0.158	0.158	659,702	Yes	222,946
MS-3A12	0.000	0.342	0.233	0.233	797,298	No	222,946
MS-3A11	0.000	0.342	0.233	0.233	797,298	No	222,946
MS-3A19R (D/S)	0.000	0.344	0.233	0.233	842,860	No	222,946
MS-3A21	0.000	0.366	0.233	0.233	867,493	Yes	222,946
MS-3A14	0.000	0.355	0.233	0.233	892,480	Yes	222,946
MS-3A16	0.000	0.370	0.233	0.233	894,353	Yes	222,946
MS-3A20	0.000	0.371	0.233	0.233	900,144	Yes	222,946
MS-3A13	0.000	0.375	0.233	0.233	927,004	Yes	222,946
MS-3A15	0.000	0.382	0.233	0.233	972,715	Yes	222,946
MS-3A17R	0.000	0.355	0.233	0.233	1,057,654	No	222,946
MS-3A23R	0.000	0.390	0.233	0.233	1,084,962	Yes	222,946
MS-3A11P	0.000	0.358	0.233	0.233	1,121,297	No	222,946
MS-3A19P US	0.000	0.364	0.233	0.233	1,263,856	No	222,946
MS-3A21P DS	0.000	0.364	0.233	0.233	1,263,856	No	222,946
MS-3A22P	0.000	0.364	0.233	0.233	1,263,856	No	222,946
MS-3A14P	0.000	0.376	0.233	0.233	1,379,831	Yes	222,946
MS-3A21P US	0.000	0.386	0.233	0.233	1,479,917	Yes	222,946
MS-3A17	0.000	0.440	0.303	0.303	1,504,334	No	222,946
MS-3A18	0.000	0.440	0.303	0.303	1,504,334	No	222,946
MS-3A15P	0.000	0.390	0.233	0.233	1,515,136	Yes	222,946
MS-3A19P DS	0.000	0.390	0.233	0.233	1,518,575	Yes	222,946
MS-3A12P	0.000	0.372	0.233	0.233	1,526,295	No	222,946
MS-3A16P	0.000	0.395	0.233	0.233	1,563,459	Yes	222,946
MS-3A19R	0.000	0.443	0.303	0.303	1,628,051	No	222,946
MS-3A13P	0.000	0.385	0.233	0.233	1,669,067	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD47-1-RHDT23A to CV**					***Sorted By:Remaining Life***		
MS-3A15P-1 US	0.000	0.390	0.233	0.233	1,723,980	Yes	222,946
MS-3A17P	0.000	0.448	0.303	0.303	1,842,620	No	222,946
MS-3A15P-1 DS	0.000	0.408	0.233	0.233	1,921,665	Yes	222,946
MS-3A17R (D/S)	0.000	0.451	0.303	0.303	2,009,508	No	222,946
MS-3A19	0.000	0.451	0.303	0.303	2,009,508	No	222,946
MS-3A19 (D/S)	0.000	0.451	0.303	0.303	2,009,508	No	222,946
MS-3A18P	0.000	0.459	0.303	0.303	2,543,548	No	222,946
MS-3A17P-1	0.000	0.411	0.233	0.233	4,298,968	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD47-1-RHDT23A to CV**					***Sorted By:Flow Order***		
MS-3A11N	0.000	0.295	0.233	0.233	301,581	No	222,946
MS-3A11P	0.000	0.358	0.233	0.233	1,121,297	No	222,946
MS-3A11	0.000	0.342	0.233	0.233	797,298	No	222,946
MS-3A12P	0.000	0.372	0.233	0.233	1,526,295	No	222,946
MS-3A12	0.000	0.342	0.233	0.233	797,298	No	222,946
MS-3A13P	0.000	0.385	0.233	0.233	1,669,067	Yes	222,946
MS-3A13	0.000	0.375	0.233	0.233	927,004	Yes	222,946
MS-3A14P	0.000	0.376	0.233	0.233	1,379,831	Yes	222,946
MS-3A14	0.000	0.355	0.233	0.233	892,480	Yes	222,946
MS-3A15P-1 US	0.000	0.390	0.233	0.233	1,723,980	Yes	222,946
MS-3A15P-1 DS	0.000	0.408	0.233	0.233	1,921,665	Yes	222,946
MS-3A15	0.000	0.382	0.233	0.233	972,715	Yes	222,946
MS-3A15P	0.000	0.390	0.233	0.233	1,515,136	Yes	222,946
MS-3A16	0.000	0.370	0.233	0.233	894,353	Yes	222,946
MS-3A16P	0.000	0.395	0.233	0.233	1,563,459	Yes	222,946
MS-3A16FE	0.000	0.295	0.233	0.233	301,581	No	222,946
MS-3A17P-1	0.000	0.411	0.233	0.233	4,298,968	Yes	222,946
MS-3A17R	0.000	0.355	0.233	0.233	1,057,654	No	222,946
MS-3A17R (D/S)	0.000	0.451	0.303	0.303	2,009,508	No	222,946
MS-3A17	0.000	0.440	0.303	0.303	1,504,334	No	222,946
MS-3A17P	0.000	0.448	0.303	0.303	1,842,620	No	222,946
MS-3A18	0.000	0.440	0.303	0.303	1,504,334	No	222,946
MS-3A18P	0.000	0.459	0.303	0.303	2,543,548	No	222,946
MS-3A19	0.000	0.451	0.303	0.303	2,009,508	No	222,946
MS-3A19 (D/S)	0.000	0.451	0.303	0.303	2,009,508	No	222,946
MS-3A19R	0.000	0.443	0.303	0.303	1,628,051	No	222,946
MS-3A19R (D/S)	0.000	0.344	0.233	0.233	842,860	No	222,946
MS-3A19P US	0.000	0.364	0.233	0.233	1,263,856	No	222,946
MS-3A19P DS	0.000	0.390	0.233	0.233	1,518,575	Yes	222,946
MS-3A20	0.000	0.371	0.233	0.233	900,144	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD47-1-RHDT23A to CV**					***Sorted By:Flow Order***		
MS-3A21	0.000	0.366	0.233	0.233	867,493	Yes	222,946
MS-3A21P US	0.000	0.386	0.233	0.233	1,479,917	Yes	222,946
MS-3A21P DS	0.000	0.364	0.233	0.233	1,263,856	No	222,946
MS-3A22	0.000	0.331	0.233	0.233	639,677	No	222,946
MS-3A22P	0.000	0.364	0.233	0.233	1,263,856	No	222,946
MS-3A23	0.000	0.331	0.233	0.233	639,677	No	222,946
MS-3A23R	0.000	0.390	0.233	0.233	1,084,962	Yes	222,946
MS-3A23R (D/S)	0.000	0.326	0.158	0.158	659,702	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DRN TK 23A USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.033

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:	**MSD47-1-RHDT23A to CV**											***Sorted By: Flow Order***
MS-3A13P	0.000	44.0	56.0	44.0	56.0	0.401	MT	119,088	388.0	401.0	16.2	119,088
MS-3A13	0.000	74.0	84.0	74.0	84.0	0.402	MT	119,088	358.0	402.0	27.2	119,088
MS-3A14P	0.000	50.0	54.0	50.0	54.0	0.394	MT	119,088	382.0	394.0	18.4	119,088
MS-3A14	0.000	66.0	95.0	66.0	95.0	0.379	MT	119,088	366.0	379.0	24.2	119,088
MS-3A15P-1 US	0.000	44.0	70.0	44.0	70.0	0.406	MT	119,088	388.0	406.0	16.2	119,088
MS-3A15P-1 DS	0.000	44.0	52.0	44.0	52.0	0.424	MT	119,088	388.0	424.0	16.2	119,088
MS-3A15	0.000	74.0	56.0	74.0	56.0	0.409	MT	119,088	358.0	409.0	27.2	119,088
MS-3A15P	0.000	50.0	50.0	50.0	50.0	0.408	MT	119,088	382.0	408.0	18.4	119,088
MS-3A16	0.000	74.0	64.0	74.0	64.0	0.397	MT	119,088	358.0	397.0	27.2	119,088
MS-3A16P	0.000	50.0	67.0	50.0	67.0	0.413	MT	119,088	382.0	413.0	18.4	119,088
MS-3A17P-1	0.000	26.1	72.0	26.1	72.0	0.412	GW	193,769	405.9	412.0	1.2	193,769
MS-3A19P DS	0.000	57.4	56.0	57.4	56.0	0.401	MT	136,608	374.6	401.0	11.0	136,608
MS-3A20	0.000	84.9	68.0	84.9	68.0	0.387	MT	136,608	347.1	387.0	16.3	136,608
MS-3A21	0.000	84.9	74.0	84.9	74.0	0.382	MT	136,608	347.1	382.0	16.3	136,608
MS-3A21P US	0.000	57.4	49.0	57.4	49.0	0.397	MT	136,608	374.6	397.0	11.0	136,608
MS-3A23R	0.000	83.7	67.0	83.7	67.0	0.402	MT	149,573	348.3	402.0	12.0	149,573
MS-3A23R (D/S)	0.000	142.2	128.0	142.2	128.0	0.347	MT	149,573	194.8	347.0	20.7	149,573

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 10:24:19AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD50A-1-RHDT23B to CV***								***Sorted By: Average Wear Rate***		
MS-3B11N	31	5.147	1.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21FE	6	5.147	1.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B34 (D/S)	12	4.220	1.424	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B34	12	4.220	1.424	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B19	2	3.871	1.306	495.9	7.038	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B35	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B12	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B36	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B13	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B37	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B38	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B14	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B15	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B39	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B16	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B17	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B18	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B20	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B22	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B23	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B32	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B33	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B42R (D/S)	17	3.449	1.203	495.9	15.767	3.3	4.500	6.379	0.000	55.44	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:	***MSD50A-1-RHDT23B to CV***								***Sorted By: Average Wear Rate***		
MS-3B11	1	3.397	1.146	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B24	1	3.397	1.146	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B14P	54	3.294	1.111	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B16P	54	3.294	1.111	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B20P US	54	3.294	1.111	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40R	18	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B11P-1	61	2.779	0.938	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B35P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B12P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B36P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B13P	52	2.573	0.868	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B37P	52	2.573	0.868	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B38P US	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B38P DS	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B17P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B18P DS	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B22P US	52	2.573	0.868	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B22P DS	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B23P US	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31P	52	2.573	0.868	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31P	52	2.573	0.868	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B32P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B33P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B11P	51	2.265	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B24P US	51	2.265	0.764	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B24P DS	51	2.265	0.764	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B41	2	2.261	0.763	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42	2	2.261	0.763	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B34P	62	2.059	0.695	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40R (D/S)	18	1.833	0.619	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B25	2	1.593	1.293	495.9	6.959	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B26	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B27	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B28	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B29	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD50A-1-RHDT23B to CV***								***Sorted By: Average Wear Rate***		
MS-3B30	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40P	68	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B41P US	52	1.528	0.516	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B41P DS	52	1.528	0.516	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42P US	52	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42P DS	52	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42R	17	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B26P US	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B27P	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B28P	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B29P	52	1.070	0.868	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30P	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21P-1	56	1.039	0.350	495.9	6.983	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B25P	51	0.944	0.767	495.9	6.939	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 10:24:19AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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:	***MSD50A-1-RHDT23B to CV***									***Sorted By: Flow Order***	
MS-3B11N	31	5.147	1.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B11P-1	61	2.779	0.938	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B11	1	3.397	1.146	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B11P	51	2.265	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B12	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B12P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B13	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B13P	52	2.573	0.868	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B14	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B14P	54	3.294	1.111	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B15	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B16	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B16P	54	3.294	1.111	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B17	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B17P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B18	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B18P DS	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B19	2	3.871	1.306	495.9	7.038	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B20	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B20P US	54	3.294	1.111	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21FE	6	5.147	1.737	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B21P-1	56	1.039	0.350	495.9	6.983	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B22	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B22P US	52	2.573	0.868	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B22P DS	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B23	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD50A-1-RHDT23B to CV***									***Sorted By: Flow Order***	
MS-3B23P US	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B24	1	3.397	1.146	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B24P US	51	2.265	0.764	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B24P DS	51	2.265	0.764	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B25	2	1.593	1.293	495.9	6.959	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B25P	51	0.944	0.767	495.9	6.939	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B26	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B26P US	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B27	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B27P	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B28	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B28P	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B29	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B29P	52	1.070	0.868	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30	2	1.583	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30P	52	1.070	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31P	52	2.573	0.868	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B30P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B31P	52	2.573	0.868	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B32	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B32P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B33	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B33P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B34	12	4.220	1.424	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B34 (D/S)	12	4.220	1.424	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B34P	62	2.059	0.695	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B35	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B35P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B36	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B36P	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B37	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B37P	52	2.573	0.868	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B38	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD50A-1-RHDT23B to CV***									***Sorted By: Flow Order***	
MS-3B38P US	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B38P DS	52	2.573	0.868	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B39	2	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40	4	3.808	1.285	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40R	18	2.882	0.973	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B40R (D/S)	18	1.833	0.619	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B40P	68	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B41	2	2.261	0.763	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B41P US	52	1.528	0.516	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B41P DS	52	1.528	0.516	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42	2	2.261	0.763	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42P US	52	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42P DS	52	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42R	17	1.528	0.516	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B42R (D/S)	17	3.449	1.203	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 10:24:19AM

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD50A-1-RHDT23B to CV**					***Sorted By:Remaining Life***		
MS-3B21FE	0.000	0.301	0.233	0.233	343,756	No	222,946
MS-3B11N	0.000	0.301	0.233	0.233	343,756	No	222,946
MS-3B31	0.000	0.320	0.233	0.233	593,695	Yes	222,946
MS-3B42R (D/S)	0.000	0.249	0.158	0.158	662,851	No	222,946
MS-3B12	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B13	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B15	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B16	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B17	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B18	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B21	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B31	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B32	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B33	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B35	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B36	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B37	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B38	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B34 (D/S)	0.000	0.354	0.233	0.233	746,060	No	222,946
MS-3B22	0.000	0.347	0.233	0.233	779,679	Yes	222,946
MS-3B24	0.000	0.346	0.233	0.233	861,201	No	222,946
MS-3B11	0.000	0.346	0.233	0.233	861,201	No	222,946
MS-3B16P	0.000	0.348	0.233	0.233	908,760	No	222,946
MS-3B20	0.000	0.367	0.233	0.233	913,481	Yes	222,946
MS-3B23	0.000	0.371	0.233	0.233	944,258	Yes	222,946
MS-3B30	0.000	0.377	0.233	0.233	982,228	Yes	222,946
MS-3B25	0.441	0.380	0.233	0.233	997,508	Yes	86,338
MS-3B39	0.000	0.386	0.233	0.233	1,046,504	Yes	222,946
MS-3B40	0.000	0.386	0.233	0.233	1,046,504	Yes	222,946
MS-3B14	0.000	0.394	0.233	0.233	1,098,837	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD50A-1-RHDT23B to CV**					***Sorted By:Remaining Life***		
MS-3B19	0.457	0.402	0.233	0.233	1,132,197	Yes	222,946
MS-3B14P	0.000	0.384	0.233	0.233	1,191,367	Yes	222,946
MS-3B11P-1	0.000	0.361	0.233	0.233	1,199,399	No	222,946
MS-3B34	0.000	0.431	0.233	0.233	1,219,714	No	222,946
MS-3B27	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B28	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B29	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B30	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B20P US	0.000	0.394	0.233	0.233	1,266,157	Yes	222,946
MS-3B12P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B17P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B21P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B31P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B32P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B35P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B36P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B37P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B38P US	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B13P	0.000	0.367	0.233	0.233	1,355,144	Yes	222,946
MS-3B26	0.000	0.441	0.233	0.233	1,417,048	Yes	86,338
MS-3B33P	0.000	0.376	0.233	0.233	1,448,086	Yes	222,946
MS-3B22P DS	0.000	0.376	0.233	0.233	1,448,560	Yes	222,946
MS-3B31P	0.000	0.385	0.233	0.233	1,538,880	Yes	222,946
MS-3B30P	0.000	0.387	0.233	0.233	1,559,056	Yes	222,946
MS-3B41	0.000	0.442	0.303	0.303	1,599,226	No	222,946
MS-3B18P DS	0.000	0.393	0.233	0.233	1,613,549	Yes	222,946
MS-3B11P	0.000	0.374	0.233	0.233	1,622,148	No	222,946
MS-3B24P US	0.000	0.374	0.233	0.233	1,622,148	No	222,946
MS-3B38P DS	0.000	0.394	0.233	0.233	1,630,148	Yes	222,946
MS-3B22P US	0.000	0.404	0.233	0.233	1,723,379	Yes	222,946
MS-3B34P	0.000	0.380	0.233	0.233	1,850,432	No	222,946
MS-3B25P	0.437	0.395	0.233	0.233	1,855,826	Yes	86,338
MS-3B23P US	0.000	0.417	0.233	0.233	1,862,177	Yes	222,946
MS-3B26P US	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B27P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B28P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B29P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B30P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B24P DS	0.000	0.403	0.233	0.233	1,944,879	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD50A-1-RHDT23B to CV**					***Sorted By:Remaining Life***		
MS-3B42	0.000	0.478	0.303	0.303	2,004,291	Yes	222,946
MS-3B40R	0.000	0.457	0.233	0.233	2,020,562	Yes	222,946
MS-3B40R (D/S)	0.000	0.472	0.303	0.303	2,397,657	Yes	222,946
MS-3B40P	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B41P US	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B42P DS	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B42R	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B42P US	0.000	0.464	0.303	0.303	2,728,539	Yes	222,946
MS-3B41P DS	0.000	0.470	0.303	0.303	2,830,493	Yes	222,946
MS-3B21P-1	0.000	0.396	0.233	0.233	4,072,083	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD50A-1-RHDT23B to CV**					***Sorted By:Flow Order***		
MS-3B11N	0.000	0.301	0.233	0.233	343,756	No	222,946
MS-3B11P-1	0.000	0.361	0.233	0.233	1,199,399	No	222,946
MS-3B11	0.000	0.346	0.233	0.233	861,201	No	222,946
MS-3B11P	0.000	0.374	0.233	0.233	1,622,148	No	222,946
MS-3B12	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B12P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B13	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B13P	0.000	0.367	0.233	0.233	1,355,144	Yes	222,946
MS-3B14	0.000	0.394	0.233	0.233	1,098,837	Yes	222,946
MS-3B14P	0.000	0.384	0.233	0.233	1,191,367	Yes	222,946
MS-3B15	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B16	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B16P	0.000	0.348	0.233	0.233	908,760	No	222,946
MS-3B17	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B17P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B18	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B18P DS	0.000	0.393	0.233	0.233	1,613,549	Yes	222,946
MS-3B19	0.457	0.402	0.233	0.233	1,132,197	Yes	222,946
MS-3B20	0.000	0.367	0.233	0.233	913,481	Yes	222,946
MS-3B20P US	0.000	0.394	0.233	0.233	1,266,157	Yes	222,946
MS-3B21	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B21P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B21FE	0.000	0.301	0.233	0.233	343,756	No	222,946
MS-3B21P-1	0.000	0.396	0.233	0.233	4,072,083	No	222,946
MS-3B22	0.000	0.347	0.233	0.233	779,679	Yes	222,946
MS-3B22P US	0.000	0.404	0.233	0.233	1,723,379	Yes	222,946
MS-3B22P DS	0.000	0.376	0.233	0.233	1,448,560	Yes	222,946
MS-3B23	0.000	0.371	0.233	0.233	944,258	Yes	222,946
MS-3B23P US	0.000	0.417	0.233	0.233	1,862,177	Yes	222,946
MS-3B24	0.000	0.346	0.233	0.233	861,201	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD50A-1-RHDT23B to CV**					***Sorted By:Flow Order***		
MS-3B24P US	0.000	0.374	0.233	0.233	1,622,148	No	222,946
MS-3B24P DS	0.000	0.403	0.233	0.233	1,944,879	Yes	222,946
MS-3B25	0.441	0.380	0.233	0.233	997,508	Yes	86,338
MS-3B25P	0.437	0.395	0.233	0.233	1,855,826	Yes	86,338
MS-3B26	0.000	0.441	0.233	0.233	1,417,048	Yes	86,338
MS-3B26P US	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B27	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B27P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B28	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B28P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B29	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B29P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B30	0.000	0.416	0.233	0.233	1,250,995	No	86,338
MS-3B30P	0.000	0.421	0.233	0.233	1,902,530	No	86,338
MS-3B31	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B31P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B30	0.000	0.377	0.233	0.233	982,228	Yes	222,946
MS-3B30P	0.000	0.387	0.233	0.233	1,559,056	Yes	222,946
MS-3B31	0.000	0.320	0.233	0.233	593,695	Yes	222,946
MS-3B31P	0.000	0.385	0.233	0.233	1,538,880	Yes	222,946
MS-3B32	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B32P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B33	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B33P	0.000	0.376	0.233	0.233	1,448,086	Yes	222,946
MS-3B34	0.000	0.431	0.233	0.233	1,219,714	No	222,946
MS-3B34 (D/S)	0.000	0.354	0.233	0.233	746,060	No	222,946
MS-3B34P	0.000	0.380	0.233	0.233	1,850,432	No	222,946
MS-3B35	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B35P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B36	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B36P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B37	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B37P	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B38	0.000	0.335	0.233	0.233	696,671	No	222,946
MS-3B38P US	0.000	0.367	0.233	0.233	1,348,207	No	222,946
MS-3B38P DS	0.000	0.394	0.233	0.233	1,630,148	Yes	222,946
MS-3B39	0.000	0.386	0.233	0.233	1,046,504	Yes	222,946
MS-3B40	0.000	0.386	0.233	0.233	1,046,504	Yes	222,946
MS-3B40R	0.000	0.457	0.233	0.233	2,020,562	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD50A-1-RHDT23B to CV**					***Sorted By:Flow Order***		
MS-3B40R (D/S)	0.000	0.472	0.303	0.303	2,397,657	Yes	222,946
MS-3B40P	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B41	0.000	0.442	0.303	0.303	1,599,226	No	222,946
MS-3B41P US	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B41P DS	0.000	0.470	0.303	0.303	2,830,493	Yes	222,946
MS-3B42	0.000	0.478	0.303	0.303	2,004,291	Yes	222,946
MS-3B42P US	0.000	0.464	0.303	0.303	2,728,539	Yes	222,946
MS-3B42P DS	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B42R	0.000	0.461	0.303	0.303	2,683,987	No	222,946
MS-3B42R (D/S)	0.000	0.249	0.158	0.158	662,851	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

3

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DRN TK 23B USCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
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]	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:	**MSD50A-1-RHDT23B to CV**											***Sorted By: Flow Order***
MS-3B13P	0.000	42.7	86.0	42.7	86.0	0.390	MT	106,128	389.3	390.0	22.8	106,128
MS-3B14	0.000	95.0	95.0	95.0	95.0	0.396	MT	209,806	337.0	396.0	1.9	209,806
MS-3B14P	0.000	75.9	51.0	75.9	51.0	0.392	MT	165,113	356.1	392.0	8.0	165,113
MS-3B18P DS	0.000	57.3	44.0	57.3	44.0	0.401	MT	149,573	374.7	401.0	8.2	149,573
MS-3B19	0.457	86.2	43.0	86.2	43.0	0.414	MT	149,573	370.8	414.0	12.3	149,573
MS-3B20	0.000	84.8	76.0	84.8	76.0	0.379	MT	149,573	347.2	379.0	12.1	149,573
MS-3B20P US	0.000	73.3	59.0	73.3	59.0	0.404	MT	149,573	358.7	404.0	10.5	149,573
MS-3B22	0.000	63.2	72.0	63.2	72.0	0.381	MT	106,128	368.8	381.0	33.7	106,128
MS-3B22P US	0.000	42.7	79.0	42.7	79.0	0.405	MT	209,806	367.8	405.0	1.3	106,128
MS-3B22P DS	0.000	54.9	51.0	54.9	51.0	0.387	MT	136,608	377.1	387.0	10.5	136,608
MS-3B23	0.000	81.3	50.0	81.3	50.0	0.387	MT	136,608	350.7	387.0	15.6	136,608
MS-3B23P US	0.000	54.9	51.0	54.9	51.0	0.428	MT	136,608	377.1	428.0	10.5	136,608
MS-3B24P DS	0.000	52.2	69.0	52.2	69.0	0.408	MT	165,113	379.8	408.0	5.5	165,113
MS-3B25	0.441	87.7	154.5	13.8	118.5	0.382	MT	209,806	427.2	382.0	1.9	209,806
MS-3B25P	0.437	5.6	38.0	5.6	38.0	0.399	GW	181,477	431.4	399.0	3.7	181,477
MS-3B26	0.000	84.9	225.0	9.4	101.0	0.447	GW	181,477	422.6	447.0	6.2	181,477
MS-3B26P US	0.000	49.9	34.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	10.5	0
MS-3B29P	0.000	47.9	51.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	10.5	0
MS-3B30	0.000	70.9	49.0	70.9	49.0	0.403	MT	119,088	361.1	403.0	26.0	119,088
MS-3B30P	0.000	47.9	46.0	47.9	46.0	0.405	MT	119,088	384.1	405.0	17.6	119,088
MS-3B31	0.000	70.9	84.0	70.9	84.0	0.346	MT	119,088	361.1	346.0	26.0	119,088
MS-3B31P	0.000	47.9	54.0	47.9	54.0	0.403	MT	119,088	384.1	403.0	17.6	119,088
MS-3B33P	0.000	47.9	42.0	47.9	42.0	0.394	MT	119,088	384.1	394.0	17.6	119,088
MS-3B38P DS	0.000	54.9	37.0	54.9	37.0	0.405	MT	136,608	377.1	405.0	10.5	136,608
MS-3B39	0.000	81.3	64.0	81.3	64.0	0.402	MT	136,608	350.7	402.0	15.6	136,608
MS-3B40	0.000	81.3	51.0	81.3	51.0	0.402		136,608	350.7	402.0	15.6	136,608
MS-3B40R	0.000	61.5	65.0	61.5	65.0	0.469	MT	136,608	370.5	469.0	11.8	136,608
MS-3B40R (D/S)	0.000	39.1	44.0	39.1	44.0	0.480	MT	136,608	460.9	480.0	7.5	136,608

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:	**MSD50A-1-RHDT23B to CV**											***Sorted By: Flow Order***
MS-3B41P DS	0.000	32.6	49.0	32.6	49.0	0.476	MT	136,608	467.4	476.0	6.3	136,608
MS-3B42	0.000	48.3	50.0	48.3	50.0	0.487	MT	136,608	451.7	487.0	9.3	136,608
MS-3B42P US	0.000	32.6	44.0	32.6	44.0	0.470	MT	136,608	467.4	470.0	6.3	136,608

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/24/2010 9:55:14AM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.102

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD45B-1-RHDT21A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-LCV-1104	24	10.664	3.720	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1A30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1A31	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A32	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30R2 (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30P2	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A31P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A32P	51	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-1-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A34T1 (BR/SE)	12	3.895	1.314	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A34T1 (D/S)	12	1.830	0.618	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34P1	62	0.893	0.301	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-2-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A34T2 (BR/SE)	12	3.895	1.314	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A34T2 (D/S)	12	3.314	1.118	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A35	1	2.667	0.900	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34T2	12	1.830	0.618	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34P2	62	1.616	0.545	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-3-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A35T (D/S)	12	4.700	1.586	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A36	3	4.012	1.354	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A35T (BR/SE)	12	3.895	1.314	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A37	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A38	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A39	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A40	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A35T	12	3.314	1.118	495.9	4.965	3.3	10.750	6.379	0.000	55.44	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:	***MSD45C-3-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A36P US	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A36P DS	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A37P US	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A37P DS	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A38P	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A39P	51	2.522	0.851	495.9	8.204	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A40P	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A41	14	0.001	0.001	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A41 (D/S)	14	0.001	0.001	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A41 (BR/SE)	14	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-4-RHDT A HDR to FWH26C***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-MS-14-2	22	5.728	1.933	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67R	18	3.208	1.082	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67N	30	2.721	0.918	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A66P US	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66P DS	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67 (D/S)	12	2.465	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67	12	2.465	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67P US	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67P-1	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67P DS	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67R (D/S)	18	2.040	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A63	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A64	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A65	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A64P US	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A64P DS	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A65P US	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A65P DS	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A63P US	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A63P DS	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-5-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A68	14	6.772	2.285	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A42	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	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:	***MSD45C-5-RHDT A HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1A43	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A44	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A45	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A68 (BR/SE)	14	4.010	1.353	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A41R (D/S)	7	3.940	1.330	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A68 (D/S)	14	3.741	1.262	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A41P-1 US	57	3.078	1.039	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A41P-1 DS	57	3.078	1.039	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A41R	7	2.829	0.955	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A42P US	51	2.709	0.914	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A42P DS	51	2.709	0.914	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A43P US	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A43P DS	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A44P US	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A44P DS	51	2.709	0.914	495.9	9.952	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A45P US	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45D-1-RHDT A HDR to FWH26B***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-MS-14-1	22	5.728	1.933	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A55	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A56	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A57	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A58	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A59	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A60	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A55P	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A57P	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A57P DS	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62R	18	3.208	1.082	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A58P	52	2.864	0.966	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A59P US	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A59P DS	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62N	30	2.721	0.918	495.9	3.910	3.3	8.625	6.379	0.000	55.44	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:	***MSD45D-1-RHDT A HDR to FWH26B***								***Sorted By: Average Wear Rate***		
MS-1A60P US	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A60P DS	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A68P	64	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61P US	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61P-1	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61P DS	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62R (D/S)	18	2.040	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45D-2-RHDT A HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-1A-VALVE-MS-14	22	5.728	1.933	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A46	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A47	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A48	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A49	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A50	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A51	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A52	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A45R (D/S)	7	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A47P US	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A47P DS	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A49P US	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A49P DS	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54R	18	3.208	1.082	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A46P	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A50P	52	2.864	0.966	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A51P US	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A51P DS	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54N	30	2.721	0.918	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A52P US	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A52P DS	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A45R	7	2.381	0.803	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A53P US	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53P-1	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD45D-2-RHDT A HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-1A45P-1 US	67	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53P DS	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A45P-1 DS	67	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54R (D/S)	18	2.040	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD46A-2-RHDT22A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2A-VALVE-LCV-1104A	24	17.138	5.978	495.9	33.594	3.3	3.500	6.379	0.000	55.44	HBD
MS-2A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A25P	51	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD47-2-RHDT23A CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-3A-VALVE-LCV-1104B	24	10.664	3.720	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A25P	51	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 9:55:14AM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.102

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD45B-1-RHDT21A CV to FWH26***									***Sorted By: Flow Order***	
MS-1A-VALVE-LCV-1104	24	10.664	3.720	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1A30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1A30R2 (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A30P2	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A31	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A31P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A32	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A32P	51	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-1-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A34T1 (D/S)	12	1.830	0.618	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34P1	62	0.893	0.301	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34T1 (BR/SE)	12	3.895	1.314	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-2-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A34T2	12	1.830	0.618	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34T2 (D/S)	12	3.314	1.118	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34P2	62	1.616	0.545	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A35	1	2.667	0.900	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A34T2 (BR/SE)	12	3.895	1.314	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-3-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A35T (BR/SE)	12	3.895	1.314	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A35T	12	3.314	1.118	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A35T (D/S)	12	4.700	1.586	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A36	3	4.012	1.354	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A36P US	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A36P DS	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A37	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A37P US	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	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:	***MSD45C-3-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A37P DS	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A38	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A38P	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A39	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A39P	51	2.522	0.851	495.9	8.204	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A40	1	3.783	1.277	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A40P	51	2.522	0.851	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A41	14	0.001	0.001	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A41 (BR/SE)	14	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A41 (D/S)	14	0.001	0.001	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-4-RHDT A HDR to FWH26C***									***Sorted By: Flow Order***	
MS-1A63P US	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A63P DS	64	0.000	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A63	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A64P US	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A64P DS	52	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A64	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A65P US	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A65P DS	52	0.001	0.000	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A65	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A-VALVE-MS-14-2	22	5.728	1.933	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66P US	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66P DS	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A66 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67P US	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67P DS	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67	12	2.465	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67 (D/S)	12	2.465	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67P-1	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67R	18	3.208	1.082	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A67R (D/S)	18	2.040	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A67N	30	2.721	0.918	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45C-5-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A41R	7	2.829	0.955	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-1A41R (D/S)	7	3.940	1.330	495.9	7.870	3.3	8.625	6.379	0.000	55.44	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:	***MSD45C-5-RHDT A HDR to FWH26***									***Sorted By: Flow Order***	
MS-1A41P-1 US	57	3.078	1.039	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A41P-1 DS	57	3.078	1.039	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A42	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A42P US	51	2.709	0.914	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A42P DS	51	2.709	0.914	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A43	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A43P US	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A43P DS	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A44	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A44P US	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A44P DS	51	2.709	0.914	495.9	9.952	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A45	1	4.063	1.371	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A45P US	51	2.709	0.914	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A68	14	6.772	2.285	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A68 (BR/SE)	14	4.010	1.353	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A68 (D/S)	14	3.741	1.262	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45D-1-RHDT A HDR to FWH26B***									***Sorted By: Flow Order***	
MS-1A68P	64	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A55	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A55P	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A56	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A57	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A57P	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A57P DS	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A58	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A58P	52	2.864	0.966	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A59	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A59P US	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A59P DS	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A60	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A-VALVE-MS-14-1	22	5.728	1.933	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A60P US	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A60P DS	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61P US	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	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:	***MSD45D-1-RHDT A HDR to FWH26B***									***Sorted By: Flow Order***	
MS-1A61P DS	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A61P-1	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62R	18	3.208	1.082	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A62R (D/S)	18	2.040	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A62N	30	2.721	0.918	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD45D-2-RHDT A HDR to FWH26A***									***Sorted By: Flow Order***	
MS-1A45R	7	2.381	0.803	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A45R (D/S)	7	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A45P-1 US	67	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A45P-1 DS	67	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A46	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A46P	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A47	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A47P US	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A47P DS	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A48	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A49	4	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A49P US	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A49P DS	54	3.666	1.237	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A50	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A50P	52	2.864	0.966	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A51	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A51P US	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A51P DS	52	2.864	0.966	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A52	2	4.239	1.430	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A-VALVE-MS-14	22	5.728	1.933	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A52P US	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A52P DS	58	2.520	0.850	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53P US	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A53P DS	62	2.291	0.773	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54 (D/S)	12	4.697	1.585	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD45D-2-RHDT A HDR to FWH26A***									***Sorted By: Flow Order***	
MS-1A53P-1	62	2.291	0.773	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54R	18	3.208	1.082	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A54R (D/S)	18	2.040	0.689	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1A54N	30	2.721	0.918	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD46A-2-RHDT22A CV to FWH26***									***Sorted By: Flow Order***	
MS-2A-VALVE-LCV-1104A	24	17.138	5.978	495.9	33.594	3.3	3.500	6.379	0.000	55.44	HBD
MS-2A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A25P	51	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD47-2-RHDT23A CV to FWH26***									***Sorted By: Flow Order***	
MS-3A-VALVE-LCV-1104B	24	10.664	3.720	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3A24R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3A24R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A23P	68	0.001	0.000	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A24	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A24P	52	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A25	1	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A25P	51	0.001	0.000	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/24/2010 9:55:14AM

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.102

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45B-1-RHDT21A CV to FWH26**					***Sorted By:Remaining Life***		
MS-1A-VALVE-LCV-1104	0.000	0.066	0.169	0.169	-122,015	No	222,946
MS-1A30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-1A30R2 (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A30P2	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A31	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A31P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A32	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A32P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-1-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A34T1 (BR/SE)	0.000	0.333	0.233	0.233	666,457	No	222,946
MS-1A34T1 (D/S)	0.000	0.547	0.378	0.378	2,404,820	No	222,946
MS-1A34P1	0.000	0.571	0.378	0.378	5,623,610	No	222,946
===>Grouped by Line: **MSD45C-2-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A35	0.000	0.551	0.378	0.378	1,680,523	Yes	222,946
MS-1A34T2 (D/S)	0.000	0.593	0.378	0.378	1,687,640	Yes	222,946
MS-1A34T2	0.000	0.583	0.378	0.378	2,908,691	Yes	222,946
MS-1A34P2	0.000	0.612	0.378	0.378	3,755,171	Yes	222,946
MS-1A34T2 (BR/SE)	0.000	1.621	0.233	0.233	9,248,885	No	222,946
===>Grouped by Line: **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A36	0.000	0.498	0.378	0.378	778,804	Yes	222,946
MS-1A38	0.000	0.501	0.378	0.378	845,592	Yes	222,946
MS-1A39	0.000	0.536	0.378	0.378	1,086,133	Yes	222,946
MS-1A35T (D/S)	0.000	0.577	0.378	0.378	1,100,119	Yes	222,946
MS-1A37	0.000	0.562	0.378	0.378	1,267,020	Yes	222,946
MS-1A40	0.000	0.563	0.378	0.378	1,271,411	Yes	222,946
MS-1A38P	0.000	0.530	0.378	0.378	1,564,082	No	222,946
MS-1A35T	0.000	0.588	0.378	0.378	1,649,867	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>*Grouped by Line:* **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A39P	0.000	0.558	0.378	0.378	1,851,743	Yes	222,946
MS-1A40P	0.000	0.571	0.378	0.378	1,984,594	Yes	222,946
MS-1A36P US	0.000	0.571	0.378	0.378	1,987,762	Yes	222,946
MS-1A36P DS	0.000	0.572	0.378	0.378	1,994,888	Yes	222,946
MS-1A37P US	0.000	0.584	0.378	0.378	2,118,405	Yes	222,946
MS-1A37P DS	0.000	0.600	0.378	0.378	2,284,056	Yes	222,946
MS-1A35T (BR/SE)	0.000	1.565	0.233	0.233	8,875,541	No	222,946
MS-1A41	0.000	0.594	0.349	0.349	100,000,000	No	86,338
MS-1A41 (BR/SE)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A41 (D/S)	0.000	0.594	0.349	0.349	100,000,000	No	86,338
===>*Grouped by Line:* **MSD45C-4-RHDT A HDR to FWH26C**					***Sorted By:Remaining Life***		
MS-1A-VALVE-MS-14-2	0.000	0.286	0.249	0.249	168,654	No	222,946
MS-1A66 (D/S)	0.000	0.264	0.233	0.233	169,679	No	222,946
MS-1A66P DS	0.000	0.255	0.233	0.233	230,859	Yes	222,946
MS-1A66	0.000	0.277	0.233	0.233	241,527	No	222,946
MS-1A67P-1	0.000	0.340	0.233	0.233	1,218,958	Yes	222,946
MS-1A67R	0.000	0.403	0.233	0.233	1,375,161	Yes	222,946
MS-1A67 (D/S)	0.000	0.501	0.233	0.233	1,479,876	No	97,487
MS-1A67	0.000	0.504	0.233	0.233	1,496,456	No	97,487
MS-1A66P US	0.000	0.385	0.233	0.233	1,566,739	Yes	222,946
MS-1A67P US	0.000	0.372	0.233	0.233	1,574,555	Yes	222,946
MS-1A67P DS	0.000	0.373	0.233	0.233	1,592,844	Yes	222,946
MS-1A67R (D/S)	0.000	0.453	0.303	0.303	1,899,989	Yes	222,946
MS-1A67N	0.000	2.843	0.303	0.303	24,238,130	No	222,946
MS-1A63P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A64P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A65P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65	0.000	0.432	0.215	0.215	100,000,000	No	86,338
===>*Grouped by Line:* **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A68	0.000	0.442	0.303	0.303	533,675	Yes	222,946
MS-1A42	0.000	0.428	0.303	0.303	799,770	Yes	222,946
MS-1A45P US	0.000	0.402	0.303	0.303	946,181	Yes	222,946
MS-1A45	0.000	0.454	0.303	0.303	965,878	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1A68 (BR/SE)	0.000	0.395	0.233	0.233	1,052,882	Yes	222,946
MS-1A44	0.000	0.468	0.303	0.303	1,055,320	Yes	222,946
MS-1A41R (D/S)	0.000	0.475	0.303	0.303	1,131,153	No	222,946
MS-1A43	0.000	0.486	0.303	0.303	1,170,318	Yes	222,946
MS-1A68 (D/S)	0.000	0.481	0.303	0.303	1,232,674	Yes	222,946
MS-1A41P-1 DS	0.000	0.452	0.303	0.303	1,258,399	Yes	222,946
MS-1A41P-1 US	0.000	0.454	0.303	0.303	1,275,265	No	222,946
MS-1A42P US	0.000	0.446	0.303	0.303	1,367,839	Yes	222,946
MS-1A44P US	0.000	0.447	0.303	0.303	1,377,422	Yes	222,946
MS-1A44P DS	0.000	0.450	0.303	0.303	1,406,171	Yes	222,946
MS-1A42P DS	0.000	0.452	0.303	0.303	1,425,337	Yes	222,946
MS-1A41R	0.000	0.538	0.378	0.378	1,473,423	No	222,946
MS-1A43P US	0.000	0.467	0.303	0.303	1,569,084	No	222,946
MS-1A43P DS	0.000	0.484	0.303	0.303	1,731,997	Yes	222,946
===>Grouped by Line: **MSD45D-1-RHDT A HDR to FWH26B**					***Sorted By:Remaining Life***		
MS-1A-VALVE-MS-14-1	0.000	0.286	0.249	0.249	168,654	No	222,946
MS-1A57P DS	0.000	0.339	0.233	0.233	749,404	No	222,946
MS-1A55	0.000	0.367	0.233	0.233	821,608	Yes	222,946
MS-1A57P	0.000	0.352	0.233	0.233	843,171	Yes	222,946
MS-1A60	0.000	0.383	0.233	0.233	917,197	Yes	222,946
MS-1A56	0.000	0.384	0.233	0.233	925,721	Yes	222,946
MS-1A58	0.000	0.386	0.233	0.233	937,969	Yes	222,946
MS-1A59	0.000	0.389	0.233	0.233	955,310	Yes	222,946
MS-1A57	0.000	0.391	0.233	0.233	968,590	Yes	222,946
MS-1A55P	0.000	0.381	0.233	0.233	1,048,525	Yes	222,946
MS-1A62N	0.000	0.431	0.303	0.303	1,217,479	No	222,946
MS-1A59P US	0.000	0.384	0.233	0.233	1,365,783	Yes	222,946
MS-1A59P DS	0.000	0.384	0.233	0.233	1,372,255	Yes	222,946
MS-1A58P	0.000	0.388	0.233	0.233	1,406,732	Yes	222,946
MS-1A61 (D/S)	0.000	0.499	0.233	0.233	1,469,496	No	222,946
MS-1A60P DS	0.000	0.379	0.233	0.233	1,501,786	Yes	222,946
MS-1A62R	0.000	0.420	0.233	0.233	1,516,580	No	222,946
MS-1A61P DS	0.000	0.374	0.233	0.233	1,595,464	No	222,946
MS-1A60P US	0.000	0.391	0.233	0.233	1,628,539	Yes	222,946
MS-1A61	0.000	0.536	0.233	0.233	1,673,987	No	222,946
MS-1A68P	0.000	0.384	0.233	0.233	1,707,922	Yes	222,946
MS-1A61P US	0.000	0.389	0.233	0.233	1,764,571	Yes	222,946
MS-1A61P-1	0.000	0.389	0.233	0.233	1,764,650	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45D-1-RHDT A HDR to FWH26B**					***Sorted By:Remaining Life***		
MS-1A62 (D/S)	0.000	0.556	0.233	0.233	1,783,496	No	222,946
MS-1A62	0.000	0.594	0.233	0.233	1,993,513	No	222,946
MS-1A62R (D/S)	0.000	0.471	0.303	0.303	2,136,337	No	222,946
===>Grouped by Line: **MSD45D-2-RHDT A HDR to FWH26A**					***Sorted By:Remaining Life***		
MS-1A-VALVE-MS-14	0.000	0.286	0.249	0.249	168,654	No	222,946
MS-1A49	0.000	0.339	0.233	0.233	647,730	Yes	222,946
MS-1A49P DS	0.000	0.339	0.233	0.233	749,404	No	222,946
MS-1A50	0.000	0.367	0.233	0.233	821,608	Yes	222,946
MS-1A48	0.000	0.375	0.233	0.233	868,203	Yes	222,946
MS-1A51	0.000	0.383	0.233	0.233	919,596	Yes	222,946
MS-1A49P US	0.000	0.365	0.233	0.233	935,506	Yes	222,946
MS-1A52	0.000	0.386	0.233	0.233	935,570	Yes	222,946
MS-1A46	0.000	0.399	0.233	0.233	1,015,186	Yes	222,946
MS-1A47P US	0.000	0.382	0.233	0.233	1,055,886	No	222,946
MS-1A47	0.000	0.408	0.233	0.233	1,070,304	Yes	222,946
MS-1A47P DS	0.000	0.386	0.233	0.233	1,084,211	Yes	222,946
MS-1A54N	0.000	0.431	0.303	0.303	1,217,479	No	222,946
MS-1A50P	0.000	0.369	0.233	0.233	1,237,715	Yes	222,946
MS-1A51P US	0.000	0.372	0.233	0.233	1,264,907	Yes	222,946
MS-1A52P US	0.000	0.368	0.233	0.233	1,390,358	No	222,946
MS-1A51P DS	0.000	0.386	0.233	0.233	1,390,382	Yes	222,946
MS-1A46P	0.000	0.387	0.233	0.233	1,399,446	Yes	222,946
MS-1A53 (D/S)	0.000	0.496	0.233	0.233	1,452,916	No	222,946
MS-1A53	0.000	0.519	0.233	0.233	1,580,031	No	222,946
MS-1A54 (D/S)	0.000	0.522	0.233	0.233	1,595,586	No	222,946
MS-1A54	0.000	0.524	0.233	0.233	1,606,639	No	222,946
MS-1A54R	0.000	0.433	0.233	0.233	1,621,786	No	222,946
MS-1A45P-1 US	0.000	0.380	0.233	0.233	1,662,602	Yes	222,946
MS-1A53P DS	0.000	0.381	0.233	0.233	1,674,011	Yes	222,946
MS-1A53P-1	0.000	0.383	0.233	0.233	1,696,671	Yes	222,946
MS-1A45P-1 DS	0.000	0.384	0.233	0.233	1,707,922	Yes	222,946
MS-1A53P US	0.000	0.389	0.233	0.233	1,764,571	Yes	222,946
MS-1A52P DS	0.000	0.405	0.233	0.233	1,769,583	No	222,946
MS-1A45R	0.000	0.473	0.303	0.303	1,854,727	No	222,946
MS-1A45R (D/S)	0.000	0.511	0.233	0.233	1,969,358	No	222,946
MS-1A54R (D/S)	0.000	0.474	0.303	0.303	2,174,504	No	222,946
===>Grouped by Line: **MSD46A-2-RHDT22A CV to FWH26**					***Sorted By:Remaining Life***		
MS-2A-VALVE-LCV-1104A	0.000	0.002	0.132	0.132	-108,294	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD46A-2-RHDT22A CV to FWH26**					***Sorted By:Remaining Life***		
MS-2A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD47-2-RHDT23A CV to FWH26**					***Sorted By:Remaining Life***		
MS-3A-VALVE-LCV-1104B	0.000	0.066	0.169	0.169	-122,015	No	222,946
MS-3A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.102

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45B-1-RHDT21A CV to FWH26**					***Sorted By:Flow Order***		
MS-1A-VALVE-LCV-1104	0.000	0.066	0.169	0.169	-122,015	No	222,946
MS-1A30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-1A30R2 (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A30P2	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A31	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A31P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A32	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A32P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-1-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A34T1 (D/S)	0.000	0.547	0.378	0.378	2,404,820	No	222,946
MS-1A34P1	0.000	0.571	0.378	0.378	5,623,610	No	222,946
MS-1A34T1 (BR/SE)	0.000	0.333	0.233	0.233	666,457	No	222,946
===>Grouped by Line: **MSD45C-2-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A34T2	0.000	0.583	0.378	0.378	2,908,691	Yes	222,946
MS-1A34T2 (D/S)	0.000	0.593	0.378	0.378	1,687,640	Yes	222,946
MS-1A34P2	0.000	0.612	0.378	0.378	3,755,171	Yes	222,946
MS-1A35	0.000	0.551	0.378	0.378	1,680,523	Yes	222,946
MS-1A34T2 (BR/SE)	0.000	1.621	0.233	0.233	9,248,885	No	222,946
===>Grouped by Line: **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A35T (BR/SE)	0.000	1.565	0.233	0.233	8,875,541	No	222,946
MS-1A35T	0.000	0.588	0.378	0.378	1,649,867	Yes	222,946
MS-1A35T (D/S)	0.000	0.577	0.378	0.378	1,100,119	Yes	222,946
MS-1A36	0.000	0.498	0.378	0.378	778,804	Yes	222,946
MS-1A36P US	0.000	0.571	0.378	0.378	1,987,762	Yes	222,946
MS-1A36P DS	0.000	0.572	0.378	0.378	1,994,888	Yes	222,946
MS-1A37	0.000	0.562	0.378	0.378	1,267,020	Yes	222,946
MS-1A37P US	0.000	0.584	0.378	0.378	2,118,405	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45C-3-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A37P DS	0.000	0.600	0.378	0.378	2,284,056	Yes	222,946
MS-1A38	0.000	0.501	0.378	0.378	845,592	Yes	222,946
MS-1A38P	0.000	0.530	0.378	0.378	1,564,082	No	222,946
MS-1A39	0.000	0.536	0.378	0.378	1,086,133	Yes	222,946
MS-1A39P	0.000	0.558	0.378	0.378	1,851,743	Yes	222,946
MS-1A40	0.000	0.563	0.378	0.378	1,271,411	Yes	222,946
MS-1A40P	0.000	0.571	0.378	0.378	1,984,594	Yes	222,946
MS-1A41	0.000	0.594	0.349	0.349	100,000,000	No	86,338
MS-1A41 (BR/SE)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A41 (D/S)	0.000	0.594	0.349	0.349	100,000,000	No	86,338
===>Grouped by Line: **MSD45C-4-RHDT A HDR to FWH26C**					***Sorted By:Flow Order***		
MS-1A63P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A63	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A64P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A64	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A65P US	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65P DS	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1A65	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1A-VALVE-MS-14-2	0.000	0.286	0.249	0.249	168,654	No	222,946
MS-1A66P US	0.000	0.385	0.233	0.233	1,566,739	Yes	222,946
MS-1A66P DS	0.000	0.255	0.233	0.233	230,859	Yes	222,946
MS-1A66	0.000	0.277	0.233	0.233	241,527	No	222,946
MS-1A66 (D/S)	0.000	0.264	0.233	0.233	169,679	No	222,946
MS-1A67P US	0.000	0.372	0.233	0.233	1,574,555	Yes	222,946
MS-1A67P DS	0.000	0.373	0.233	0.233	1,592,844	Yes	222,946
MS-1A67	0.000	0.504	0.233	0.233	1,496,456	No	97,487
MS-1A67 (D/S)	0.000	0.501	0.233	0.233	1,479,876	No	97,487
MS-1A67P-1	0.000	0.340	0.233	0.233	1,218,958	Yes	222,946
MS-1A67R	0.000	0.403	0.233	0.233	1,375,161	Yes	222,946
MS-1A67R (D/S)	0.000	0.453	0.303	0.303	1,899,989	Yes	222,946
MS-1A67N	0.000	2.843	0.303	0.303	24,238,130	No	222,946
===>Grouped by Line: **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A41R	0.000	0.538	0.378	0.378	1,473,423	No	222,946
MS-1A41R (D/S)	0.000	0.475	0.303	0.303	1,131,153	No	222,946
MS-1A41P-1 US	0.000	0.454	0.303	0.303	1,275,265	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45C-5-RHDT A HDR to FWH26**					***Sorted By:Flow Order***		
MS-1A41P-1 DS	0.000	0.452	0.303	0.303	1,258,399	Yes	222,946
MS-1A42	0.000	0.428	0.303	0.303	799,770	Yes	222,946
MS-1A42P US	0.000	0.446	0.303	0.303	1,367,839	Yes	222,946
MS-1A42P DS	0.000	0.452	0.303	0.303	1,425,337	Yes	222,946
MS-1A43	0.000	0.486	0.303	0.303	1,170,318	Yes	222,946
MS-1A43P US	0.000	0.467	0.303	0.303	1,569,084	No	222,946
MS-1A43P DS	0.000	0.484	0.303	0.303	1,731,997	Yes	222,946
MS-1A44	0.000	0.468	0.303	0.303	1,055,320	Yes	222,946
MS-1A44P US	0.000	0.447	0.303	0.303	1,377,422	Yes	222,946
MS-1A44P DS	0.000	0.450	0.303	0.303	1,406,171	Yes	222,946
MS-1A45	0.000	0.454	0.303	0.303	965,878	Yes	222,946
MS-1A45P US	0.000	0.402	0.303	0.303	946,181	Yes	222,946
MS-1A68	0.000	0.442	0.303	0.303	533,675	Yes	222,946
MS-1A68 (BR/SE)	0.000	0.395	0.233	0.233	1,052,882	Yes	222,946
MS-1A68 (D/S)	0.000	0.481	0.303	0.303	1,232,674	Yes	222,946
===>Grouped by Line: **MSD45D-1-RHDT A HDR to FWH26B**					***Sorted By:Flow Order***		
MS-1A68P	0.000	0.384	0.233	0.233	1,707,922	Yes	222,946
MS-1A55	0.000	0.367	0.233	0.233	821,608	Yes	222,946
MS-1A55P	0.000	0.381	0.233	0.233	1,048,525	Yes	222,946
MS-1A56	0.000	0.384	0.233	0.233	925,721	Yes	222,946
MS-1A57	0.000	0.391	0.233	0.233	968,590	Yes	222,946
MS-1A57P	0.000	0.352	0.233	0.233	843,171	Yes	222,946
MS-1A57P DS	0.000	0.339	0.233	0.233	749,404	No	222,946
MS-1A58	0.000	0.386	0.233	0.233	937,969	Yes	222,946
MS-1A58P	0.000	0.388	0.233	0.233	1,406,732	Yes	222,946
MS-1A59	0.000	0.389	0.233	0.233	955,310	Yes	222,946
MS-1A59P US	0.000	0.384	0.233	0.233	1,365,783	Yes	222,946
MS-1A59P DS	0.000	0.384	0.233	0.233	1,372,255	Yes	222,946
MS-1A60	0.000	0.383	0.233	0.233	917,197	Yes	222,946
MS-1A-VALVE-MS-14-1	0.000	0.286	0.249	0.249	168,654	No	222,946
MS-1A60P US	0.000	0.391	0.233	0.233	1,628,539	Yes	222,946
MS-1A60P DS	0.000	0.379	0.233	0.233	1,501,786	Yes	222,946
MS-1A61	0.000	0.536	0.233	0.233	1,673,987	No	222,946
MS-1A61 (D/S)	0.000	0.499	0.233	0.233	1,469,496	No	222,946
MS-1A61P US	0.000	0.389	0.233	0.233	1,764,571	Yes	222,946
MS-1A61P DS	0.000	0.374	0.233	0.233	1,595,464	No	222,946
MS-1A62	0.000	0.594	0.233	0.233	1,993,513	No	222,946
MS-1A62 (D/S)	0.000	0.556	0.233	0.233	1,783,496	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD45D-1-RHDT A HDR to FWH26B**					***Sorted By:Flow Order***		
MS-1A61P-1	0.000	0.389	0.233	0.233	1,764,650	Yes	222,946
MS-1A62R	0.000	0.420	0.233	0.233	1,516,580	No	222,946
MS-1A62R (D/S)	0.000	0.471	0.303	0.303	2,136,337	No	222,946
MS-1A62N	0.000	0.431	0.303	0.303	1,217,479	No	222,946
===>Grouped by Line: **MSD45D-2-RHDT A HDR to FWH26A**					***Sorted By:Flow Order***		
MS-1A45R	0.000	0.473	0.303	0.303	1,854,727	No	222,946
MS-1A45R (D/S)	0.000	0.511	0.233	0.233	1,969,358	No	222,946
MS-1A45P-1 US	0.000	0.380	0.233	0.233	1,662,602	Yes	222,946
MS-1A45P-1 DS	0.000	0.384	0.233	0.233	1,707,922	Yes	222,946
MS-1A46	0.000	0.399	0.233	0.233	1,015,186	Yes	222,946
MS-1A46P	0.000	0.387	0.233	0.233	1,399,446	Yes	222,946
MS-1A47	0.000	0.408	0.233	0.233	1,070,304	Yes	222,946
MS-1A47P US	0.000	0.382	0.233	0.233	1,055,886	No	222,946
MS-1A47P DS	0.000	0.386	0.233	0.233	1,084,211	Yes	222,946
MS-1A48	0.000	0.375	0.233	0.233	868,203	Yes	222,946
MS-1A49	0.000	0.339	0.233	0.233	647,730	Yes	222,946
MS-1A49P US	0.000	0.365	0.233	0.233	935,506	Yes	222,946
MS-1A49P DS	0.000	0.339	0.233	0.233	749,404	No	222,946
MS-1A50	0.000	0.367	0.233	0.233	821,608	Yes	222,946
MS-1A50P	0.000	0.369	0.233	0.233	1,237,715	Yes	222,946
MS-1A51	0.000	0.383	0.233	0.233	919,596	Yes	222,946
MS-1A51P US	0.000	0.372	0.233	0.233	1,264,907	Yes	222,946
MS-1A51P DS	0.000	0.386	0.233	0.233	1,390,382	Yes	222,946
MS-1A52	0.000	0.386	0.233	0.233	935,570	Yes	222,946
MS-1A-VALVE-MS-14	0.000	0.286	0.249	0.249	168,654	No	222,946
MS-1A52P US	0.000	0.368	0.233	0.233	1,390,358	No	222,946
MS-1A52P DS	0.000	0.405	0.233	0.233	1,769,583	No	222,946
MS-1A53	0.000	0.519	0.233	0.233	1,580,031	No	222,946
MS-1A53 (D/S)	0.000	0.496	0.233	0.233	1,452,916	No	222,946
MS-1A53P US	0.000	0.389	0.233	0.233	1,764,571	Yes	222,946
MS-1A53P DS	0.000	0.381	0.233	0.233	1,674,011	Yes	222,946
MS-1A54	0.000	0.524	0.233	0.233	1,606,639	No	222,946
MS-1A54 (D/S)	0.000	0.522	0.233	0.233	1,595,586	No	222,946
MS-1A53P-1	0.000	0.383	0.233	0.233	1,696,671	Yes	222,946
MS-1A54R	0.000	0.433	0.233	0.233	1,621,786	No	222,946
MS-1A54R (D/S)	0.000	0.474	0.303	0.303	2,174,504	No	222,946
MS-1A54N	0.000	0.431	0.303	0.303	1,217,479	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD46A-2-RHDT22A CV to FWH26**					***Sorted By:Flow Order***		
MS-2A-VALVE-LCV-1104A	0.000	0.002	0.132	0.132	-108,294	No	222,946
MS-2A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-2A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
===>Grouped by Line: **MSD47-2-RHDT23A CV to FWH26**					***Sorted By:Flow Order***		
MS-3A-VALVE-LCV-1104B	0.000	0.066	0.169	0.169	-122,015	No	222,946
MS-3A24R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3A24R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A23P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A24	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A24P	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-3A25	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-3A25P	0.000	0.432	0.206	0.206	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

5

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DTK A DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.102

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:	**MSD45B-1-RHDT21A CV to FWH26**											***Sorted By: Flow Order***
MS-1A30P2	0.000	53.3	51.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A31	0.000	81.4	109.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A31P	0.000	53.4	59.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A32	0.000	70.2	125.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A32P	0.000	47.3	45.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
===>Grouped by Line:	**MSD45C-2-RHDT A HDR to FWH26**											***Sorted By: Flow Order***
MS-1A34T2	0.000	44.5	92.0	44.5	92.0	0.585	GW	193,769	549.5	585.0	2.1	193,769
MS-1A34T2 (D/S)	0.000	80.6	72.0	80.6	72.0	0.597	GW	193,769	513.4	597.0	3.7	193,769
MS-1A34P2	0.000	26.8	62.0	26.8	62.0	0.626	MT	106,128	567.2	626.0	14.3	106,128
MS-1A35	0.000	59.4	80.0	59.4	80.0	0.559	MT	149,573	534.6	559.0	8.5	149,573
===>Grouped by Line:	**MSD45C-3-RHDT A HDR to FWH26**											***Sorted By: Flow Order***
MS-1A35T	0.000	73.8	76.0	73.8	76.0	0.599	MT	149,573	520.2	599.0	10.5	149,573
MS-1A35T (D/S)	0.000	104.7	70.0	104.7	70.0	0.592	MT	149,573	489.3	592.0	15.0	149,573
MS-1A36	0.000	89.3	126.0	89.3	126.0	0.511	MT	149,573	504.7	511.0	12.8	149,573
MS-1A36P US	0.000	56.2	87.0	56.2	87.0	0.579	MT	149,573	537.8	579.0	8.0	149,573
MS-1A36P DS	0.000	53.9	82.0	53.9	82.0	0.582		136,608	540.1	582.0	10.3	136,608
MS-1A37	0.000	80.8	54.0	80.8	54.0	0.578	MT	136,608	513.2	578.0	15.5	136,608
MS-1A37P US	0.000	53.9	63.0	53.9	63.0	0.594	MT	136,608	540.1	594.0	10.3	136,608
MS-1A37P DS	0.000	46.9	87.0	46.9	87.0	0.617	MT	119,088	547.1	617.0	17.2	119,088
MS-1A38	0.000	94.4	125.5	94.4	125.5	0.503	MT	209,806	499.6	503.0	1.9	209,806
MS-1A39	0.000	70.4	71.0	70.4	71.0	0.562	MT	119,088	523.6	562.0	25.9	119,088
MS-1A39P	0.000	46.9	86.0	46.9	86.0	0.575	MT	119,088	547.1	575.0	17.2	119,088
MS-1A40	0.000	70.4	47.0	70.4	47.0	0.589	MT	119,088	523.6	589.0	25.9	119,088
MS-1A40P	0.000	53.9	68.0	53.9	68.0	0.581	MT	136,608	540.1	581.0	10.3	136,608
===>Grouped by Line:	**MSD45C-4-RHDT A HDR to FWH26C**											***Sorted By: Flow Order***

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:	**MSD45C-4-RHDT A HDR to FWH26C**											***Sorted By: Flow Order***
MS-1A63P US	0.000	49.7	71.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A63P DS	0.000	49.7	69.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A63	0.000	11.6	18.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A64P US	0.000	61.2	52.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A64P DS	0.000	61.2	61.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A64	0.000	92.8	74.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A65P US	0.000	61.2	47.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A65P DS	0.000	61.2	46.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A65	0.000	90.5	191.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1A66P US	0.000	56.1	42.0	56.1	42.0	0.393	MT	149,573	375.9	393.0	8.0	149,573
MS-1A66P DS	0.000	49.4	76.0	49.4	76.0	0.270	MT	125,459	382.6	270.0	14.7	125,459
MS-1A67P US	0.000	57.2	200.0	57.2	200.0	0.373	MT	209,806	374.8	373.0	1.2	209,806
MS-1A67P DS	0.000	52.8	154.0	52.8	154.0	0.379		165,113	379.2	379.0	5.5	165,113
MS-1A67P-1	0.000	52.8	97.0	52.8	97.0	0.346		165,113	379.2	346.0	5.5	165,113
MS-1A67R	0.000	71.4	66.0	71.4	66.0	0.413	MT	149,573	360.6	413.0	10.2	149,573
MS-1A67R (D/S)	0.000	45.4	51.0	45.4	51.0	0.459	MT	149,573	454.6	459.0	6.5	149,573
===>Grouped by Line:	**MSD45C-5-RHDT A HDR to FWH26**											***Sorted By: Flow Order***
MS-1A41P-1 DS	0.000	65.7	52.0	65.7	52.0	0.465		136,608	434.3	465.0	12.6	136,608
MS-1A42	0.000	86.8	54.0	86.8	54.0	0.445	MT	136,608	413.2	445.0	16.6	136,608
MS-1A42P US	0.000	57.8	54.0	57.8	54.0	0.457	MT	136,608	442.2	457.0	11.1	136,608
MS-1A42P DS	0.000	57.8	39.0	57.8	39.0	0.463	MT	136,608	442.2	463.0	11.1	136,608
MS-1A43	0.000	86.8	53.0	86.8	53.0	0.503	MT	136,608	413.2	503.0	16.6	136,608
MS-1A43P DS	0.000	57.8	30.0	57.8	30.0	0.495	MT	136,608	442.2	495.0	11.1	136,608
MS-1A44	0.000	86.8	61.0	86.8	61.0	0.485	MT	136,608	413.2	485.0	16.6	136,608
MS-1A44P US	0.000	57.8	41.0	57.8	41.0	0.458	MT	136,608	442.2	458.0	11.1	136,608
MS-1A44P DS	0.000	57.8	68.0	57.8	68.0	0.461	MT	136,608	442.2	461.0	11.1	136,608
MS-1A45	0.000	86.8	81.0	86.8	81.0	0.471	MT	136,608	413.2	471.0	16.6	136,608
MS-1A45P US	0.000	57.8	86.0	57.8	86.0	0.413	MT	136,608	442.2	413.0	11.1	136,608
MS-1A68	0.000	164.7	85.0	164.7	85.0	0.450	GW	193,769	335.3	450.0	7.6	193,769
MS-1A68 (BR/SE)	0.000	97.5	54.0	97.5	54.0	0.400	GW	193,769	334.5	400.0	4.5	193,769
MS-1A68 (D/S)	0.000	91.0	51.0	91.0	51.0	0.485	GW	193,769	409.0	485.0	4.2	193,769
===>Grouped by Line:	**MSD45D-1-RHDT A HDR to FWH26B**											***Sorted By: Flow Order***
MS-1A68P	0.000	48.9	53.5	48.9	53.5	0.393	MT	136,608	383.1	393.0	9.4	136,608
MS-1A55	0.000	78.9	79.0	78.9	79.0	0.396	MT	119,088	353.1	396.0	29.0	119,088
MS-1A55P	0.000	68.2	43.0	68.2	43.0	0.406	MT	119,088	363.8	406.0	25.1	119,088
MS-1A56	0.000	78.9	103.0	78.9	103.0	0.413	MT	119,088	353.1	413.0	29.0	119,088
MS-1A57	0.000	78.9	100.0	78.9	100.0	0.420	MT	119,088	353.1	420.0	29.0	119,088

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:	**MSD45D-1-RHDT A HDR to FWH26B**											***Sorted By: Flow Order***
MS-1A57P	0.000	68.2	71.0	68.2	71.0	0.377	MT	119,088	363.8	377.0	25.1	119,088
MS-1A58	0.000	78.9	62.0	78.9	62.0	0.415	MT	119,088	353.1	415.0	29.0	119,088
MS-1A58P	0.000	66.0	108.0	66.0	108.0	0.395	MT	165,113	366.0	395.0	6.9	165,113
MS-1A59	0.000	105.7	102.5	105.7	102.5	0.391	MT	209,806	326.3	391.0	2.1	209,806
MS-1A59P US	0.000	71.4	53.0	71.4	53.0	0.385	MT	209,806	360.6	385.0	1.4	209,806
MS-1A59P DS	0.000	61.2	45.0	61.2	45.0	0.396	MT	136,608	370.8	396.0	11.7	136,608
MS-1A60	0.000	90.5	56.0	90.5	56.0	0.400		136,608	341.5	400.0	17.4	136,608
MS-1A60P US	0.000	56.1	41.0	56.1	41.0	0.399	MT	149,573	375.9	399.0	8.0	149,573
MS-1A60P DS	0.000	53.8	47.0	53.8	47.0	0.389	MT	136,608	378.2	389.0	10.3	136,608
MS-1A61P US	0.000	48.9	49.0	48.9	49.0	0.398	MT	136,608	383.1	398.0	9.4	136,608
MS-1A61P-1	0.000	44.9	30.0	44.9	30.0	0.402	MT	125,459	387.1	402.0	13.4	125,459
===>Grouped by Line:	**MSD45D-2-RHDT A HDR to FWH26A**											***Sorted By: Flow Order***
MS-1A45P-1 US	0.000	48.9	47.0	48.9	47.0	0.389	MT	136,608	383.1	389.0	9.4	136,608
MS-1A45P-1 DS	0.000	48.9	58.0	48.9	58.0	0.393	MT	136,608	383.1	393.0	9.4	136,608
MS-1A46	0.000	90.5	33.0	90.5	33.0	0.416	MT	136,608	341.5	416.0	17.4	136,608
MS-1A46P	0.000	61.2	33.0	61.2	33.0	0.399	MT	136,608	370.8	399.0	11.7	136,608
MS-1A47	0.000	90.5	54.0	90.5	54.0	0.425	MT	136,608	341.5	425.0	17.4	136,608
MS-1A47P DS	0.000	78.3	31.0	78.3	31.0	0.401	MT	136,608	353.7	401.0	15.0	136,608
MS-1A48	0.000	90.5	73.0	90.5	73.0	0.392	MT	136,608	341.5	392.0	17.4	136,608
MS-1A49	0.000	90.5	86.0	90.5	86.0	0.356	MT	136,608	341.5	356.0	17.4	136,608
MS-1A49P US	0.000	78.3	67.0	78.3	67.0	0.380	MT	136,608	353.7	380.0	15.0	136,608
MS-1A50	0.000	78.9	80.0	78.9	80.0	0.396	MT	119,088	353.1	396.0	29.0	119,088
MS-1A50P	0.000	53.3	56.0	53.3	56.0	0.389	MT	119,088	378.7	389.0	19.6	119,088
MS-1A51	0.000	78.9	75.0	78.9	75.0	0.412	MT	119,088	353.1	412.0	29.0	119,088
MS-1A51P US	0.000	53.3	67.0	53.3	67.0	0.392	MT	119,088	378.7	392.0	19.6	119,088
MS-1A51P DS	0.000	61.2	49.0	61.2	49.0	0.398	MT	136,608	370.8	398.0	11.7	136,608
MS-1A52	0.000	90.5	80.0	90.5	80.0	0.403		136,608	341.5	403.0	17.4	136,608
MS-1A53P US	0.000	48.9	50.0	48.9	50.0	0.398	MT	136,608	383.1	398.0	9.4	136,608
MS-1A53P DS	0.000	44.9	75.0	44.9	75.0	0.394	MT	125,459	387.1	394.0	13.4	125,459
MS-1A53P-1	0.000	44.9	55.0	44.9	55.0	0.396	MT	125,459	387.1	396.0	13.4	125,459
===>Grouped by Line:	**MSD46A-2-RHDT22A CV to FWH26**											***Sorted By: Flow Order***
MS-2A23P	0.000	53.6	32.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-2A24	0.000	82.1	134.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-2A24P	0.000	52.1	52.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-2A25	0.000	72.0	126.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-2A25P	0.000	47.2	160.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	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:	**MSD47-2-RHDT23A CV to FWH26**											***Sorted By: Flow Order***
MS-3A23P	0.000	53.6	74.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-3A24	0.000	84.2	115.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-3A24P	0.000	55.3	117.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-3A25	0.000	70.2	44.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-3A25P	0.000	46.9	111.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:28:09PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.193

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD48B-1-RHDT21B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-1B-VALVE-LCV-1105	24	11.546	4.028	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1B35	1	4.093	1.381	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34P US	52	3.101	1.046	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34P DS	52	3.101	1.046	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B35P	51	2.729	0.921	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1B34	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33P-1	68	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD48B-2-RHDT B HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-1B36 (D/S)	12	5.466	1.844	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B37	2	4.933	1.665	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B38	1	4.400	1.485	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B39	1	4.400	1.485	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36 (BR/SE)	12	4.217	1.423	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B37P	52	3.333	1.125	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36	12	3.019	1.019	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B38P	51	2.933	0.990	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B39P	51	2.933	0.990	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36P US	62	2.666	0.900	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36P DS	62	2.666	0.900	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49B-1-RHDT22B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-LCV-1105A	24	11.546	4.028	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2B32	1	1.595	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B33	1	1.595	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B31P US	52	1.208	0.408	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B31P DS	52	1.208	0.408	495.9	9.664	3.3	10.750	6.379	0.000	55.44	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:	***MSD49B-1-RHDT22B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-2B32P US	51	1.063	0.359	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B32P DS	51	1.063	0.359	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2B31	2	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B30R2 (D/S)	18	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B31P	68	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-1-RHDT B HDR to FWH26***								***Sorted By: Average Wear Rate***		
MS-2B34 (D/S)	12	5.089	1.717	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B34 (BR/SE)	12	4.533	1.530	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-2B36P US	54	3.972	1.340	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B36P DS	54	3.972	1.340	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B63	14	2.838	2.304	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B63 (D/S)	14	2.001	1.624	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B34	12	1.982	0.669	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B63 (BR/SE)	14	1.805	1.465	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B35	2	0.006	0.006	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B36	4	0.006	0.006	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B35P	52	0.004	0.004	495.9	9.471	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B33P	62	0.003	0.003	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-2-RHDT B HDR to FWH26C***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-MS-15-2	22	6.202	2.093	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B54 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B54	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B51	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B52	4	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B50P US	54	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B52P US	54	3.969	1.339	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B52P DS	54	3.969	1.339	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55R	18	3.473	1.172	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B53P US	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B53P DS	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B54P	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55P	62	2.481	0.837	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55R (D/S)	18	2.209	0.745	495.9	3.910	3.3	8.625	6.379	0.000	55.44	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:	***MSD49C-2-RHDT B HDR to FWH26C***								***Sorted By: Average Wear Rate***		
MS-2B50	4	1.908	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B63P	64	1.031	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B53	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-3-RHDT B HDR***								***Sorted By: Average Wear Rate***		
MS-2B64	14	4.813	1.624	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B64 (BR/SE)	14	4.341	1.465	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64 (D/S)	14	2.658	0.897	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B63P-1 US	64	1.750	0.591	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-4-RHDT B HDR to FWH26B***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-MS-15-1	22	6.202	2.093	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B44	4	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B45	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B46	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B47	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B44P US	54	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49R	18	3.473	1.172	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B45P US	52	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B45P DS	52	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B46P US	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B46P DS	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49N	30	2.946	0.994	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2B47P US	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B47P DS	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49P	62	2.481	0.837	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B48P US	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64P	64	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B48P DS	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49R (D/S)	18	2.209	0.745	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-5-RHDT B HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-2B-VALVE-MS-15	22	6.202	2.093	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD49C-5-RHDT B HDR to FWH26A***								***Sorted By: Average Wear Rate***		
MS-2B43N	30	4.962	1.674	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B37	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B38	4	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B39	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B40	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B41	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64R (D/S)	7	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B38P	54	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64P-1 US	57	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B37P	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B39P	52	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B40P US	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B40P DS	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B41P	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42P US	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43P	62	2.481	0.837	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42P DS	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64R	7	1.692	0.571	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B43R	18	1.444	1.172	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43R (D/S)	18	0.918	0.745	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD50C-1-RHDT23B CV to FWH26***								***Sorted By: Average Wear Rate***		
MS-3B-VALVE-LCV-1105B	24	11.546	4.028	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3B43P US	54	2.357	0.795	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B43R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3B43	4	0.001	0.000	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B43R (D/S)	18	0.001	0.000	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:28:09PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.193

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD48B-1-RHDT21B CV to FWH26***									***Sorted By: Flow Order***	
MS-1B-VALVE-LCV-1105	24	11.546	4.028	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1B34R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-1B34R (D/S)	18	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B33P-1	68	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34P US	52	3.101	1.046	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B34P DS	52	3.101	1.046	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B35	1	4.093	1.381	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B35P	51	2.729	0.921	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD48B-2-RHDT B HDR to FWH26***									***Sorted By: Flow Order***	
MS-1B36 (BR/SE)	12	4.217	1.423	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B36 (D/S)	12	5.466	1.844	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36P US	62	2.666	0.900	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36P DS	62	2.666	0.900	495.9	15.283	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B37	2	4.933	1.665	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B37P	52	3.333	1.125	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B38	1	4.400	1.485	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B38P	51	2.933	0.990	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B39	1	4.400	1.485	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B39P	51	2.933	0.990	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-1B36	12	3.019	1.019	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49B-1-RHDT22B CV to FWH26***									***Sorted By: Flow Order***	
MS-2B-VALVE-LCV-1105A	24	11.546	4.028	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2B30R2	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-2B30R2 (D/S)	18	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B31P	68	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B31	2	0.000	0.000	495.9	2.352	3.3	10.750	6.379	0.000	55.44	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:	***MSD49B-1-RHDT22B CV to FWH26***									***Sorted By: Flow Order***	
MS-2B31P US	52	1.208	0.408	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B31P DS	52	1.208	0.408	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B32	1	1.595	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B32P US	51	1.063	0.359	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B32P DS	51	1.063	0.359	495.9	9.664	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B33	1	1.595	0.538	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-1-RHDT B HDR to FWH26***									***Sorted By: Flow Order***	
MS-2B34 (BR/SE)	12	4.533	1.530	495.9	7.870	3.3	8.625	6.379	0.000	55.44	HBD
MS-2B34	12	1.982	0.669	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B34 (D/S)	12	5.089	1.717	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B33P	62	0.003	0.003	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B35	2	0.006	0.006	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B35P	52	0.004	0.004	495.9	9.471	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B36	4	0.006	0.006	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B36P US	54	3.972	1.340	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B36P DS	54	3.972	1.340	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B63	14	2.838	2.304	495.9	7.499	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B63 (BR/SE)	14	1.805	1.465	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B63 (D/S)	14	2.001	1.624	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-2-RHDT B HDR to FWH26C***									***Sorted By: Flow Order***	
MS-2B63P	64	1.031	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B50	4	1.908	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B50P US	54	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B51	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B52	4	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B52P US	54	3.969	1.339	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B52P DS	54	3.969	1.339	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B53	2	0.001	0.001	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B-VALVE-MS-15-2	22	6.202	2.093	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B53P US	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B53P DS	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B54	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B54 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B54P	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	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:	***MSD49C-2-RHDT B HDR to FWH26C***									***Sorted By: Flow Order***	
MS-2B55P	62	2.481	0.837	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55R	18	3.473	1.172	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B55R (D/S)	18	2.209	0.745	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-3-RHDT B HDR***									***Sorted By: Flow Order***	
MS-2B63P-1 US	64	1.750	0.591	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B64	14	4.813	1.624	495.9	4.965	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B64 (BR/SE)	14	4.341	1.465	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64 (D/S)	14	2.658	0.897	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-4-RHDT B HDR to FWH26B***									***Sorted By: Flow Order***	
MS-2B64P	64	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B44	4	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B44P US	54	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B45	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B45P US	52	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B45P DS	52	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B46	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B46P US	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B46P DS	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B47	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B-VALVE-MS-15-1	22	6.202	2.093	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B47P US	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B47P DS	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B48P US	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B48P DS	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49P	62	2.481	0.837	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49R	18	3.473	1.172	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B49R (D/S)	18	2.209	0.745	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2B49N	30	2.946	0.994	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD49C-5-RHDT B HDR to FWH26A***									***Sorted By: Flow Order***	
MS-2B64R	7	1.692	0.571	495.9	2.450	3.3	10.750	6.379	0.000	55.44	HBD
MS-2B64R (D/S)	7	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B64P-1 US	57	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B37	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B37P	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	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:	***MSD49C-5-RHDT B HDR to FWH26A***									***Sorted By: Flow Order***	
MS-2B38	4	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B38P	54	3.969	1.339	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B39	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B39P	52	3.101	1.046	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B40	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B40P US	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B40P DS	52	3.101	1.046	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B41	2	4.590	1.549	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B-VALVE-MS-15	22	6.202	2.093	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B41P	58	2.729	0.921	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42P US	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B42P DS	62	2.481	0.837	495.9	8.745	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43 (D/S)	12	5.086	1.716	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43P	62	2.481	0.837	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43R	18	1.444	1.172	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B43R (D/S)	18	0.918	0.745	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-2B43N	30	4.962	1.674	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD50C-1-RHDT23B CV to FWH26***									***Sorted By: Flow Order***	
MS-3B-VALVE-LCV-1105B	24	11.546	4.028	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3B43R	18	0.001	0.001	495.9	15.767	3.3	4.500	6.379	0.000	55.44	HBD
MS-3B43R (D/S)	18	0.001	0.000	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B43	4	0.001	0.000	495.9	3.910	3.3	8.625	6.379	0.000	55.44	HBD
MS-3B43P US	54	2.357	0.795	495.9	10.736	3.3	8.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:28:09PM

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.193

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD48B-1-RHDT21B CV to FWH26**					***Sorted By:Remaining Life***		
MS-1B-VALVE-LCV-1105	0.000	0.043	0.169	0.169	-129,727	No	222,946
MS-1B35	0.000	0.323	0.233	0.233	572,221	Yes	222,946
MS-1B34P US	0.000	0.388	0.233	0.233	1,299,782	Yes	222,946
MS-1B34P DS	0.000	0.393	0.233	0.233	1,339,617	Yes	222,946
MS-1B35P	0.000	0.392	0.233	0.233	1,514,427	Yes	222,946
MS-1B34	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B33P-1	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1B34R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B34R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
===>Grouped by Line: **MSD48B-2-RHDT B HDR to FWH26**					***Sorted By:Remaining Life***		
MS-1B39	0.000	0.371	0.303	0.303	399,005	Yes	222,946
MS-1B36 (D/S)	0.000	0.426	0.303	0.303	583,741	No	222,946
MS-1B37	0.000	0.438	0.303	0.303	710,603	Yes	222,946
MS-1B38	0.000	0.476	0.303	0.303	1,021,636	Yes	222,946
MS-1B37P	0.000	0.455	0.303	0.303	1,178,988	Yes	222,946
MS-1B36	0.000	0.447	0.303	0.303	1,239,830	No	222,946
MS-1B36P US	0.000	0.432	0.303	0.303	1,255,692	No	222,946
MS-1B36P DS	0.000	0.438	0.303	0.303	1,316,917	Yes	222,946
MS-1B38P	0.000	0.462	0.303	0.303	1,405,674	Yes	222,946
MS-1B39P	0.000	0.471	0.303	0.303	1,487,183	Yes	222,946
MS-1B36 (BR/SE)	0.000	0.820	0.233	0.233	3,616,345	No	222,946
===>Grouped by Line: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Remaining Life***		
MS-2B-VALVE-LCV-1105A	0.000	0.043	0.169	0.169	-129,727	No	222,946
MS-2B33	0.000	0.562	0.378	0.378	2,991,747	Yes	222,946
MS-2B32	0.000	0.574	0.378	0.378	3,199,737	Yes	222,946
MS-2B31P DS	0.000	0.555	0.378	0.378	3,806,551	Yes	222,946
MS-2B31P US	0.000	0.563	0.378	0.378	3,982,646	No	222,946
MS-2B32P US	0.000	0.576	0.378	0.378	4,828,379	Yes	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Remaining Life***		
MS-2B32P DS	0.000	0.599	0.378	0.378	5,393,450	Yes	222,946
MS-2B31	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2B30R2 (D/S)	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B31P	0.000	0.500	0.335	0.335	100,000,000	No	86,338
===>Grouped by Line: **MSD49C-1-RHDT B HDR to FWH26**					***Sorted By:Remaining Life***		
MS-2B63	0.000	0.566	0.378	0.378	715,549	No	86,338
MS-2B36P DS	0.000	0.493	0.378	0.378	751,981	No	222,946
MS-2B34 (D/S)	0.000	0.550	0.378	0.378	879,548	No	222,946
MS-2B63 (D/S)	0.000	0.574	0.378	0.378	1,059,477	No	86,338
MS-2B63 (BR/SE)	0.000	0.414	0.233	0.233	1,084,363	No	86,338
MS-2B36P US	0.000	0.552	0.378	0.378	1,140,696	Yes	222,946
MS-2B34	0.000	0.577	0.378	0.378	2,614,198	No	222,946
MS-2B34 (BR/SE)	0.000	1.445	0.303	0.303	6,536,678	No	222,946
MS-2B33P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B36	0.000	0.594	0.378	0.378	100,000,000	No	41,469
===>Grouped by Line: **MSD49C-2-RHDT B HDR to FWH26C**					***Sorted By:Remaining Life***		
MS-2B-VALVE-MS-15-2	0.000	0.274	0.249	0.249	105,291	No	222,946
MS-2B52	0.000	0.333	0.233	0.233	564,563	Yes	222,946
MS-2B55R	0.000	0.333	0.233	0.233	750,728	Yes	222,946
MS-2B52P US	0.000	0.362	0.233	0.233	847,125	Yes	222,946
MS-2B52P DS	0.000	0.372	0.233	0.233	908,227	Yes	222,946
MS-2B53P DS	0.000	0.332	0.233	0.233	946,813	Yes	222,946
MS-2B51	0.000	0.401	0.233	0.233	952,123	Yes	222,946
MS-2B50	0.000	0.404	0.233	0.233	966,165	Yes	86,338
MS-2B50P US	0.000	0.385	0.233	0.233	997,549	Yes	222,946
MS-2B55P	0.000	0.330	0.233	0.233	1,015,723	Yes	222,946
MS-2B53P US	0.000	0.383	0.233	0.233	1,431,214	Yes	222,946
MS-2B54	0.000	0.530	0.233	0.233	1,515,147	Yes	222,946
MS-2B54 (D/S)	0.000	0.540	0.233	0.233	1,566,192	Yes	222,946
MS-2B54P	0.000	0.400	0.233	0.233	1,748,883	Yes	222,946
MS-2B55	0.000	0.607	0.233	0.233	1,908,044	Yes	222,946
MS-2B63P	0.000	0.417	0.233	0.233	1,926,776	No	86,338
MS-2B55 (D/S)	0.000	0.611	0.233	0.233	1,928,462	Yes	222,946
MS-2B55R (D/S)	0.000	0.484	0.303	0.303	2,129,335	Yes	222,946
MS-2B53	0.000	0.432	0.215	0.215	100,000,000	No	86,338

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49C-3-RHDT B HDR**					***Sorted By:Remaining Life***		
MS-2B64 (BR/SE)	0.000	0.363	0.233	0.233	778,865	Yes	222,946
MS-2B64	0.000	0.581	0.378	0.378	1,093,520	Yes	222,946
MS-2B64 (D/S)	0.000	0.573	0.378	0.378	1,905,663	Yes	222,946
MS-2B63P-1 US	0.000	0.549	0.378	0.378	2,545,388	No	222,946
===>Grouped by Line: **MSD49C-4-RHDT B HDR to FWH26B**					***Sorted By:Remaining Life***		
MS-2B-VALVE-MS-15-1	0.000	0.274	0.249	0.249	105,291	No	222,946
MS-2B47	0.000	0.339	0.233	0.233	601,428	Yes	222,946
MS-2B46	0.000	0.379	0.233	0.233	827,683	Yes	222,946
MS-2B45	0.000	0.381	0.233	0.233	838,996	Yes	222,946
MS-2B44P US	0.000	0.365	0.233	0.233	862,446	Yes	222,946
MS-2B46P DS	0.000	0.341	0.233	0.233	907,687	Yes	222,946
MS-2B49N	0.000	0.425	0.303	0.303	1,073,984	No	222,946
MS-2B44	0.000	0.425	0.233	0.233	1,087,875	Yes	222,946
MS-2B46P US	0.000	0.367	0.233	0.233	1,125,343	Yes	222,946
MS-2B47P US	0.000	0.363	0.233	0.233	1,233,656	No	222,946
MS-2B49 (D/S)	0.000	0.489	0.233	0.233	1,308,262	No	222,946
MS-2B45P US	0.000	0.391	0.233	0.233	1,326,257	Yes	222,946
MS-2B64P	0.000	0.360	0.233	0.233	1,328,629	Yes	222,946
MS-2B45P DS	0.000	0.394	0.233	0.233	1,351,371	Yes	222,946
MS-2B47P DS	0.000	0.379	0.233	0.233	1,388,434	Yes	222,946
MS-2B49P	0.000	0.374	0.233	0.233	1,475,129	Yes	222,946
MS-2B48P DS	0.000	0.376	0.233	0.233	1,496,058	Yes	222,946
MS-2B49	0.000	0.529	0.233	0.233	1,512,443	No	222,946
MS-2B49R	0.000	0.451	0.233	0.233	1,628,704	No	222,946
MS-2B48P US	0.000	0.392	0.233	0.233	1,663,486	Yes	222,946
MS-2B49R (D/S)	0.000	0.491	0.303	0.303	2,206,534	No	222,946
===>Grouped by Line: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Remaining Life***		
MS-2B-VALVE-MS-15	0.000	0.274	0.249	0.249	105,291	No	222,946
MS-2B43N	0.000	0.306	0.233	0.233	381,198	No	222,946
MS-2B37	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B38	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B39	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B40	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B38P	0.000	0.331	0.233	0.233	641,671	No	222,946
MS-2B43 (D/S)	0.000	0.418	0.233	0.233	945,841	No	222,946
MS-2B41	0.000	0.408	0.233	0.233	991,717	Yes	222,946
MS-2B37P	0.000	0.353	0.233	0.233	1,006,334	No	222,946
MS-2B39P	0.000	0.353	0.233	0.233	1,006,334	No	222,946

Component Name	Thickness (in) Init.	Pred [1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Remaining Life***		
MS-2B40P US	0.000	0.353	0.233	0.233	1,006,334	No	222,946
MS-2B64P-1 US	0.000	0.368	0.233	0.233	1,133,715	Yes	222,946
MS-2B40P DS	0.000	0.387	0.233	0.233	1,292,772	Yes	222,946
MS-2B43	0.000	0.489	0.233	0.233	1,308,262	No	222,946
MS-2B42 (D/S)	0.000	0.498	0.233	0.233	1,355,552	Yes	222,946
MS-2B43R	0.000	0.418	0.233	0.233	1,382,047	No	86,338
MS-2B41P	0.000	0.381	0.233	0.233	1,407,448	Yes	222,946
MS-2B43P	0.000	0.374	0.233	0.233	1,475,129	Yes	222,946
MS-2B64R (D/S)	0.000	0.469	0.233	0.233	1,542,623	Yes	222,946
MS-2B42P US	0.000	0.383	0.233	0.233	1,571,198	Yes	222,946
MS-2B42P DS	0.000	0.397	0.233	0.233	1,715,807	Yes	222,946
MS-2B42	0.000	0.613	0.233	0.233	1,942,572	Yes	222,946
MS-2B43R (D/S)	0.000	0.491	0.303	0.303	2,206,534	No	86,338
MS-2B64R	0.000	0.582	0.378	0.378	3,133,576	Yes	222,946
===>Grouped by Line: **MSD50C-1-RHDT23B CV to FWH26**					***Sorted By:Remaining Life***		
MS-3B-VALVE-LCV-1105B	0.000	0.043	0.169	0.169	-129,727	No	222,946
MS-3B43P US	0.000	0.378	0.303	0.303	825,882	Yes	222,946
MS-3B43R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3B43R (D/S)	0.000	0.500	0.280	0.280	100,000,000	No	86,338
MS-3B43	0.000	0.500	0.280	0.280	100,000,000	No	86,338

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.193

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD48B-1-RHDT21B CV to FWH26**					***Sorted By:Flow Order***		
MS-1B-VALVE-LCV-1105	0.000	0.043	0.169	0.169	-129,727	No	222,946
MS-1B34R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-1B34R (D/S)	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B33P-1	0.000	0.432	0.206	0.206	100,000,000	No	86,338
MS-1B34	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-1B34P US	0.000	0.388	0.233	0.233	1,299,782	Yes	222,946
MS-1B34P DS	0.000	0.393	0.233	0.233	1,339,617	Yes	222,946
MS-1B35	0.000	0.323	0.233	0.233	572,221	Yes	222,946
MS-1B35P	0.000	0.392	0.233	0.233	1,514,427	Yes	222,946
===>Grouped by Line: **MSD48B-2-RHDT B HDR to FWH26**					***Sorted By:Flow Order***		
MS-1B36 (BR/SE)	0.000	0.820	0.233	0.233	3,616,345	No	222,946
MS-1B36 (D/S)	0.000	0.426	0.303	0.303	583,741	No	222,946
MS-1B36P US	0.000	0.432	0.303	0.303	1,255,692	No	222,946
MS-1B36P DS	0.000	0.438	0.303	0.303	1,316,917	Yes	222,946
MS-1B37	0.000	0.438	0.303	0.303	710,603	Yes	222,946
MS-1B37P	0.000	0.455	0.303	0.303	1,178,988	Yes	222,946
MS-1B38	0.000	0.476	0.303	0.303	1,021,636	Yes	222,946
MS-1B38P	0.000	0.462	0.303	0.303	1,405,674	Yes	222,946
MS-1B39	0.000	0.371	0.303	0.303	399,005	Yes	222,946
MS-1B39P	0.000	0.471	0.303	0.303	1,487,183	Yes	222,946
MS-1B36	0.000	0.447	0.303	0.303	1,239,830	No	222,946
===>Grouped by Line: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Flow Order***		
MS-2B-VALVE-LCV-1105A	0.000	0.043	0.169	0.169	-129,727	No	222,946
MS-2B30R2	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-2B30R2 (D/S)	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B31P	0.000	0.500	0.335	0.335	100,000,000	No	86,338
MS-2B31	0.000	0.500	0.349	0.349	100,000,000	No	86,338
MS-2B31P US	0.000	0.563	0.378	0.378	3,982,646	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49B-1-RHDT22B CV to FWH26**					***Sorted By:Flow Order***		
MS-2B31P DS	0.000	0.555	0.378	0.378	3,806,551	Yes	222,946
MS-2B32	0.000	0.574	0.378	0.378	3,199,737	Yes	222,946
MS-2B32P US	0.000	0.576	0.378	0.378	4,828,379	Yes	222,946
MS-2B32P DS	0.000	0.599	0.378	0.378	5,393,450	Yes	222,946
MS-2B33	0.000	0.562	0.378	0.378	2,991,747	Yes	222,946
===>Grouped by Line: **MSD49C-1-RHDT B HDR to FWH26**					***Sorted By:Flow Order***		
MS-2B34 (BR/SE)	0.000	1.445	0.303	0.303	6,536,678	No	222,946
MS-2B34	0.000	0.577	0.378	0.378	2,614,198	No	222,946
MS-2B34 (D/S)	0.000	0.550	0.378	0.378	879,548	No	222,946
MS-2B33P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B35P	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B36	0.000	0.594	0.378	0.378	100,000,000	No	41,469
MS-2B36P US	0.000	0.552	0.378	0.378	1,140,696	Yes	222,946
MS-2B36P DS	0.000	0.493	0.378	0.378	751,981	No	222,946
MS-2B63	0.000	0.566	0.378	0.378	715,549	No	86,338
MS-2B63 (BR/SE)	0.000	0.414	0.233	0.233	1,084,363	No	86,338
MS-2B63 (D/S)	0.000	0.574	0.378	0.378	1,059,477	No	86,338
===>Grouped by Line: **MSD49C-2-RHDT B HDR to FWH26C**					***Sorted By:Flow Order***		
MS-2B63P	0.000	0.417	0.233	0.233	1,926,776	No	86,338
MS-2B50	0.000	0.404	0.233	0.233	966,165	Yes	86,338
MS-2B50P US	0.000	0.385	0.233	0.233	997,549	Yes	222,946
MS-2B51	0.000	0.401	0.233	0.233	952,123	Yes	222,946
MS-2B52	0.000	0.333	0.233	0.233	564,563	Yes	222,946
MS-2B52P US	0.000	0.362	0.233	0.233	847,125	Yes	222,946
MS-2B52P DS	0.000	0.372	0.233	0.233	908,227	Yes	222,946
MS-2B53	0.000	0.432	0.215	0.215	100,000,000	No	86,338
MS-2B-VALVE-MS-15-2	0.000	0.274	0.249	0.249	105,291	No	222,946
MS-2B53P US	0.000	0.383	0.233	0.233	1,431,214	Yes	222,946
MS-2B53P DS	0.000	0.332	0.233	0.233	946,813	Yes	222,946
MS-2B54	0.000	0.530	0.233	0.233	1,515,147	Yes	222,946
MS-2B54 (D/S)	0.000	0.540	0.233	0.233	1,566,192	Yes	222,946
MS-2B54P	0.000	0.400	0.233	0.233	1,748,883	Yes	222,946
MS-2B55	0.000	0.607	0.233	0.233	1,908,044	Yes	222,946
MS-2B55 (D/S)	0.000	0.611	0.233	0.233	1,928,462	Yes	222,946
MS-2B55P	0.000	0.330	0.233	0.233	1,015,723	Yes	222,946
MS-2B55R	0.000	0.333	0.233	0.233	750,728	Yes	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49C-2-RHDT B HDR to FWH26C**					***Sorted By:Flow Order***		
MS-2B55R (D/S)	0.000	0.484	0.303	0.303	2,129,335	Yes	222,946
===>Grouped by Line: **MSD49C-3-RHDT B HDR**					***Sorted By:Flow Order***		
MS-2B63P-1 US	0.000	0.549	0.378	0.378	2,545,388	No	222,946
MS-2B64	0.000	0.581	0.378	0.378	1,093,520	Yes	222,946
MS-2B64 (BR/SE)	0.000	0.363	0.233	0.233	778,865	Yes	222,946
MS-2B64 (D/S)	0.000	0.573	0.378	0.378	1,905,663	Yes	222,946
===>Grouped by Line: **MSD49C-4-RHDT B HDR to FWH26B**					***Sorted By:Flow Order***		
MS-2B64P	0.000	0.360	0.233	0.233	1,328,629	Yes	222,946
MS-2B44	0.000	0.425	0.233	0.233	1,087,875	Yes	222,946
MS-2B44P US	0.000	0.365	0.233	0.233	862,446	Yes	222,946
MS-2B45	0.000	0.381	0.233	0.233	838,996	Yes	222,946
MS-2B45P US	0.000	0.391	0.233	0.233	1,326,257	Yes	222,946
MS-2B45P DS	0.000	0.394	0.233	0.233	1,351,371	Yes	222,946
MS-2B46	0.000	0.379	0.233	0.233	827,683	Yes	222,946
MS-2B46P US	0.000	0.367	0.233	0.233	1,125,343	Yes	222,946
MS-2B46P DS	0.000	0.341	0.233	0.233	907,687	Yes	222,946
MS-2B47	0.000	0.339	0.233	0.233	601,428	Yes	222,946
MS-2B-VALVE-MS-15-1	0.000	0.274	0.249	0.249	105,291	No	222,946
MS-2B47P US	0.000	0.363	0.233	0.233	1,233,656	No	222,946
MS-2B47P DS	0.000	0.379	0.233	0.233	1,388,434	Yes	222,946
MS-2B48P US	0.000	0.392	0.233	0.233	1,663,486	Yes	222,946
MS-2B48P DS	0.000	0.376	0.233	0.233	1,496,058	Yes	222,946
MS-2B49	0.000	0.529	0.233	0.233	1,512,443	No	222,946
MS-2B49 (D/S)	0.000	0.489	0.233	0.233	1,308,262	No	222,946
MS-2B49P	0.000	0.374	0.233	0.233	1,475,129	Yes	222,946
MS-2B49R	0.000	0.451	0.233	0.233	1,628,704	No	222,946
MS-2B49R (D/S)	0.000	0.491	0.303	0.303	2,206,534	No	222,946
MS-2B49N	0.000	0.425	0.303	0.303	1,073,984	No	222,946
===>Grouped by Line: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Flow Order***		
MS-2B64R	0.000	0.582	0.378	0.378	3,133,576	Yes	222,946
MS-2B64R (D/S)	0.000	0.469	0.233	0.233	1,542,623	Yes	222,946
MS-2B64P-1 US	0.000	0.368	0.233	0.233	1,133,715	Yes	222,946
MS-2B37	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B37P	0.000	0.353	0.233	0.233	1,006,334	No	222,946
MS-2B38	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B38P	0.000	0.331	0.233	0.233	641,671	No	222,946
MS-2B39	0.000	0.315	0.233	0.233	465,676	No	222,946

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD49C-5-RHDT B HDR to FWH26A**					***Sorted By:Flow Order***		
MS-2B39P	0.000	0.353	0.233	0.233	1,006,334	No	222,946
MS-2B40	0.000	0.315	0.233	0.233	465,676	No	222,946
MS-2B40P US	0.000	0.353	0.233	0.233	1,006,334	No	222,946
MS-2B40P DS	0.000	0.387	0.233	0.233	1,292,772	Yes	222,946
MS-2B41	0.000	0.408	0.233	0.233	991,717	Yes	222,946
MS-2B-VALVE-MS-15	0.000	0.274	0.249	0.249	105,291	No	222,946
MS-2B41P	0.000	0.381	0.233	0.233	1,407,448	Yes	222,946
MS-2B42	0.000	0.613	0.233	0.233	1,942,572	Yes	222,946
MS-2B42 (D/S)	0.000	0.498	0.233	0.233	1,355,552	Yes	222,946
MS-2B42P US	0.000	0.383	0.233	0.233	1,571,198	Yes	222,946
MS-2B42P DS	0.000	0.397	0.233	0.233	1,715,807	Yes	222,946
MS-2B43	0.000	0.489	0.233	0.233	1,308,262	No	222,946
MS-2B43 (D/S)	0.000	0.418	0.233	0.233	945,841	No	222,946
MS-2B43P	0.000	0.374	0.233	0.233	1,475,129	Yes	222,946
MS-2B43R	0.000	0.418	0.233	0.233	1,382,047	No	86,338
MS-2B43R (D/S)	0.000	0.491	0.303	0.303	2,206,534	No	86,338
MS-2B43N	0.000	0.306	0.233	0.233	381,198	No	222,946
===>Grouped by Line: **MSD50C-1-RHDT23B CV to FWH26**					***Sorted By:Flow Order***		
MS-3B-VALVE-LCV-1105B	0.000	0.043	0.169	0.169	-129,727	No	222,946
MS-3B43R	0.000	0.337	0.146	0.146	100,000,000	No	86,338
MS-3B43R (D/S)	0.000	0.500	0.280	0.280	100,000,000	No	86,338
MS-3B43	0.000	0.500	0.280	0.280	100,000,000	No	86,338
MS-3B43P US	0.000	0.378	0.303	0.303	825,882	Yes	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

4

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR DTK B DRN DSCV
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 1.193

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:	**MSD48B-1-RHDT21B CV to FWH26**											***Sorted By: Flow Order***
MS-1B33P-1	0.000	57.7	58.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1B34	0.000	85.4	72.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-1B34P US	0.000	69.1	59.0	69.1	59.0	0.398	MT	149,573	362.9	398.0	9.9	149,573
MS-1B34P DS	0.000	60.8	54.0	60.8	54.0	0.411	MT	125,459	371.2	411.0	18.1	125,459
MS-1B35	0.000	80.3	85.0	80.3	85.0	0.347	MT	125,459	351.7	347.0	23.9	125,459
MS-1B35P	0.000	53.5	42.0	53.5	42.0	0.408	MT	125,459	378.5	408.0	15.9	125,459
===>Grouped by Line:	**MSD48B-2-RHDT B HDR to FWH26**											***Sorted By: Flow Order***
MS-1B36P DS	0.000	52.3	46.0	52.3	46.0	0.454	MT	125,459	447.7	454.0	15.6	125,459
MS-1B37	0.000	96.7	78.0	96.7	78.0	0.467	MT	125,459	403.3	467.0	28.8	125,459
MS-1B37P	0.000	65.4	59.0	65.4	59.0	0.474	MT	125,459	434.6	474.0	19.5	125,459
MS-1B38	0.000	86.3	60.0	86.3	60.0	0.502	MT	125,459	413.7	502.0	25.7	125,459
MS-1B38P	0.000	62.6	42.0	62.6	42.0	0.474	MT	136,608	437.4	474.0	12.0	136,608
MS-1B39	0.000	104.8	121.0	104.8	121.0	0.378	GW	181,477	395.2	378.0	7.2	181,477
MS-1B39P	0.000	69.8	50.0	69.8	50.0	0.476	GW	181,477	430.2	476.0	4.8	181,477
===>Grouped by Line:	**MSD49B-1-RHDT22B CV to FWH26**											***Sorted By: Flow Order***
MS-2B31P DS	0.000	25.8	68.0	25.8	68.0	0.560		136,608	568.2	560.0	5.0	136,608
MS-2B32	0.000	34.1	41.0	34.1	41.0	0.581	MT	136,608	559.9	581.0	6.5	136,608
MS-2B32P US	0.000	22.7	58.0	22.7	58.0	0.580	MT	136,608	571.3	580.0	4.4	136,608
MS-2B32P DS	0.000	20.9	63.0	20.9	63.0	0.605	MT	125,459	573.1	605.0	6.2	125,459
MS-2B33	0.000	31.3	67.0	31.3	67.0	0.571	MT	125,459	562.7	571.0	9.3	125,459
===>Grouped by Line:	**MSD49C-1-RHDT B HDR to FWH26**											***Sorted By: Flow Order***
MS-2B33P	0.000	48.7	54.0	0.0	0.0	0.594	ER	181,477	594.0	594.0	0.0	0
MS-2B35	0.000	90.1	129.0	0.0	0.0	0.594	ER	181,477	594.0	594.0	0.0	0
MS-2B35P	0.000	69.1	53.0	0.0	0.0	0.594	ER	181,477	594.0	594.0	0.0	0
MS-2B36	0.000	105.8	278.0	0.0	0.0	0.594	ER	181,477	594.0	594.0	0.0	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:	**MSD49C-1-RHDT B HDR to FWH26**											***Sorted By: Flow Order***
MS-2B36P US	0.000	91.5	56.0	91.5	56.0	0.562		165,113	502.5	562.0	9.6	165,113
===>Grouped by Line:	**MSD49C-2-RHDT B HDR to FWH26C**											***Sorted By: Flow Order***
MS-2B63P	0.000	53.0	231.0	0.0	0.0	0.423	MT	165,113	427.8	423.0	6.0	0
MS-2B50	0.000	16.5	111.0	16.5	111.0	0.406	MT	209,806	415.5	406.0	2.3	209,806
MS-2B50P US	0.000	91.4	57.0	91.4	57.0	0.395	MT	165,113	340.6	395.0	9.6	165,113
MS-2B51	0.000	98.0	38.0	98.0	38.0	0.420	MT	136,608	334.0	420.0	18.8	136,608
MS-2B52	0.000	114.5	275.0	114.5	275.0	0.335	MT	209,806	317.5	335.0	2.3	209,806
MS-2B52P US	0.000	91.4	122.0	91.4	122.0	0.372	MT	165,113	340.6	372.0	9.6	165,113
MS-2B52P DS	0.000	84.8	44.0	84.8	44.0	0.388	MT	136,608	347.2	388.0	16.3	136,608
MS-2B53	0.000	98.0	253.0	0.0	0.0	0.432	ER	136,608	432.0	432.0	0.0	0
MS-2B53P US	0.000	60.8	64.0	60.8	64.0	0.392	MT	149,573	371.2	392.0	8.7	149,573
MS-2B53P DS	0.000	62.8	123.0	62.8	123.0	0.339		165,113	369.2	339.0	6.6	165,113
MS-2B54	0.000	117.1	161.0	117.1	161.0	0.542		165,113	314.9	542.0	12.3	165,113
MS-2B54 (D/S)	0.000	117.1	117.0	117.1	117.0	0.552		165,113	314.9	552.0	12.3	165,113
MS-2B54P	0.000	57.1	47.0	57.1	47.0	0.406		165,113	374.9	406.0	6.0	165,113
MS-2B55	0.000	121.1	81.0	121.1	81.0	0.615	GW	181,477	310.9	615.0	8.3	181,477
MS-2B55 (D/S)	0.000	121.1	79.0	121.1	79.0	0.619	GW	181,477	310.9	619.0	8.3	181,477
MS-2B55P	0.000	59.1	100.0	59.1	100.0	0.334	GW	181,477	372.9	334.0	4.1	181,477
MS-2B55R	0.000	82.7	163.0	82.7	163.0	0.339	MT	181,477	349.3	339.0	5.7	181,477
MS-2B55R (D/S)	0.000	52.6	82.0	52.6	82.0	0.488	GW	181,477	447.4	488.0	3.6	181,477
===>Grouped by Line:	**MSD49C-3-RHDT B HDR**											***Sorted By: Flow Order***
MS-2B64	0.000	117.1	39.0	117.1	39.0	0.586	GW	193,769	476.9	586.0	5.4	193,769
MS-2B64 (BR/SE)	0.000	105.6	64.0	105.6	64.0	0.368	GW	193,769	326.4	368.0	4.9	193,769
MS-2B64 (D/S)	0.000	64.7	56.0	64.7	56.0	0.576	GW	193,769	529.3	576.0	3.0	193,769
===>Grouped by Line:	**MSD49C-4-RHDT B HDR to FWH26B**											***Sorted By: Flow Order***
MS-2B64P	0.000	53.0	61.0	53.0	61.0	0.370	MT	136,608	379.0	370.0	10.2	136,608
MS-2B44	0.000	98.0	79.0	98.0	79.0	0.444	MT	136,608	334.0	444.0	18.8	136,608
MS-2B44P US	0.000	84.8	51.0	84.8	51.0	0.381	MT	136,608	347.2	381.0	16.3	136,608
MS-2B45	0.000	98.0	54.0	98.0	54.0	0.400	MT	136,608	334.0	400.0	18.8	136,608
MS-2B45P US	0.000	66.2	62.0	66.2	62.0	0.404	MT	136,608	365.8	404.0	12.7	136,608
MS-2B45P DS	0.000	66.2	44.0	66.2	44.0	0.407	MT	136,608	365.8	407.0	12.7	136,608
MS-2B46	0.000	98.0	112.0	98.0	112.0	0.398	MT	136,608	334.0	398.0	18.8	136,608
MS-2B46P US	0.000	66.2	74.0	66.2	74.0	0.380	MT	136,608	365.8	380.0	12.7	136,608
MS-2B46P DS	0.000	66.2	82.0	66.2	82.0	0.354	MT	136,608	365.8	354.0	12.7	136,608
MS-2B47	0.000	98.0	98.0	98.0	98.0	0.358	MT	136,608	334.0	358.0	18.8	136,608

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:	**MSD49C-4-RHDT B HDR to FWH26B**											***Sorted By: Flow Order***
MS-2B47P DS	0.000	58.3	69.0	58.3	69.0	0.390	MT	136,608	373.7	390.0	11.2	136,608
MS-2B48P US	0.000	53.0	37.0	53.0	37.0	0.402	MT	136,608	379.0	402.0	10.2	136,608
MS-2B48P DS	0.000	53.0	66.0	53.0	66.0	0.386	MT	136,608	379.0	386.0	10.2	136,608
MS-2B49P	0.000	53.0	44.0	53.0	44.0	0.384	MT	136,608	379.0	384.0	10.2	136,608
===>Grouped by Line:	**MSD49C-5-RHDT B HDR to FWH26A**											***Sorted By: Flow Order***
MS-2B64R	0.000	36.1	40.0	36.1	40.0	0.589	MT	136,608	557.9	589.0	6.9	136,608
MS-2B64R (D/S)	0.000	84.8	117.0	84.8	117.0	0.485	MT	136,608	347.2	485.0	16.3	136,608
MS-2B64P-1 US	0.000	66.2	51.0	66.2	51.0	0.381	MT	136,608	365.8	381.0	12.7	136,608
MS-2B40P DS	0.000	66.2	52.0	66.2	52.0	0.400	MT	136,608	365.8	400.0	12.7	136,608
MS-2B41	0.000	98.0	45.0	98.0	45.0	0.427	MT	136,608	334.0	427.0	18.8	136,608
MS-2B41P	0.000	45.3	50.0	45.3	50.0	0.405	MT	106,128	386.7	405.0	24.2	106,128
MS-2B42	0.000	126.9	122.0	126.9	122.0	0.616	MT	209,806	305.1	616.0	2.6	209,806
MS-2B42 (D/S)	0.000	126.9	124.0	126.9	124.0	0.501	MT	209,806	305.1	501.0	2.6	209,806
MS-2B42P US	0.000	41.2	61.0	41.2	61.0	0.405	MT	106,128	390.8	405.0	22.0	106,128
MS-2B42P DS	0.000	53.0	37.0	53.0	37.0	0.407	MT	136,608	379.0	407.0	10.2	136,608
MS-2B43P	0.000	53.0	112.0	53.0	112.0	0.384	MT	136,608	379.0	384.0	10.2	136,608
===>Grouped by Line:	**MSD50C-1-RHDT23B CV to FWH26**											***Sorted By: Flow Order***
MS-3B43	0.000	50.7	110.0	0.0	0.0	0.500	ER	136,608	500.0	500.0	0.0	0
MS-3B43P US	0.000	56.1	128.0	56.1	128.0	0.382	GW	181,477	443.9	382.0	3.9	181,477

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 NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:52:11PM
AnalysisDate/Time: 2/22/2010 1:28:14PM

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.806

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD39-1-RHTR 21A to RHDT 21A***								***Sorted By: Average Wear Rate***		
MS-1AN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1AN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD40-1-RHTR 22A to RHDT 22A***								***Sorted By: Average Wear Rate***		
MS-2AN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2AN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD41-1-RHTR 23A to RHDT 23A***								***Sorted By: Average Wear Rate***		
MS-3AN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3AN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD42-1-RHTR 21B to RHDT 21B***								***Sorted By: Average Wear Rate***		
MS-1BN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1BN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD43-1-RHTR 22B to RHDT 22B***								***Sorted By: Average Wear Rate***		
MS-2BN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2BN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD44-1-RHTR 23B to RHDT 23B***								***Sorted By: Average Wear Rate***		
MS-3BN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3BN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Rate Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:28:14PM

CHECWORKS SFA Version: 3.0 (build 105)

Duty Factor (Global) : 1.000

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.806

Component Name	Geom Code	Average Wear Rate (mils/yr)	Current Wear Rate (mils/yr)	Temp (F)	Velocity (ft/s)	Quality (%)	OD (in)	Hot pH	Oxygen (ppb)	Hydrazine (ppb)	Input Source
===>Grouped by Line:	***MSD39-1-RHTR 21A to RHDT 21A***									***Sorted By: Flow Order***	
MS-1AN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1A0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1AN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD40-1-RHTR 22A to RHDT 22A***									***Sorted By: Flow Order***	
MS-2AN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2A0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2AN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD41-1-RHTR 23A to RHDT 23A***									***Sorted By: Flow Order***	
MS-3AN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3A0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3AN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD42-1-RHTR 21B to RHDT 21B***									***Sorted By: Flow Order***	
MS-1BN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-1B0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-1BN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD43-1-RHTR 22B to RHDT 22B***									***Sorted By: Flow Order***	
MS-2BN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-2B0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-2BN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
===>Grouped by Line:	***MSD44-1-RHTR 23B to RHDT 23B***									***Sorted By: Flow Order***	
MS-3BN	31	4.193	1.415	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD
MS-3B0P	61	2.264	0.764	495.9	10.806	3.3	6.625	6.379	0.000	55.44	HBD
MS-3BN-1	30	3.354	1.132	495.9	6.915	3.3	6.625	6.379	0.000	55.44	HBD

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time: 2/22/2010 1:28:14PM

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.806

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line:	**MSD39-1-RHTR 21A to RHDT 21A**				***Sorted By:Remaining Life***		
MS-1AN	0.000	0.388	0.233	0.233	957,467	No	222,946
MS-1AN-1	0.000	0.400	0.233	0.233	1,296,650	Yes	222,946
MS-1A0P	0.000	0.398	0.233	0.233	1,890,772	Yes	222,946
===>Grouped by Line:	**MSD40-1-RHTR 22A to RHDT 22A**				***Sorted By:Remaining Life***		
MS-2AN-1	0.000	0.351	0.233	0.233	916,037	Yes	222,946
MS-2A0P	0.000	0.388	0.233	0.233	1,783,897	Yes	222,946
MS-2AN	0.000	0.778	0.233	0.233	3,376,893	Yes	222,946
===>Grouped by Line:	**MSD41-1-RHTR 23A to RHDT 23A**				***Sorted By:Remaining Life***		
MS-3AN-1	0.000	0.347	0.233	0.233	880,437	No	222,946
MS-3A0P	0.000	0.381	0.233	0.233	1,692,916	Yes	222,946
MS-3AN	0.000	0.807	0.233	0.233	3,553,745	No	222,946
===>Grouped by Line:	**MSD42-1-RHTR 21B to RHDT 21B**				***Sorted By:Remaining Life***		
MS-1BN	0.000	0.411	0.233	0.233	1,100,757	No	222,946
MS-1BN-1	0.000	0.391	0.233	0.233	1,226,338	Yes	222,946
MS-1B0P	0.000	0.389	0.233	0.233	1,787,783	Yes	222,946
===>Grouped by Line:	**MSD43-1-RHTR 22B to RHDT 22B**				***Sorted By:Remaining Life***		
MS-2BN-1	0.000	0.347	0.233	0.233	880,437	No	222,946
MS-2B0P	0.000	0.374	0.233	0.233	1,612,658	Yes	222,946
MS-2BN	0.000	0.738	0.233	0.233	3,126,542	No	222,946
===>Grouped by Line:	**MSD44-1-RHTR 23B to RHDT 23B**				***Sorted By:Remaining Life***		
MS-3BN	0.000	0.325	0.233	0.233	572,211	No	222,946
MS-3BN-1	0.000	0.347	0.233	0.233	880,437	No	222,946
MS-3B0P	0.000	0.374	0.233	0.233	1,622,464	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Service Life Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 2/26/2010 1:51:34PM
AnalysisDate/Time:

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.806

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

Component Name	Thickness (in) Init.	Pred.[1]	Thoop	Tcrit	Component Predicted [1]	Inspecte	Comp. Actual Service Time (hrs)
===>Grouped by Line: **MSD39-1-RHTR 21A to RHDT 21A**					***Sorted By:Flow Order***		
MS-1AN	0.000	0.388	0.233	0.233	957,467	No	222,946
MS-1A0P	0.000	0.398	0.233	0.233	1,890,772	Yes	222,946
MS-1AN-1	0.000	0.400	0.233	0.233	1,296,650	Yes	222,946
===>Grouped by Line: **MSD40-1-RHTR 22A to RHDT 22A**					***Sorted By:Flow Order***		
MS-2AN	0.000	0.778	0.233	0.233	3,376,893	Yes	222,946
MS-2A0P	0.000	0.388	0.233	0.233	1,783,897	Yes	222,946
MS-2AN-1	0.000	0.351	0.233	0.233	916,037	Yes	222,946
===>Grouped by Line: **MSD41-1-RHTR 23A to RHDT 23A**					***Sorted By:Flow Order***		
MS-3AN	0.000	0.807	0.233	0.233	3,553,745	No	222,946
MS-3A0P	0.000	0.381	0.233	0.233	1,692,916	Yes	222,946
MS-3AN-1	0.000	0.347	0.233	0.233	880,437	No	222,946
===>Grouped by Line: **MSD42-1-RHTR 21B to RHDT 21B**					***Sorted By:Flow Order***		
MS-1BN	0.000	0.411	0.233	0.233	1,100,757	No	222,946
MS-1B0P	0.000	0.389	0.233	0.233	1,787,783	Yes	222,946
MS-1BN-1	0.000	0.391	0.233	0.233	1,226,338	Yes	222,946
===>Grouped by Line: **MSD43-1-RHTR 22B to RHDT 22B**					***Sorted By:Flow Order***		
MS-2BN	0.000	0.738	0.233	0.233	3,126,542	No	222,946
MS-2B0P	0.000	0.374	0.233	0.233	1,612,658	Yes	222,946
MS-2BN-1	0.000	0.347	0.233	0.233	880,437	No	222,946
===>Grouped by Line: **MSD44-1-RHTR 23B to RHDT 23B**					***Sorted By:Flow Order***		
MS-3BN	0.000	0.325	0.233	0.233	572,211	No	222,946
MS-3B0P	0.000	0.374	0.233	0.233	1,622,464	No	222,946
MS-3BN-1	0.000	0.347	0.233	0.233	880,437	No	222,946

Note:
[1] Predictions are based on last Tmeas to analysis ending period.

2

Company: ENTERGY NUCLEAR NORTHEAST
Plant: INDIAN POINT
Unit: 2
DB Name: IPEC2(v3).DB

Wear Report

Pass 2 Analysis Include Measured Wear

Report Date/Time: 26-Feb-2010 1:51 pm
AnalysisDate/Time: 26-Feb-2010 1:52 pm

Run Name: RHTR TO RHTR DRN TK
Ending Period: REFUEL 19
Total Plant Operating Hours: 222,946
WRA Data Option: NFA->ARD->HBD->COMP
Line Correction Factor: 0.806

CHECWORKS SFA Version: 3.0 (build 105)
Duty Factor (Global) : 1.000

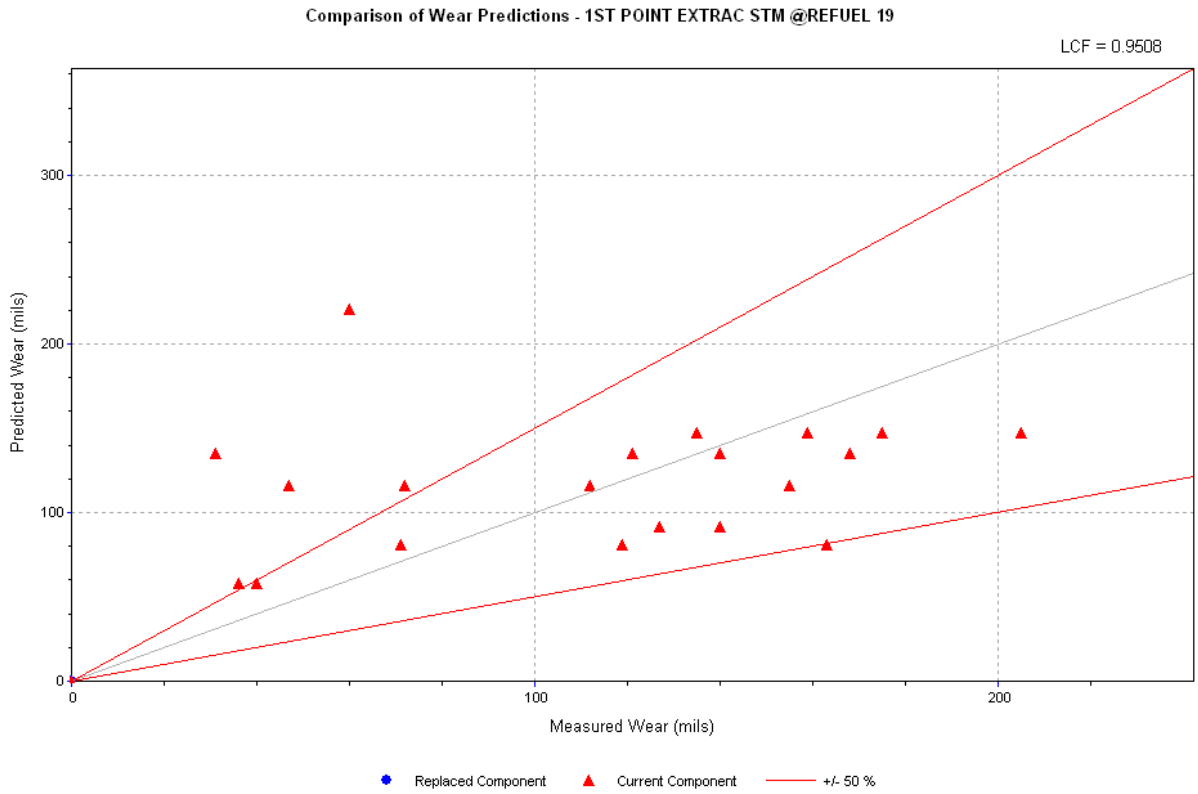
Component Name	Tinit	Total Lifetime Wear (mils) Prd. [1]	Total Lifetime Wear (mils) Meas.	In-Service Component Wear(mils) Prd. [1]	In-Service Component Wear(mils) Meas.	In-Service Component Tmeas, Method, Time (in) [3]	[2]	(hrs) [3]	In-Service Component Thickness (mils) [4] Tp	Tm	Incremental Wear (mils) [5] PRWEAR	Time (hrs) Last Inspected
===>Grouped by Line:	**MSD39-1-RHTR 21A to RHDT 21A**										***Sorted By: Flow Order***	
MS-1A0P	0.000	44.4	37.0	44.4	37.0	0.411	MT	125,459	387.6	411.0	13.2	125,459
MS-1AN-1	0.000	65.8	34.0	65.8	34.0	0.420	MT	125,459	366.2	420.0	19.6	125,459
===>Grouped by Line:	**MSD40-1-RHTR 22A to RHDT 22A**										***Sorted By: Flow Order***	
MS-2AN	0.000	102.0	102.0	102.0	102.0	0.783	GW	193,769	330.0	783.0	4.7	193,769
MS-2A0P	0.000	55.1	59.0	55.1	59.0	0.391	GW	193,769	376.9	391.0	2.5	193,769
MS-2AN-1	0.000	81.6	125.0	81.6	125.0	0.355	GW	193,769	350.4	355.0	3.8	193,769
===>Grouped by Line:	**MSD41-1-RHTR 23A to RHDT 23A**										***Sorted By: Flow Order***	
MS-3A0P	0.000	52.1	81.0	52.1	81.0	0.386	MT	165,113	379.9	386.0	5.5	165,113
===>Grouped by Line:	**MSD42-1-RHTR 21B to RHDT 21B**										***Sorted By: Flow Order***	
MS-1B0P	0.000	50.4	41.0	50.4	41.0	0.396	MT	149,573	381.6	396.0	7.2	149,573
MS-1BN-1	0.000	74.7	39.0	74.7	39.0	0.402	MT	149,573	357.3	402.0	10.7	149,573
===>Grouped by Line:	**MSD43-1-RHTR 22B to RHDT 22B**										***Sorted By: Flow Order***	
MS-2B0P	0.000	52.1	89.0	52.1	89.0	0.379		165,113	379.9	379.0	5.5	165,113

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.

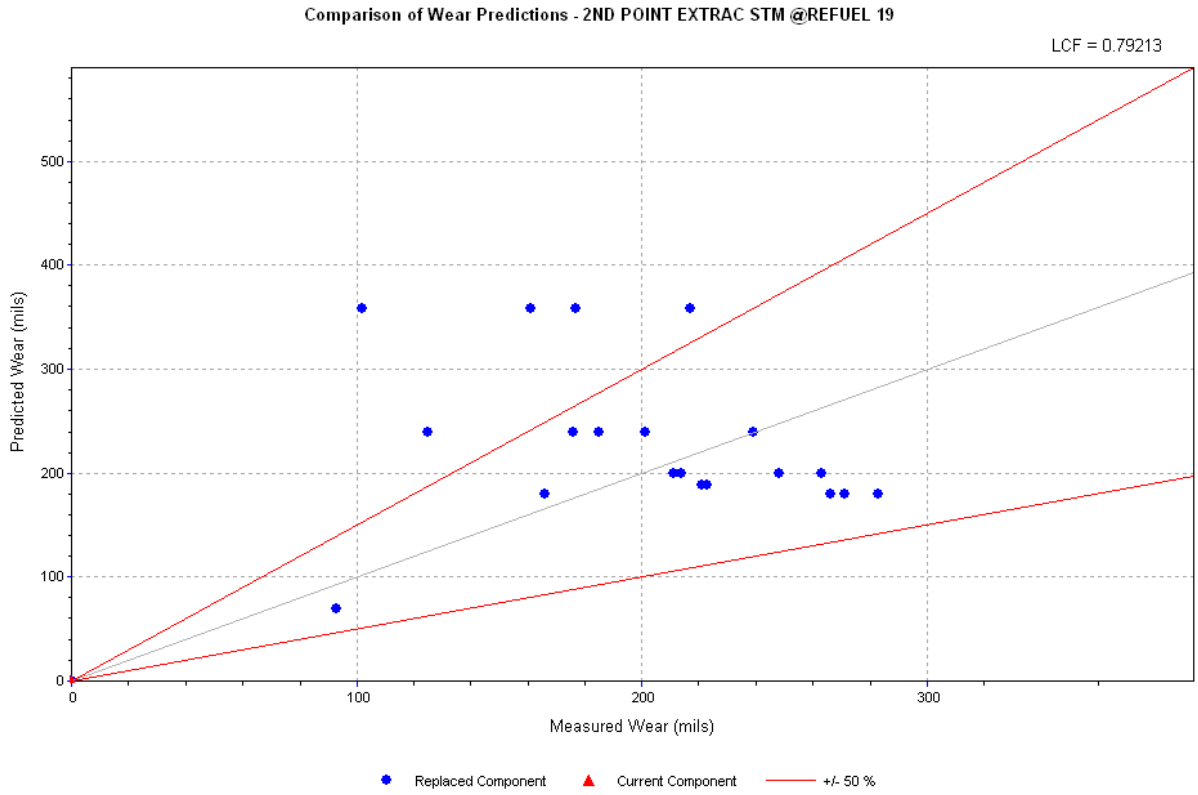
Appendix J

Wear Plots (with LCF values)

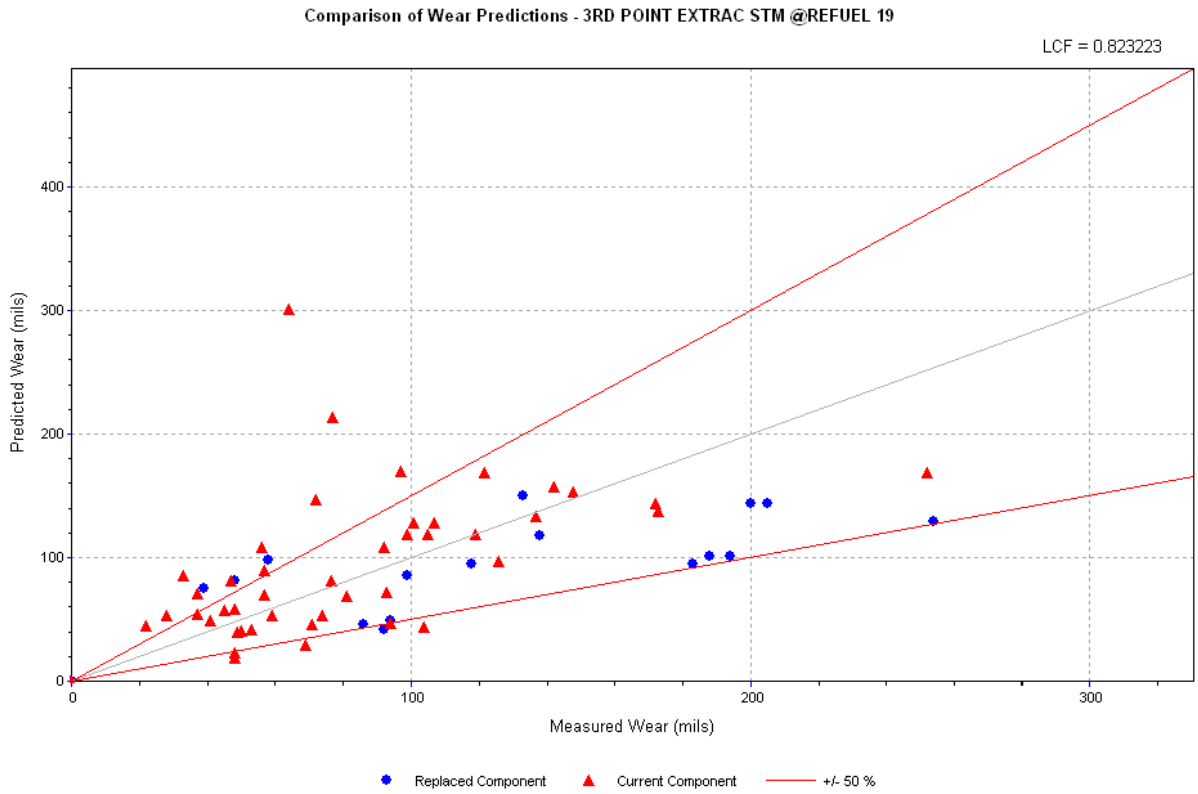
Plot J.1: 1ST POINT EXTRAC STM



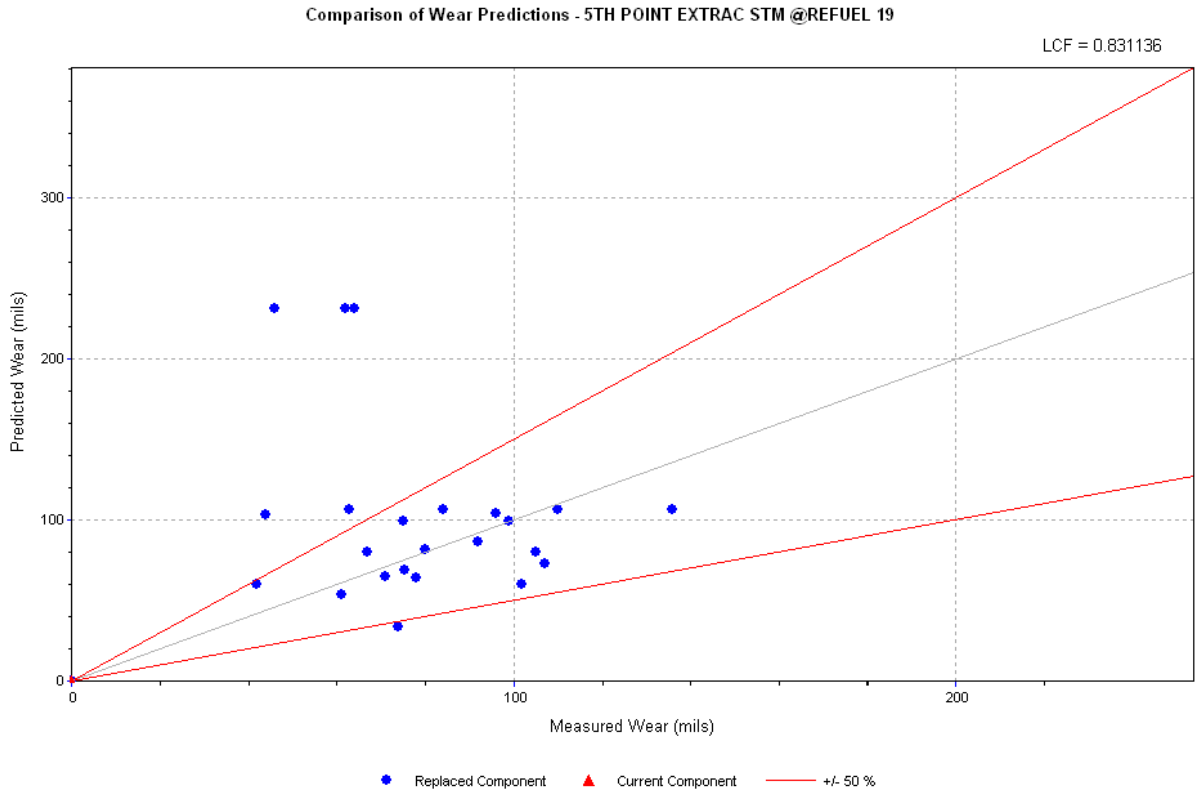
Plot J.2: 2ND POINT EXTRAC STM



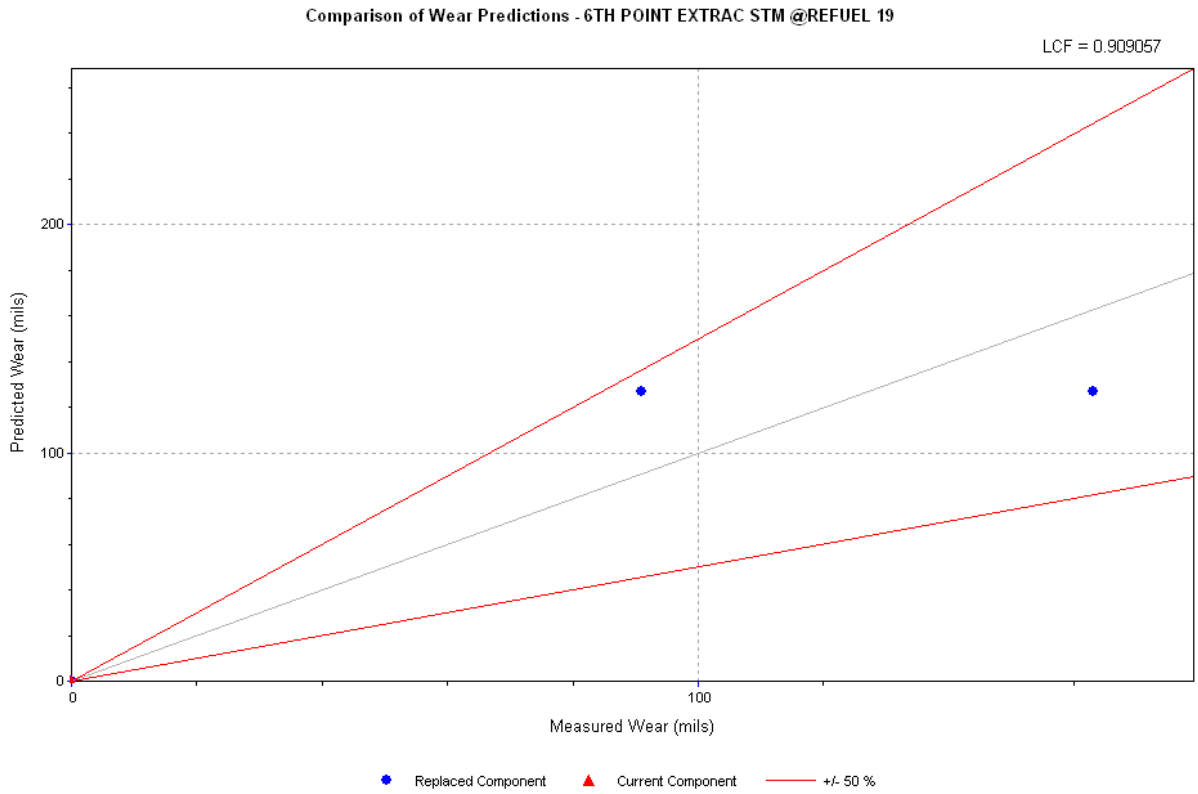
Plot J.3: 3RD POINT EXTRAC STM



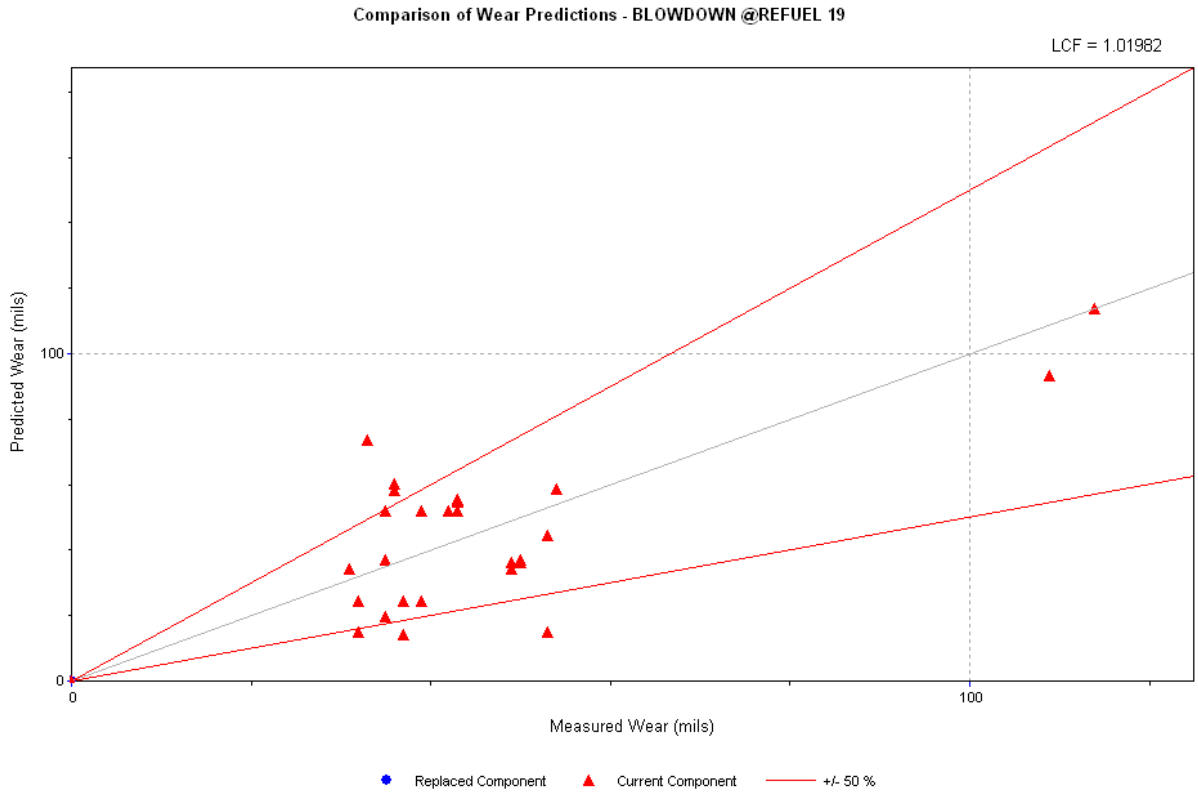
Plot J.4: 5TH POINT EXTRAC STM



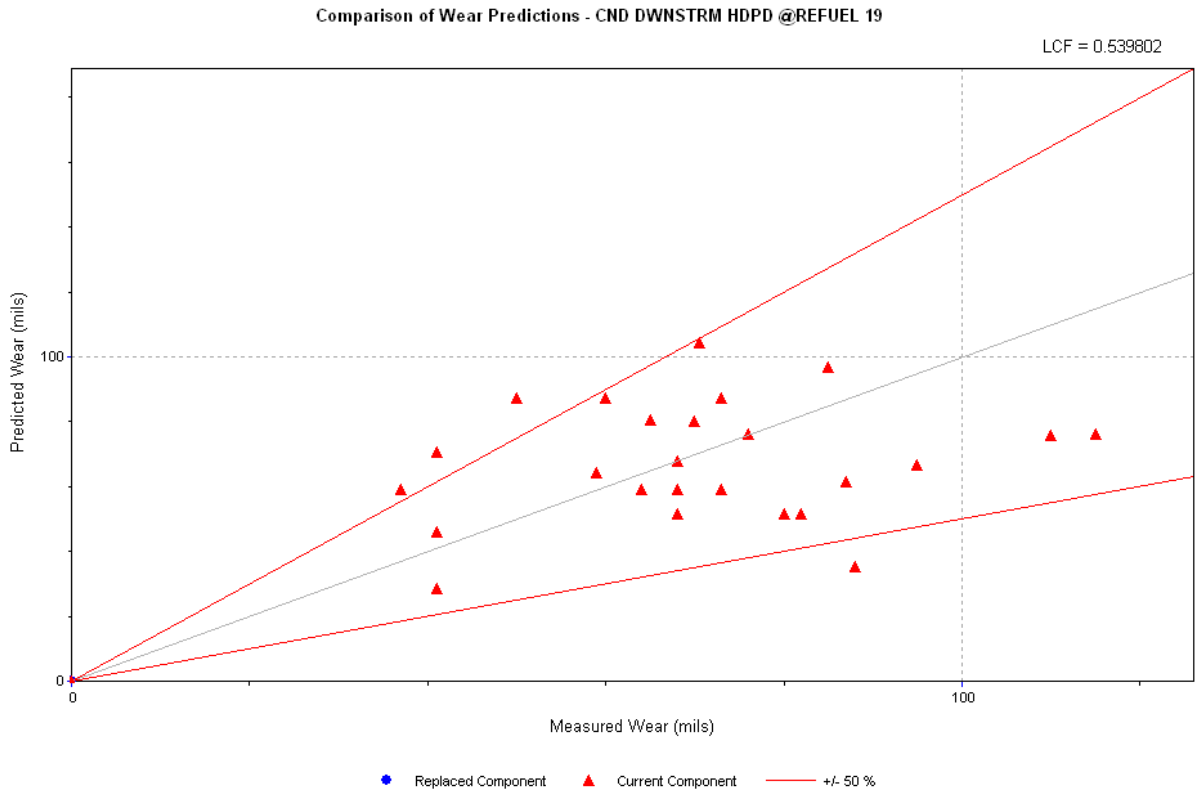
Plot J.5: 6TH POINT EXTRAC STM



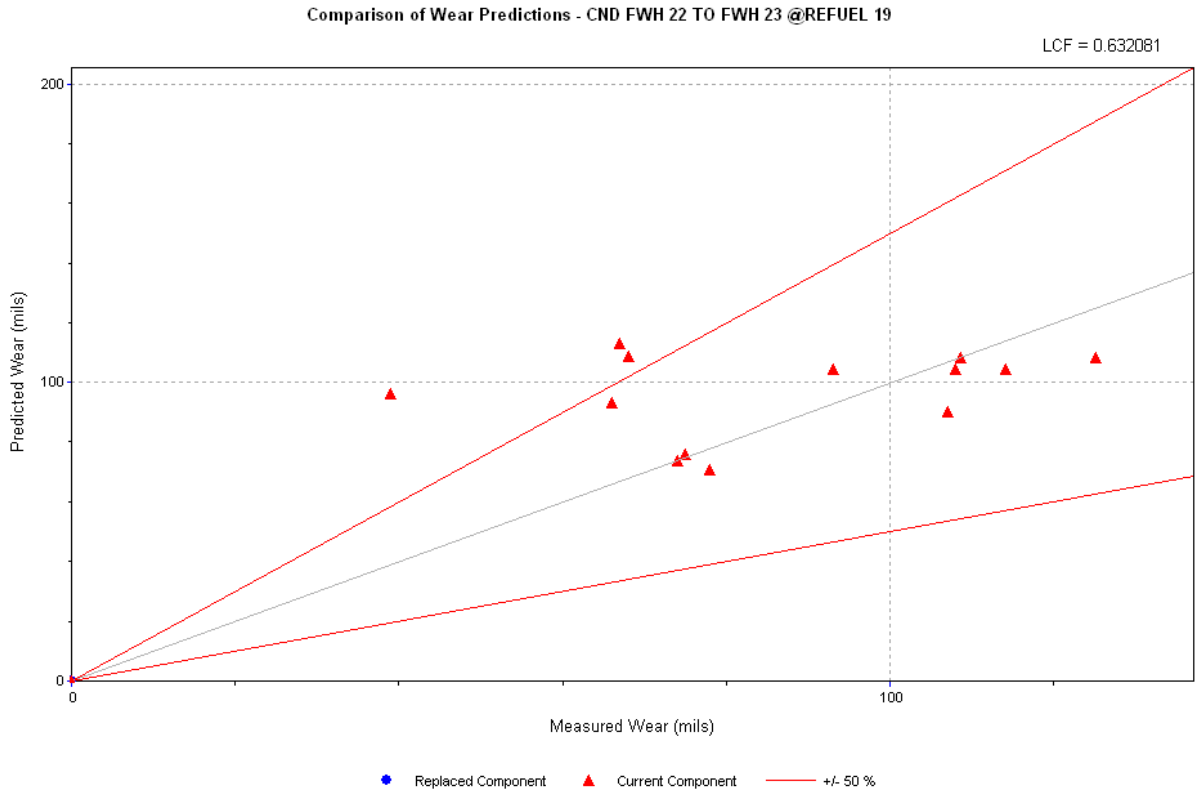
Plot J.6: BLOWDOWN



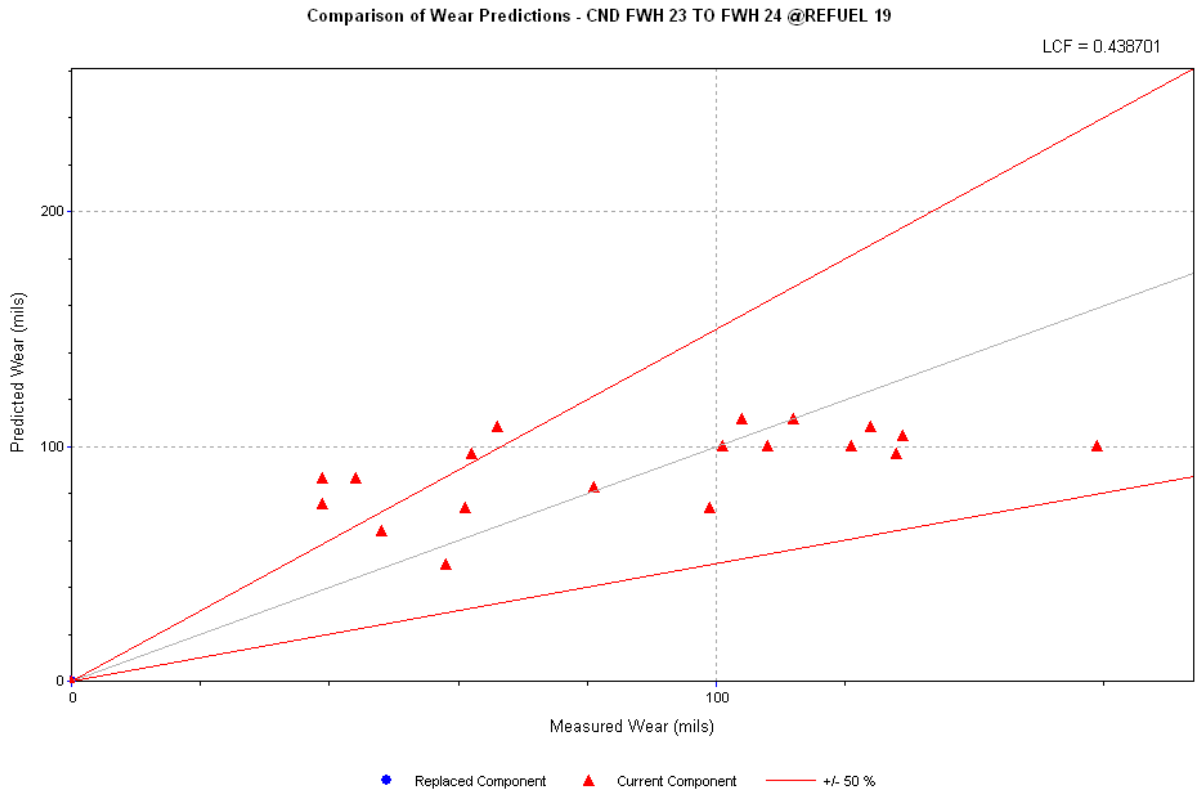
Plot J.7: CND DWNSTRM HDPD



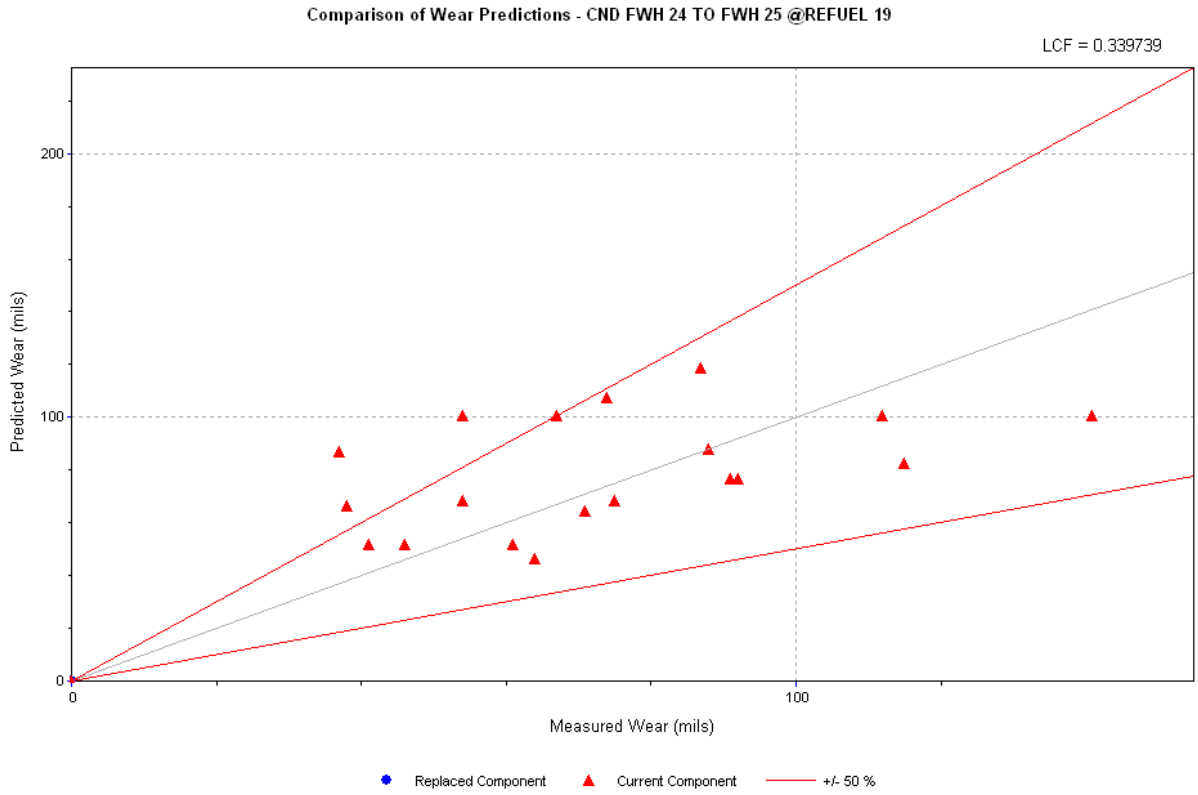
Plot J.8: CND FWH 22 TO FWH 23



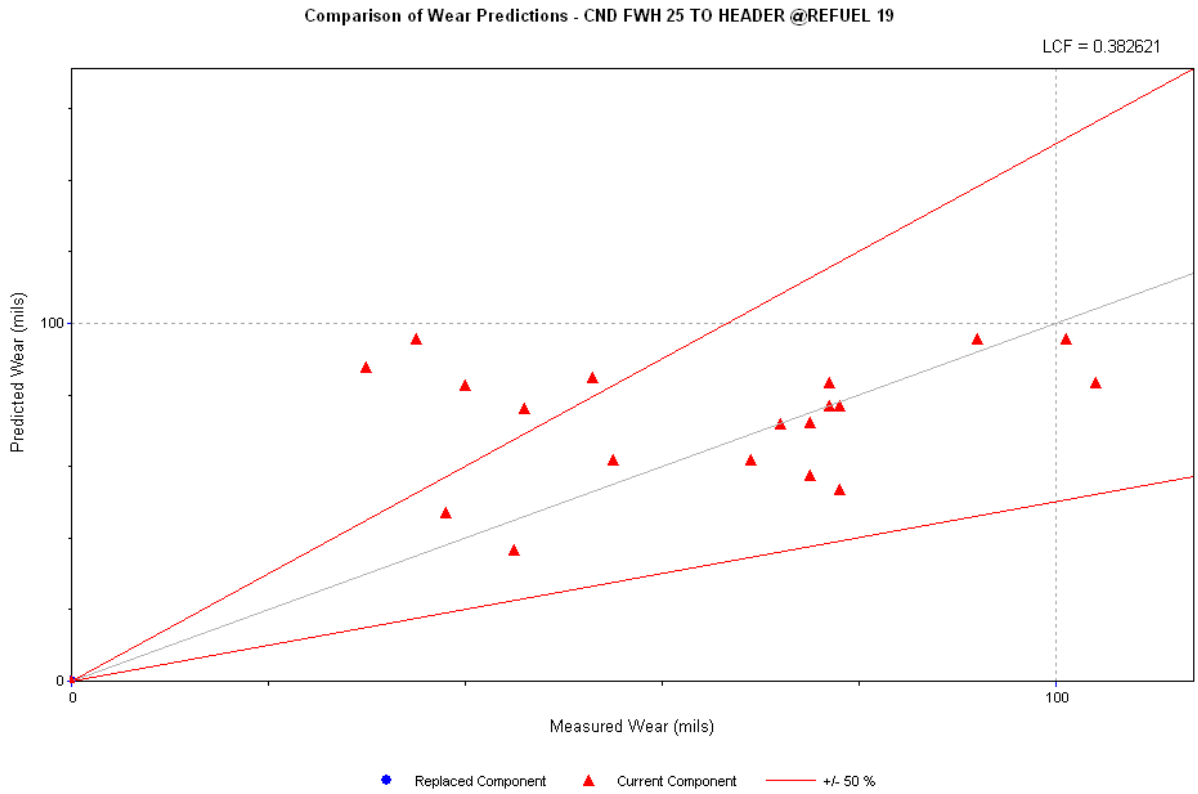
Plot J.9: CND FWH 23 TO FWH 24



Plot J.10: CND FWH 24 TO FWH 25

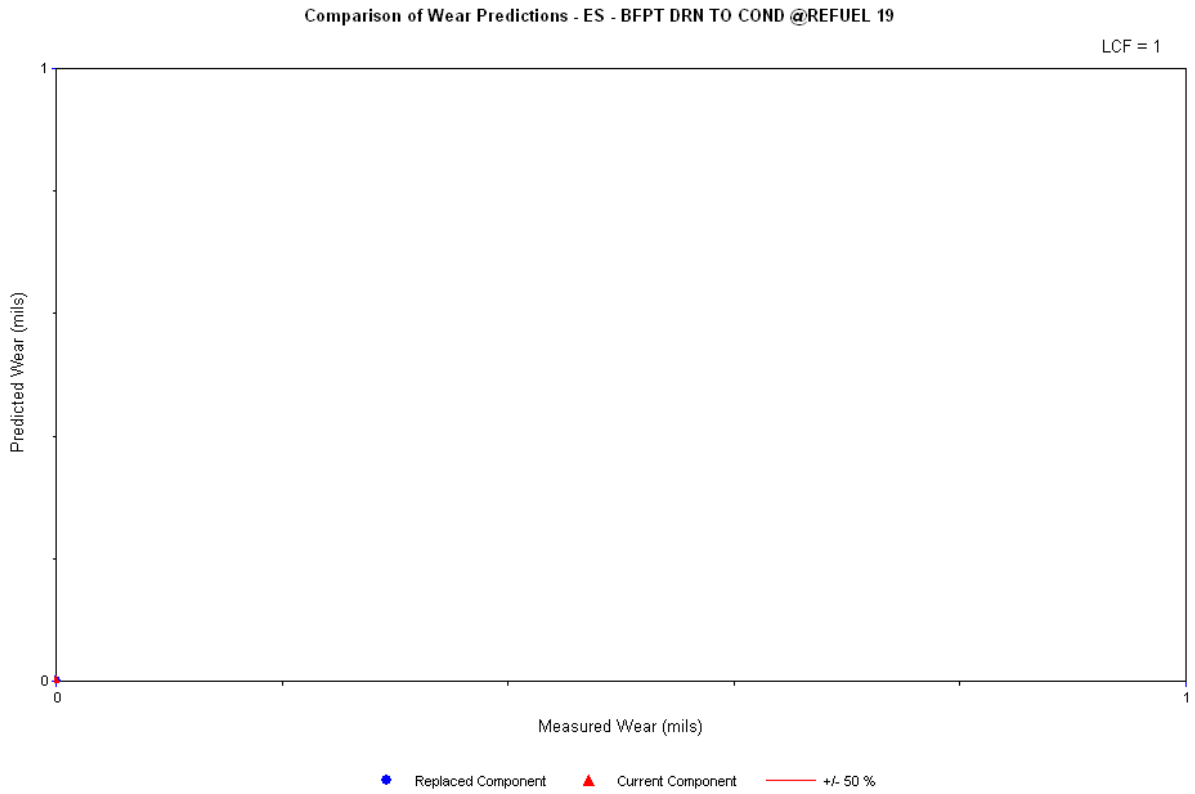


Plot J.11: CND FWH 25 TO HEADER

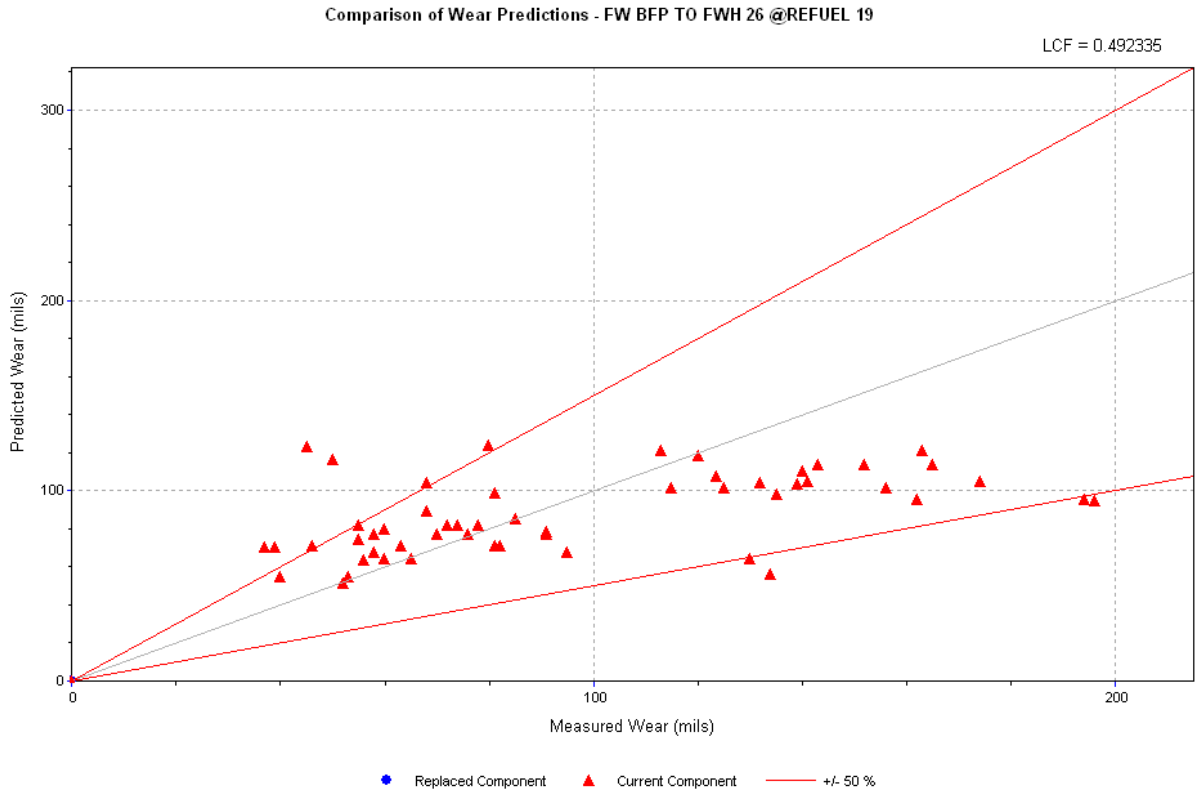


Plot J.12: CROSSUNDER

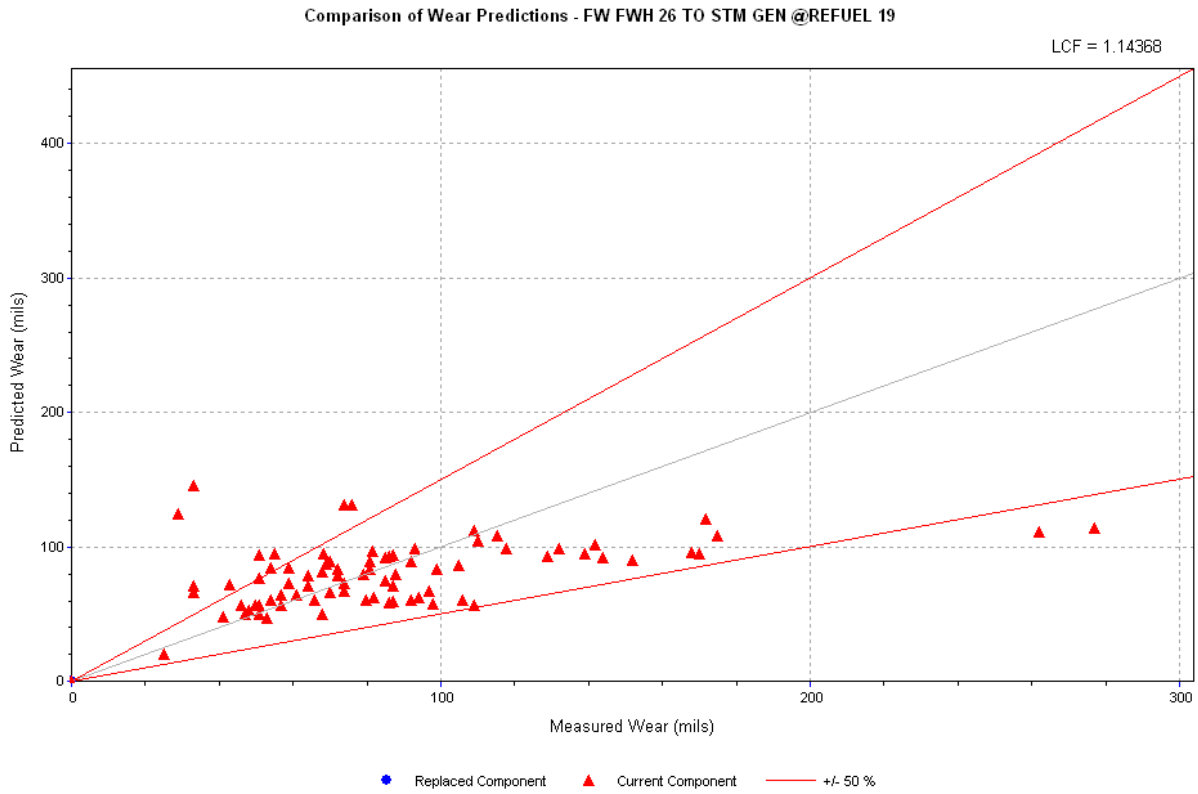
Plot J.13: ES – BFPT DRN TO COND



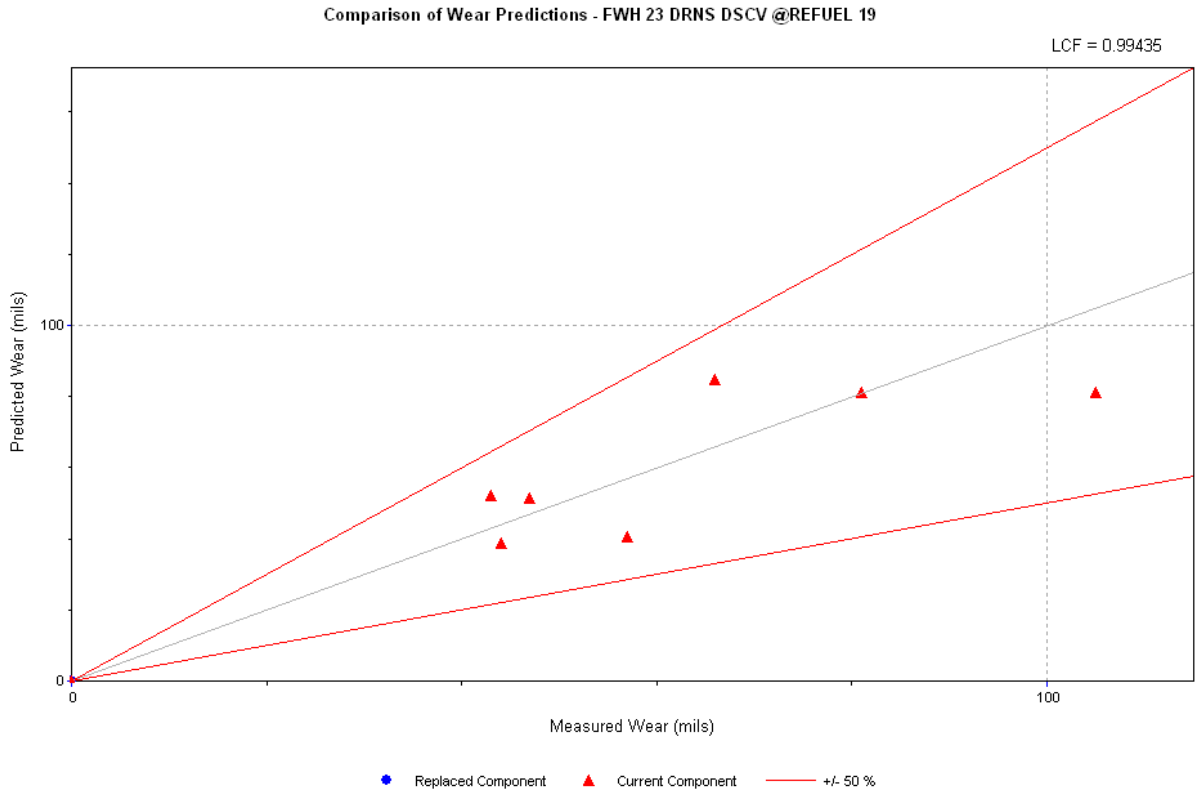
Plot J.14: FW BFP TO FWH 26



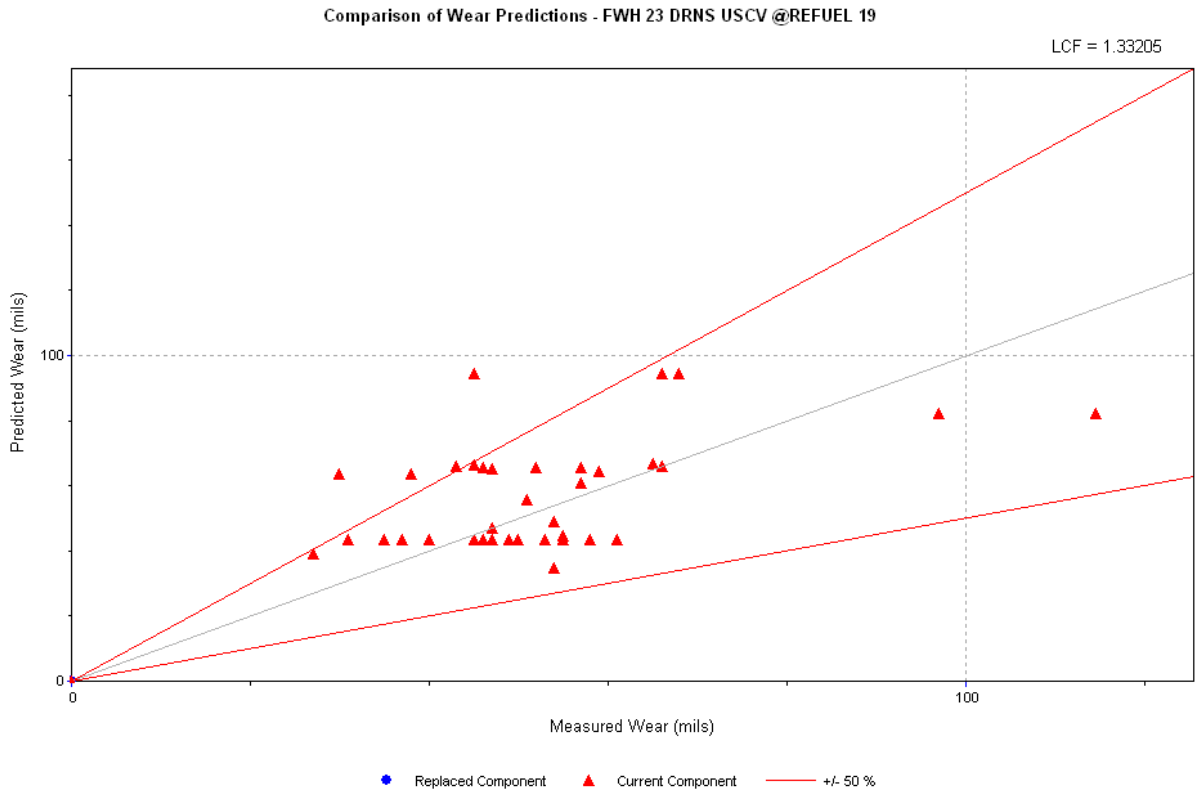
Plot J.15: FW FWH 26 TO STM GEN



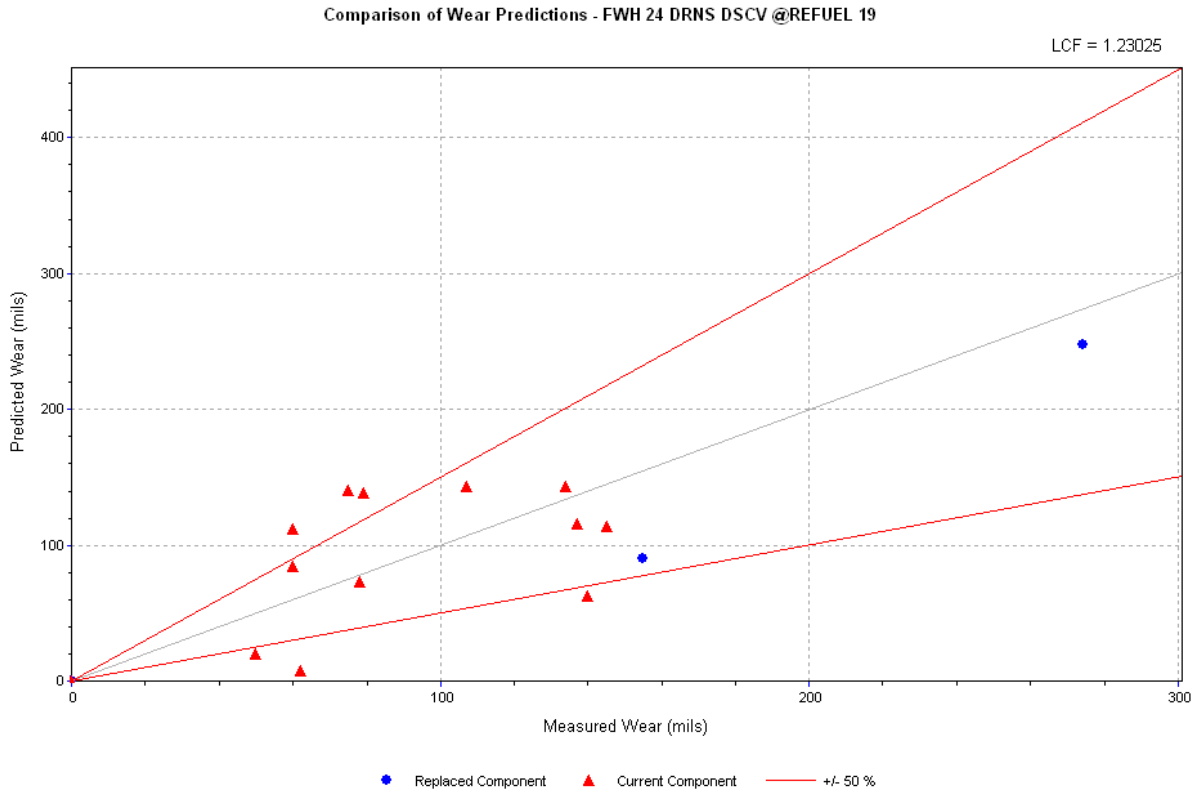
Plot J.16: FWH 23 DRNS DSCV



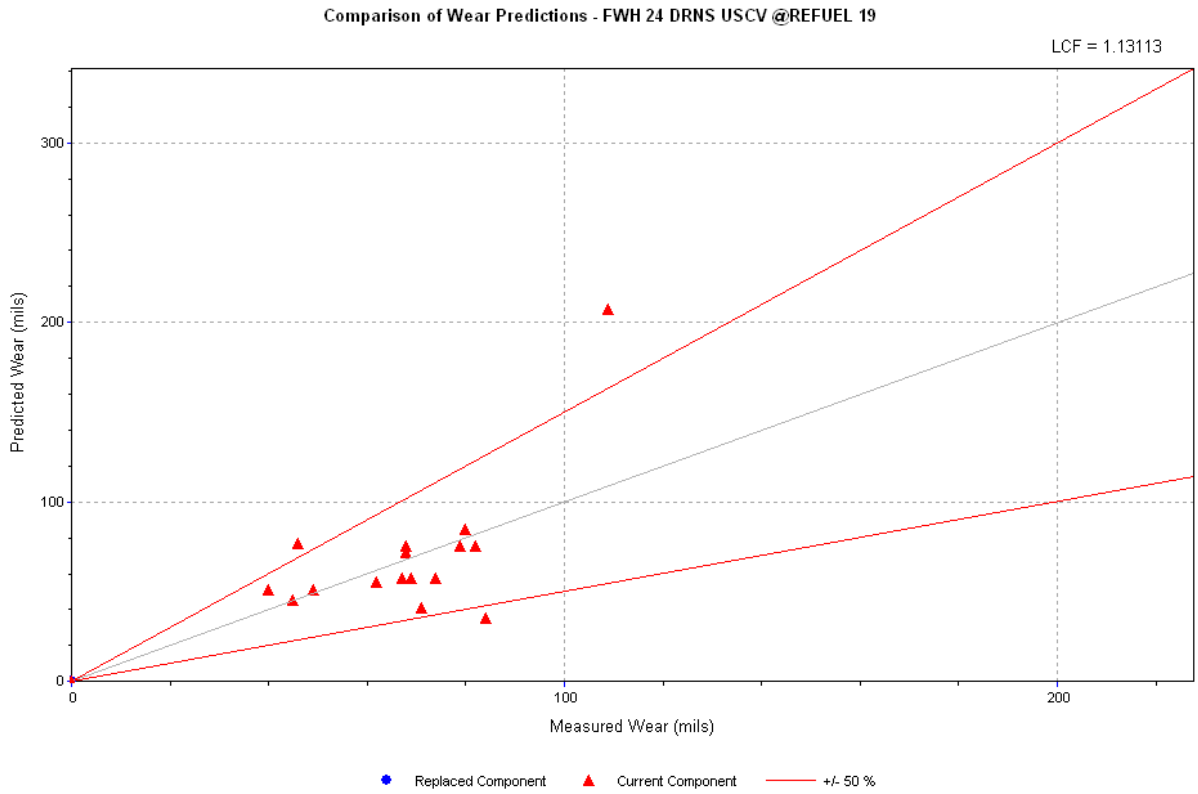
Plot J.17: FWH 23 DRNS USCV



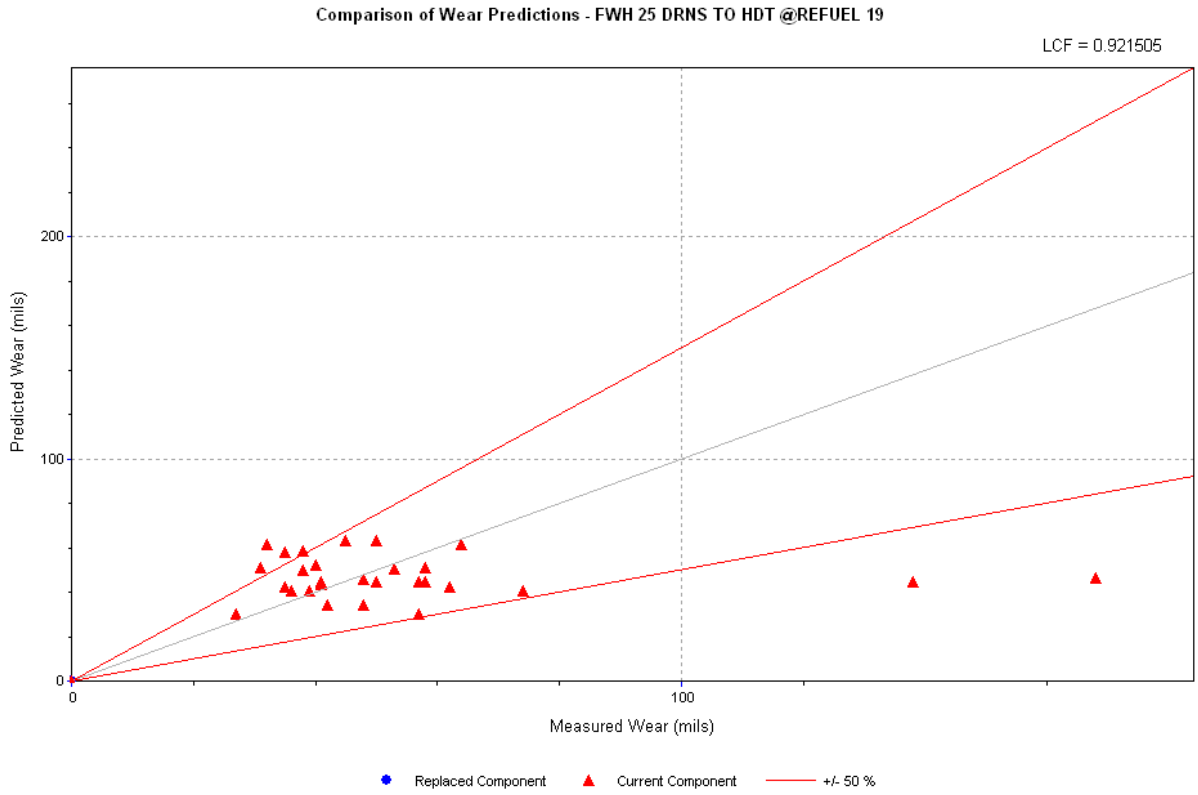
Plot J.18: FWH 24 DRNS DSCV



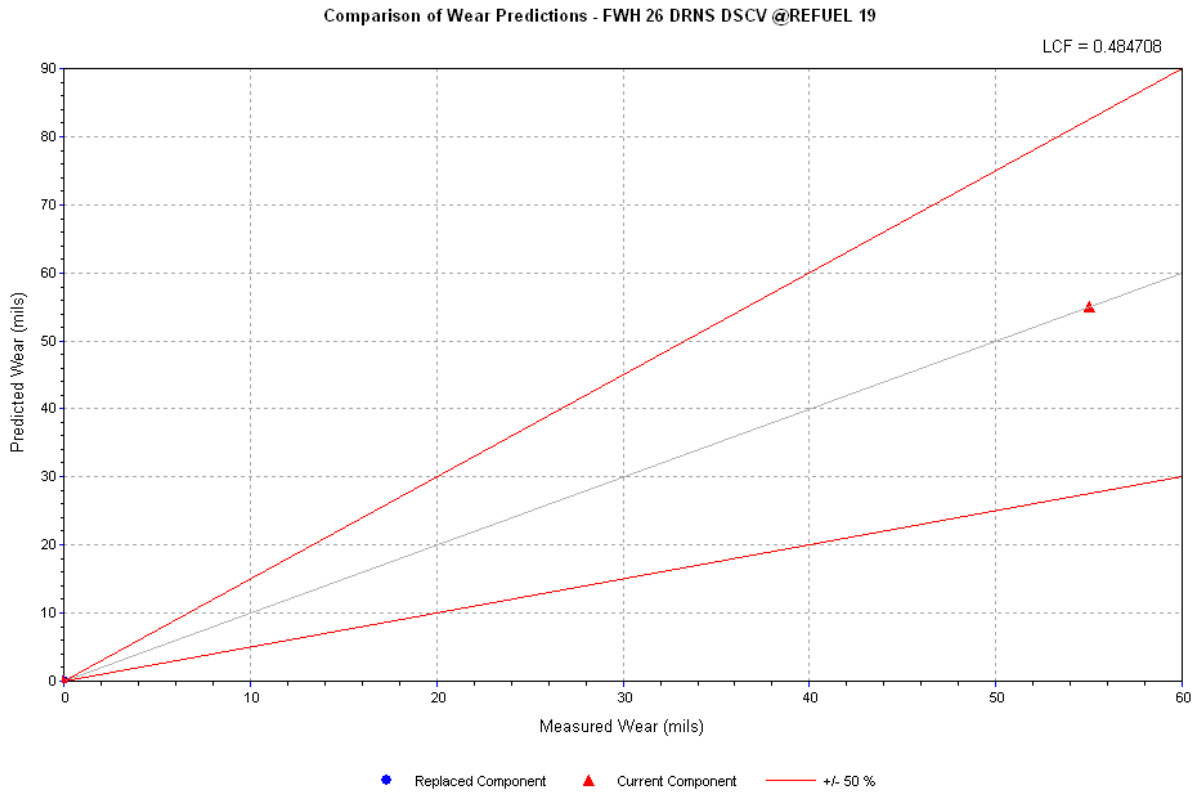
Plot J.19: FWH 24 DRNS USCV



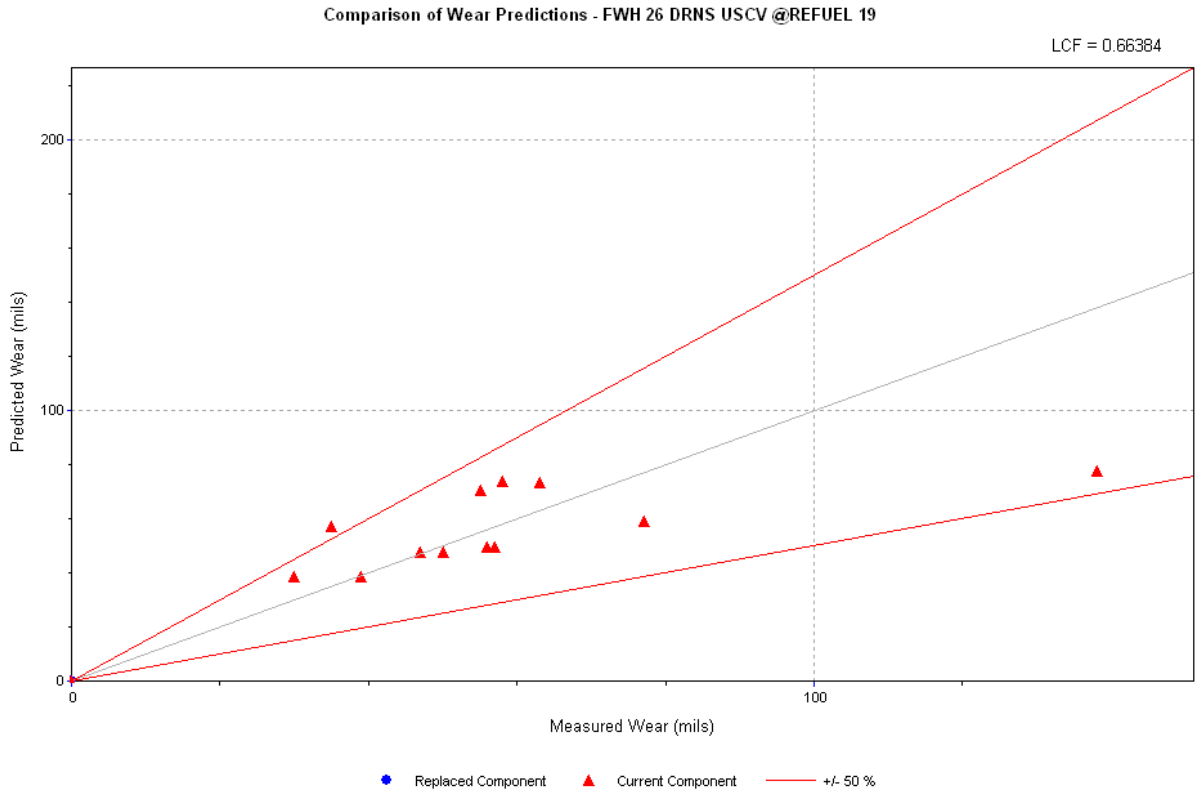
Plot J.20: FWH 25 DRNS TO HDT



Plot J.21: FWH 26 DRNS DSCV

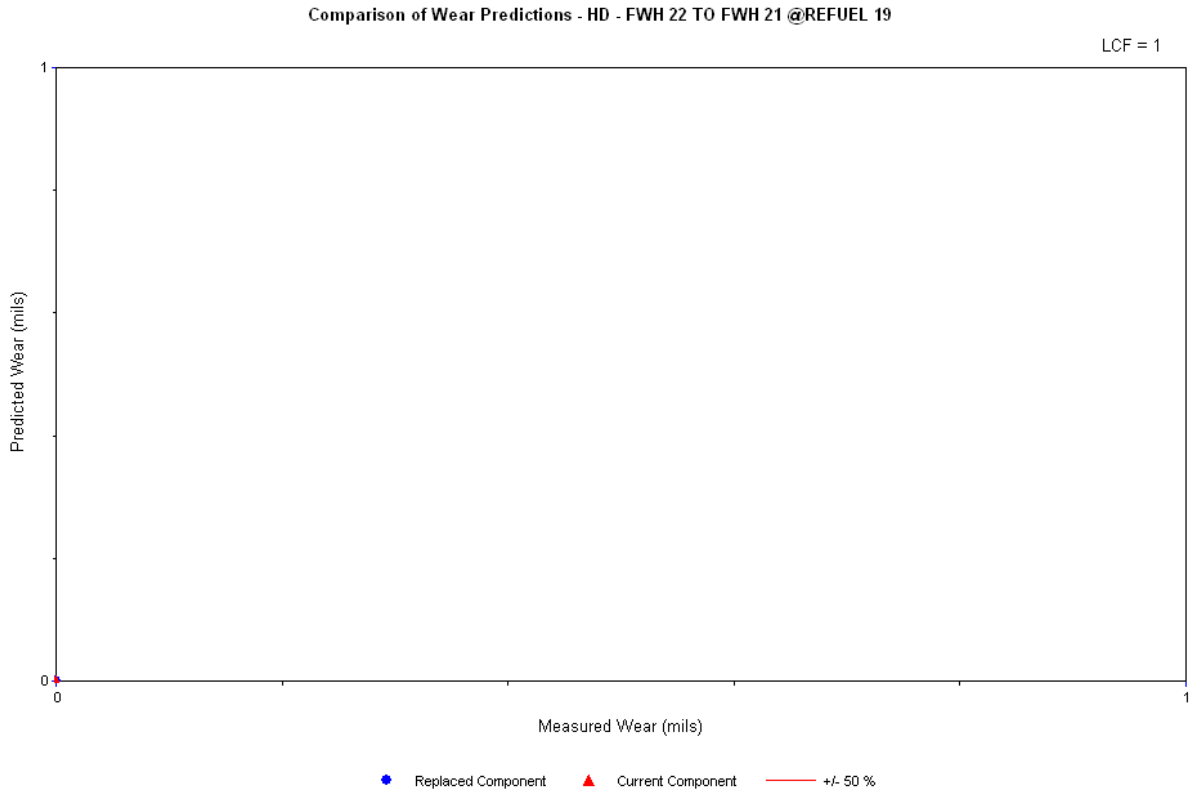


Plot J.22: FWH 26 DRNS USCV

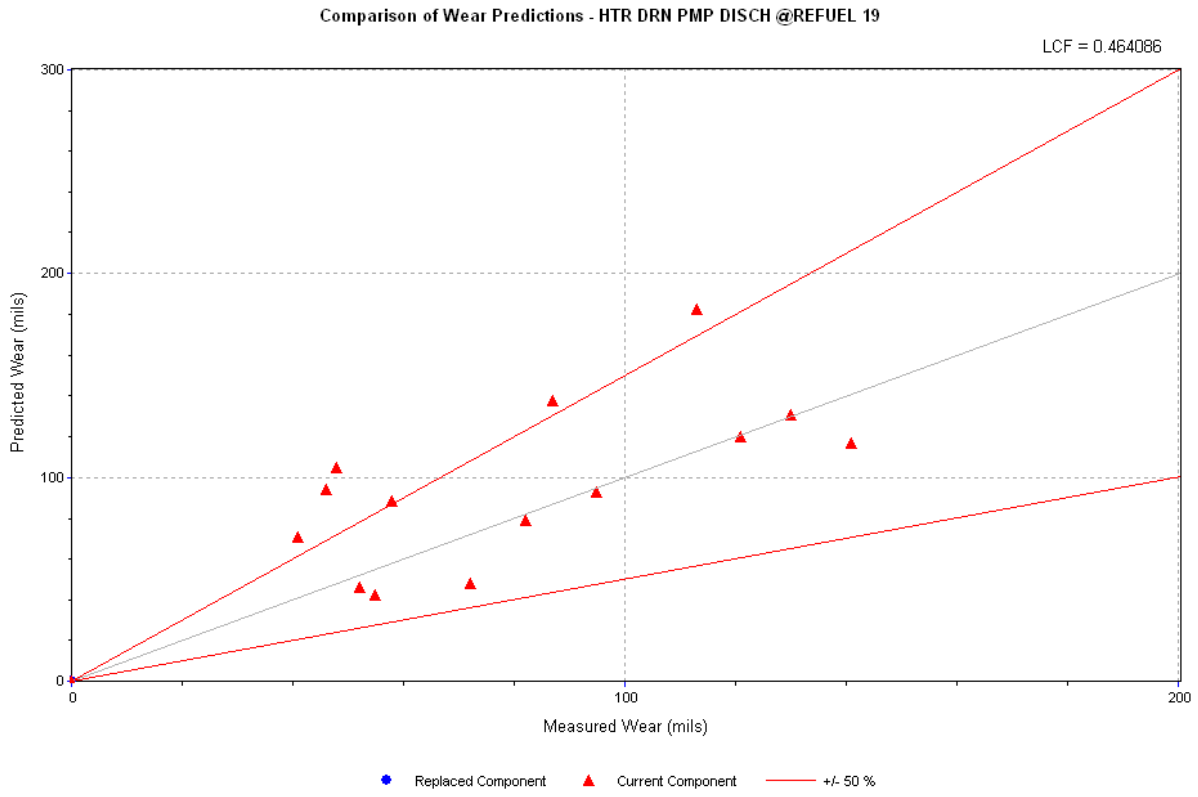


Plot J.23: HD – FWH 21 TO COND

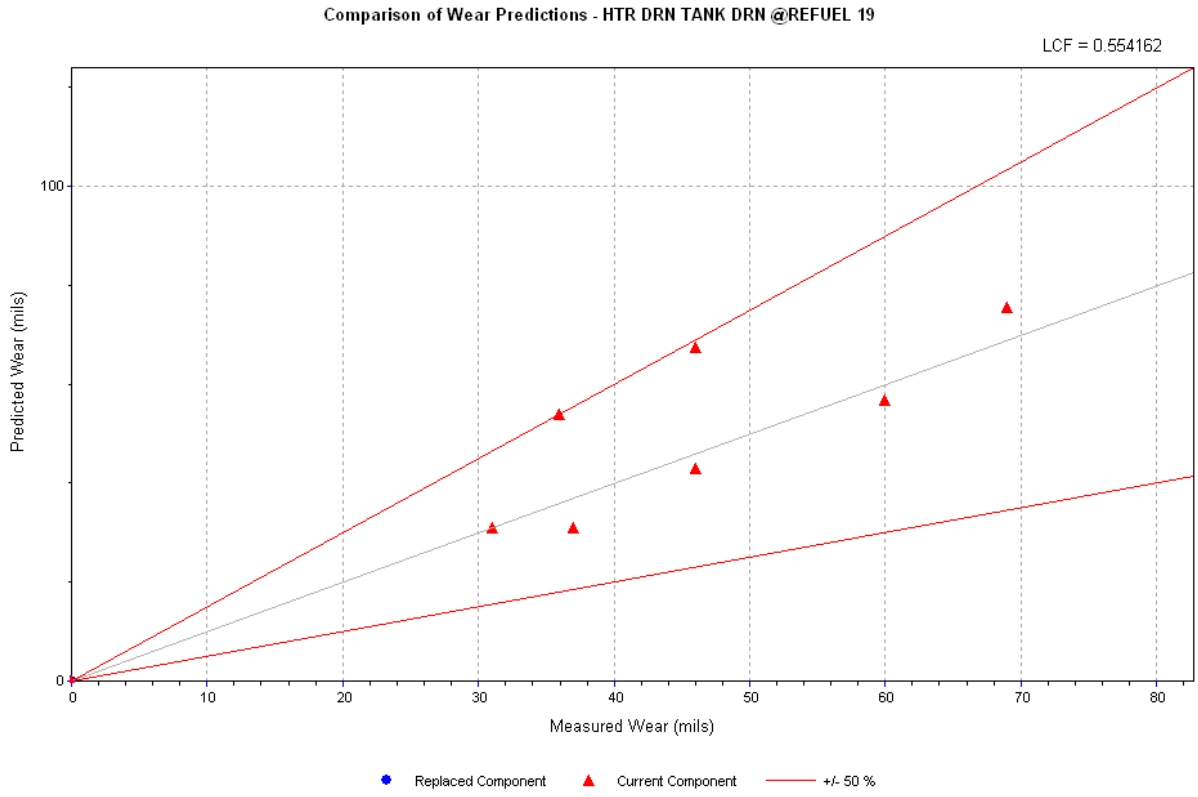
Plot J.24: HD – FWH 22 TO FWH 21



Plot J.25: HTR DRN PMP DISCH

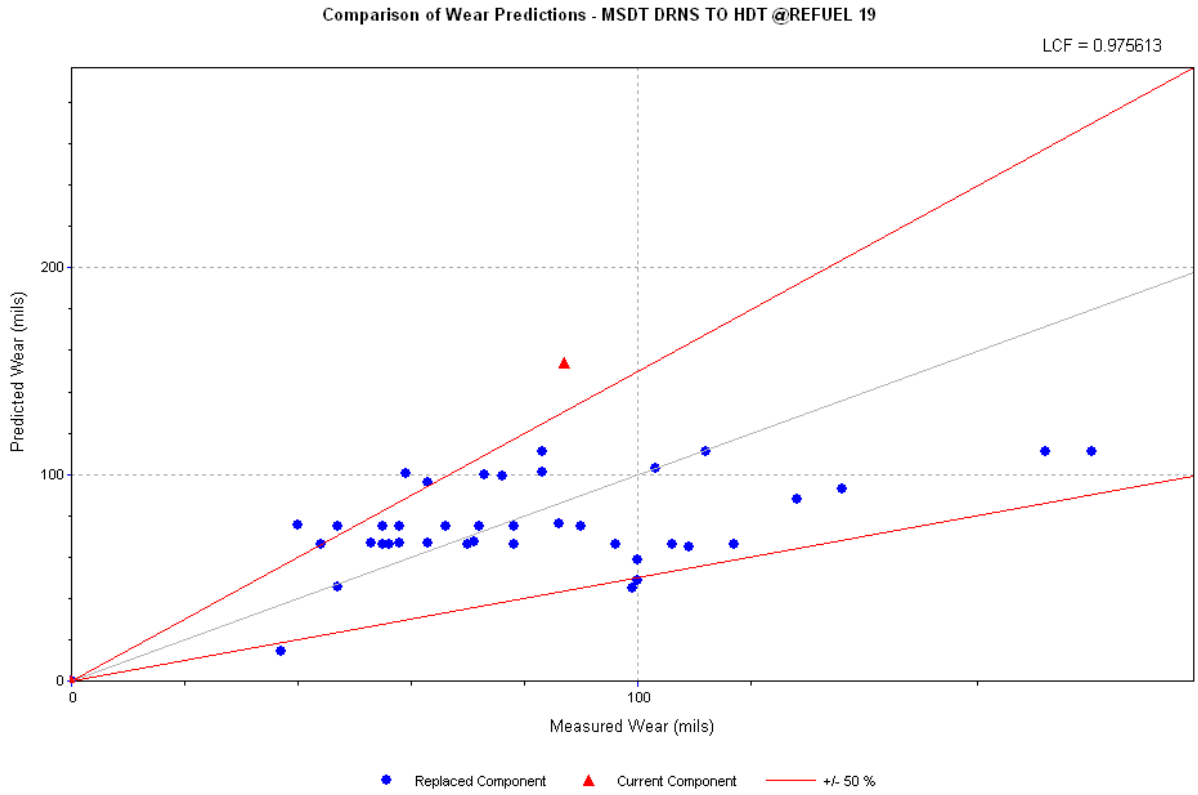


Plot J.26: HTR DRN TANK DRN

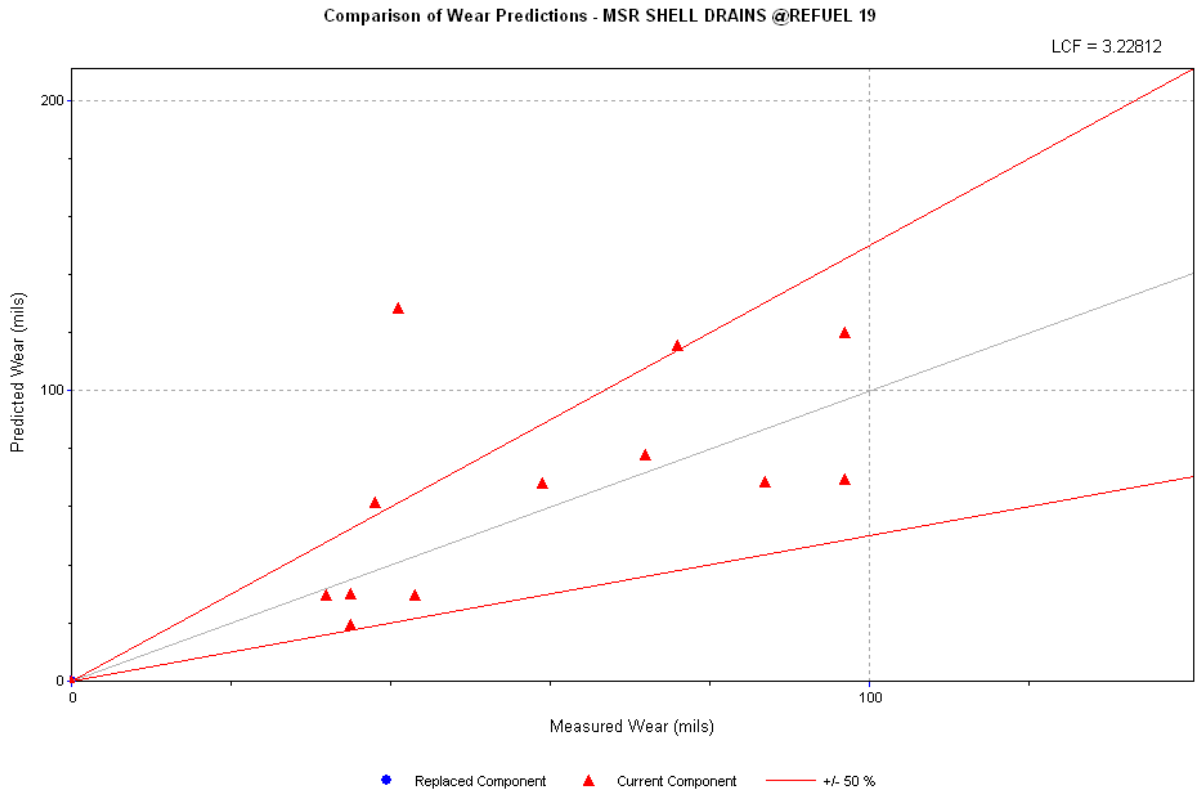


Plot J.27: MS – HP TURB TO MOPS

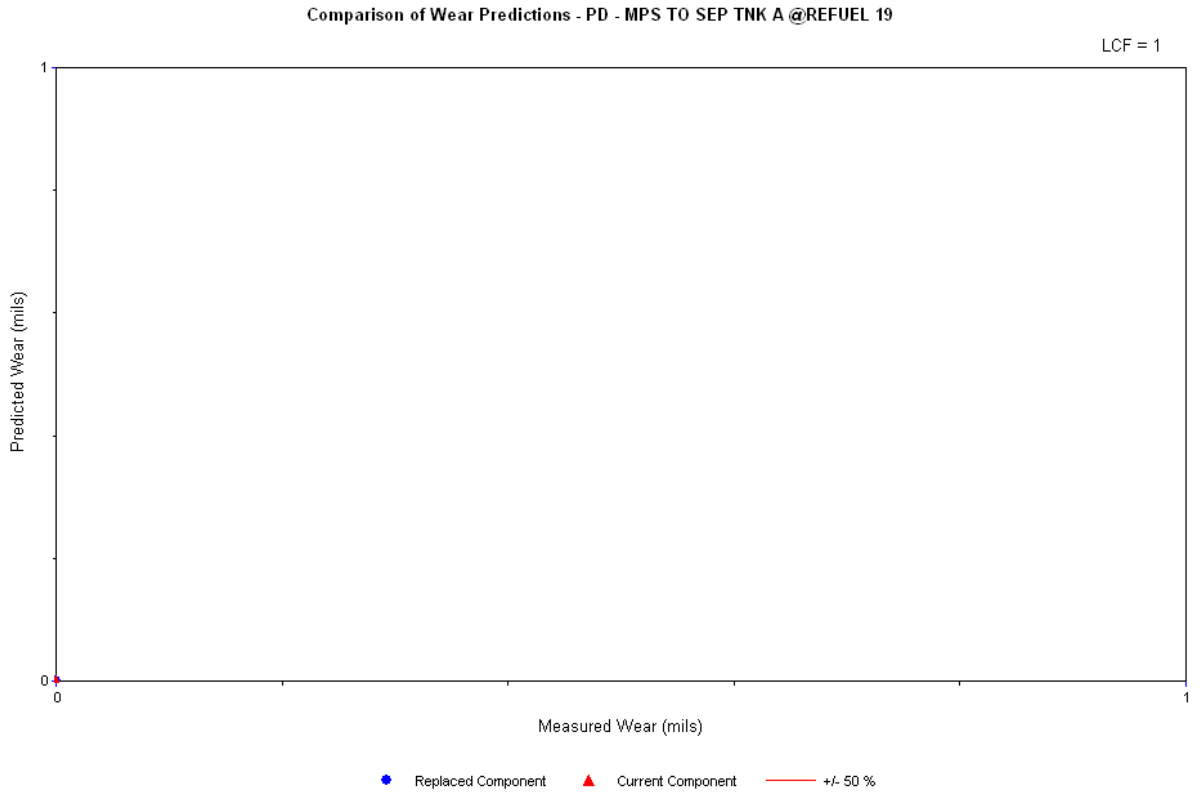
Plot J.28: MSDT DRNS TO HDT



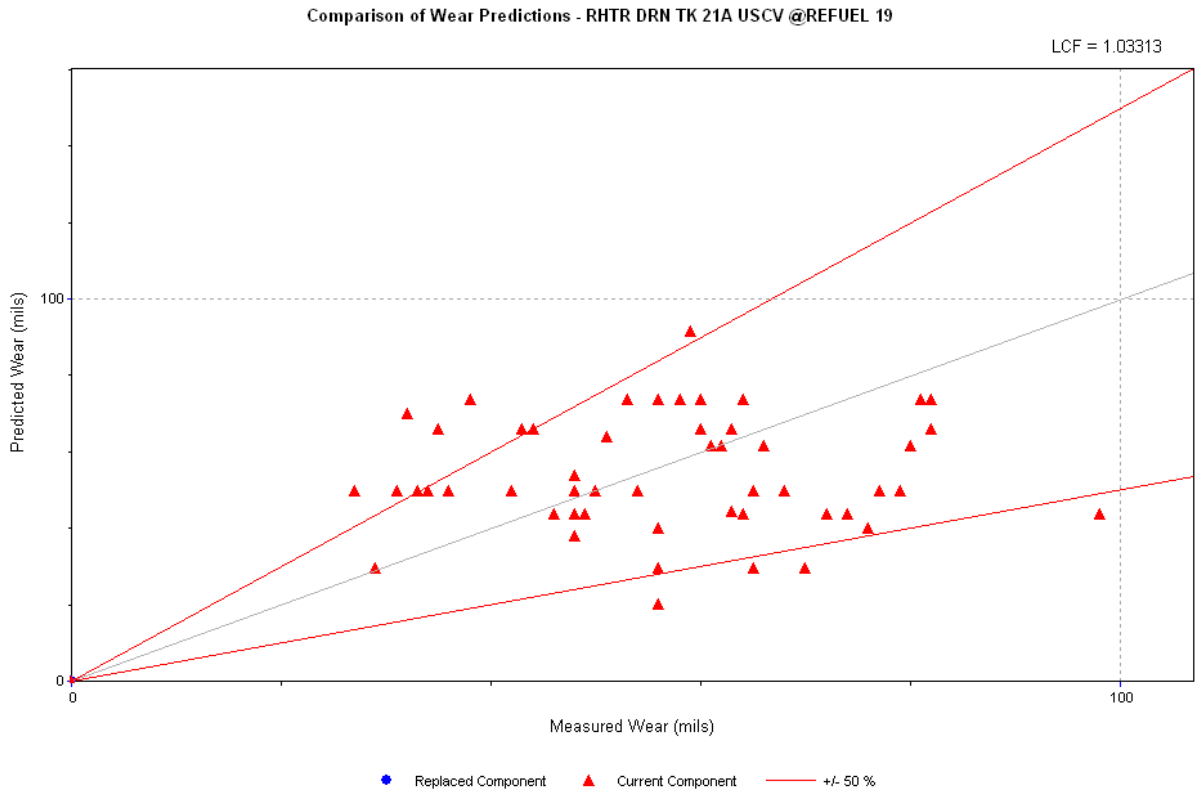
Plot J.29: MSR SHELL DRAINS



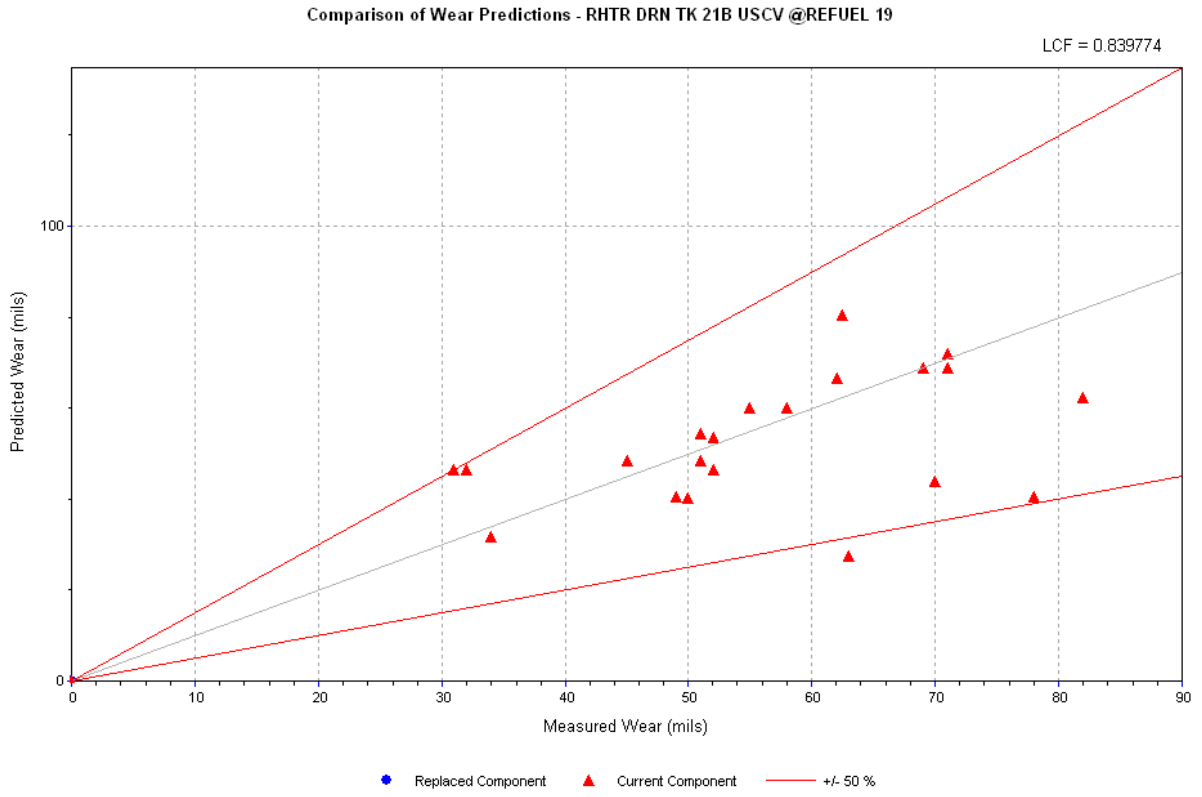
Plot J.30: PD – MPS TO SEP TNK A



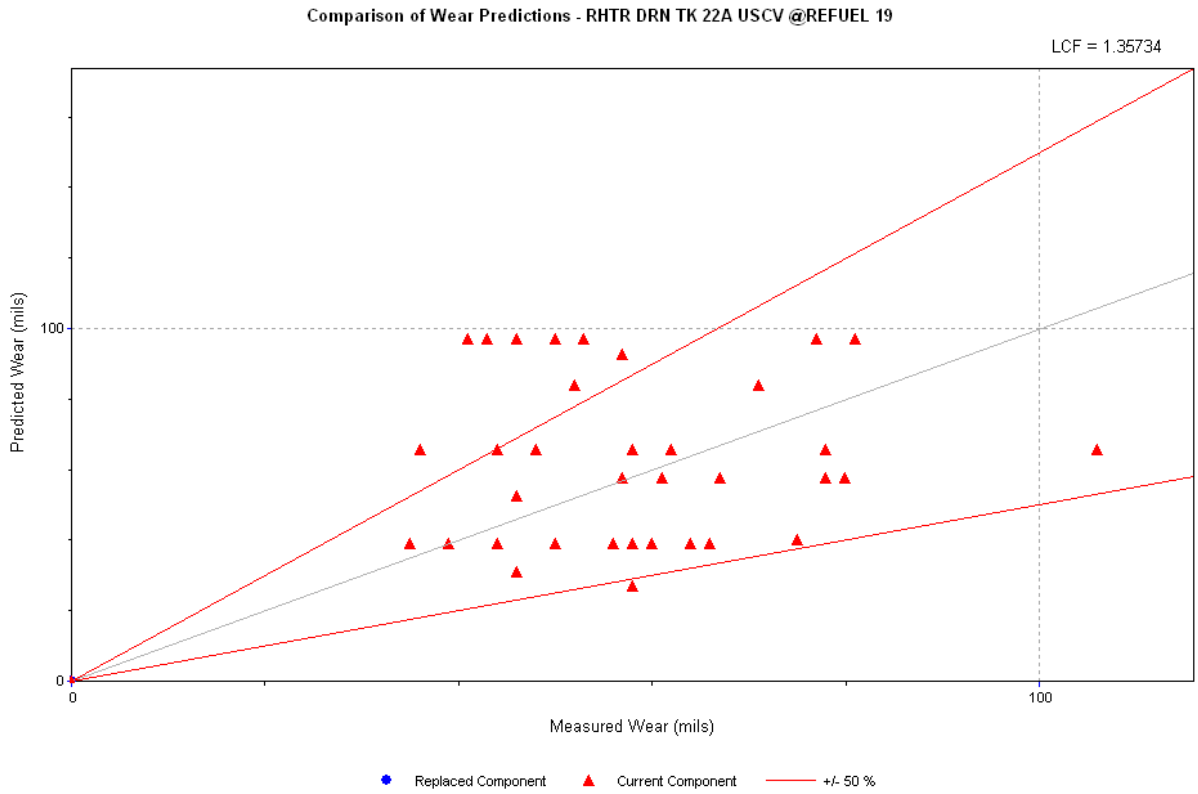
Plot J.31: RHTR DRN TK 21A USCV



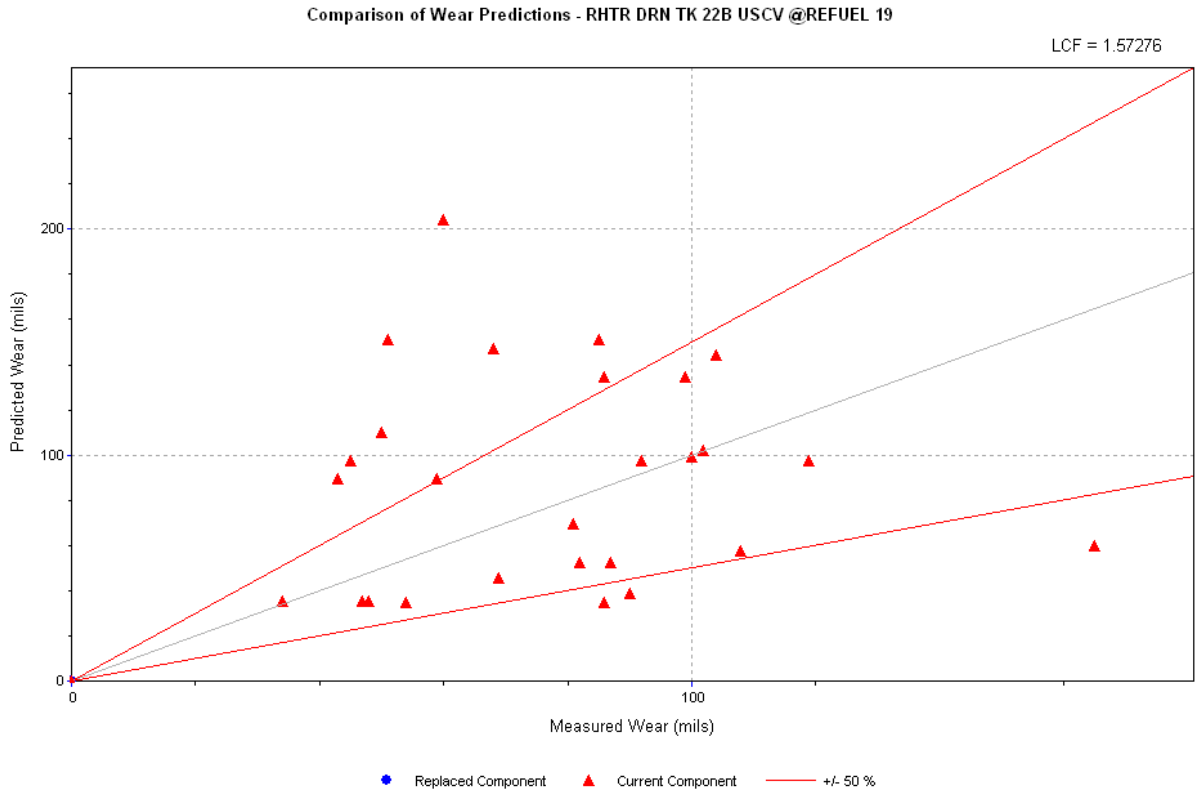
Plot J.32: RHTR DRN TK 21B USCV



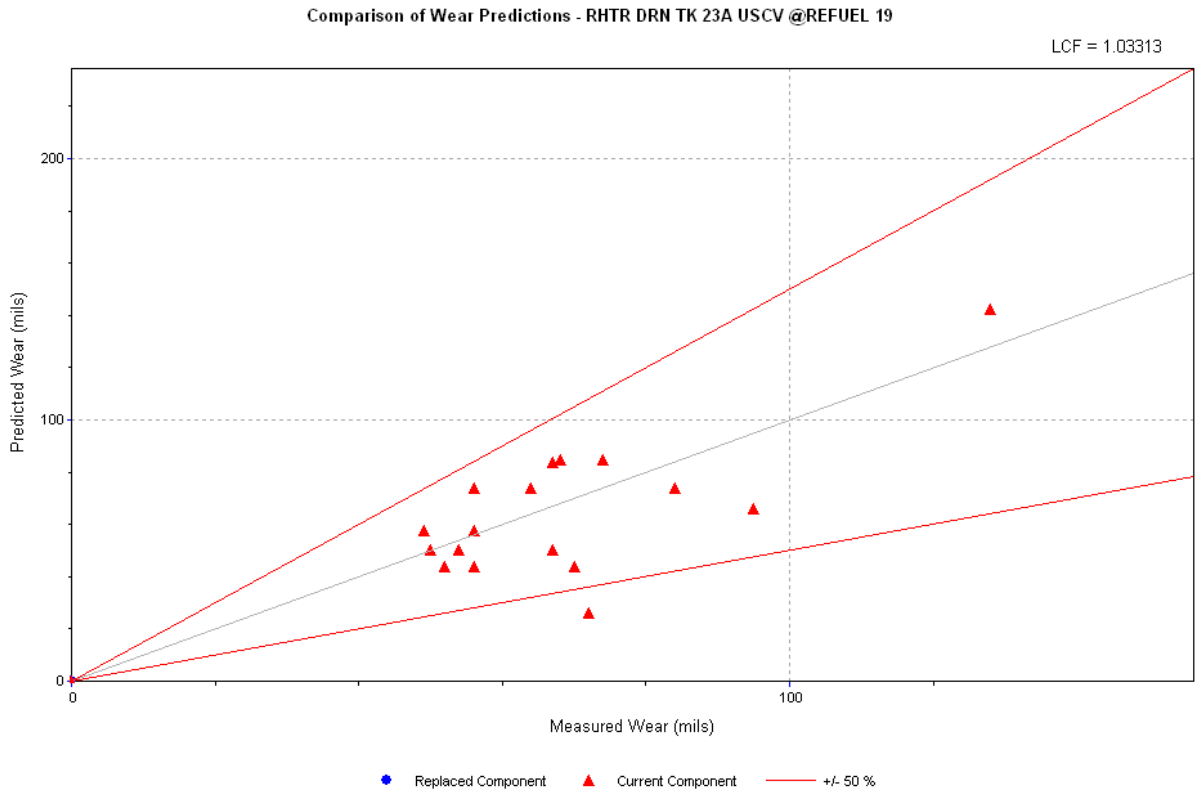
Plot J.33: RHTR DRN TK 22A USCV



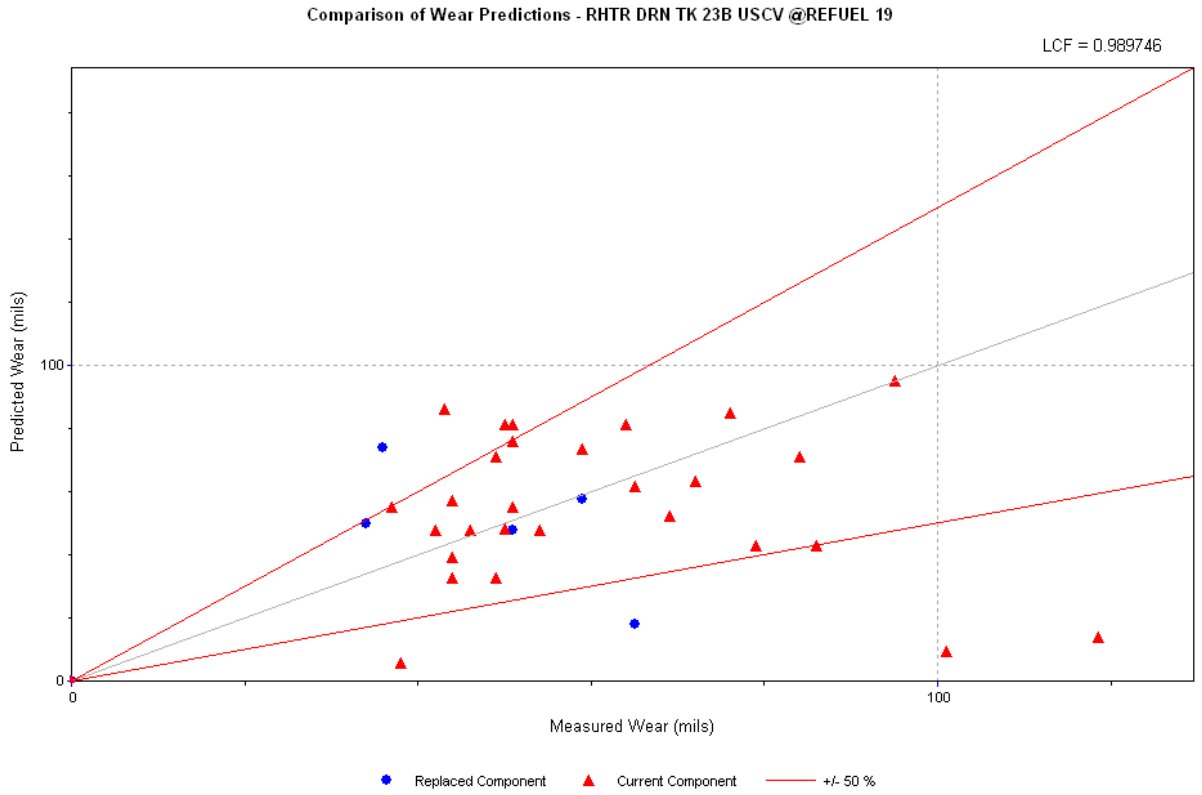
Plot J.34: RHTR DRN TK 22B USCV



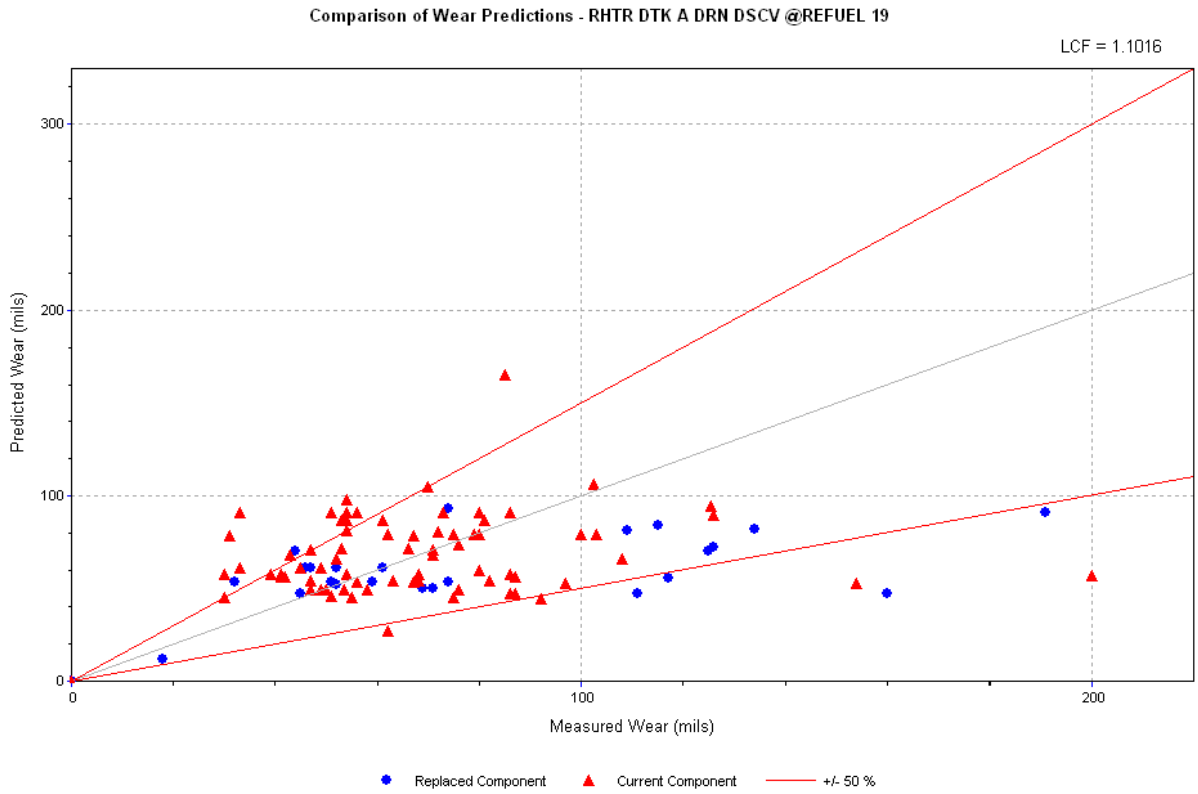
Plot J.35: RHTR DRN TK 23A USCV



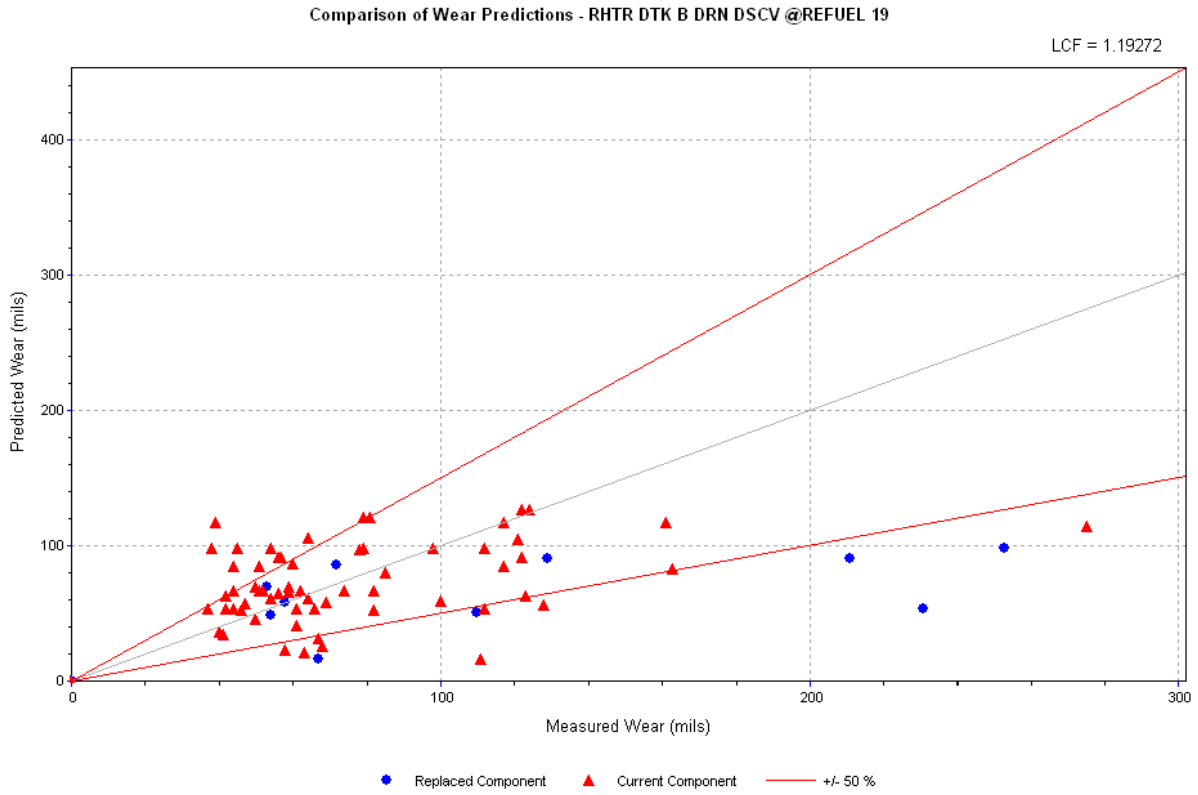
Plot J.36: RHTR DRN TK 23B USCV



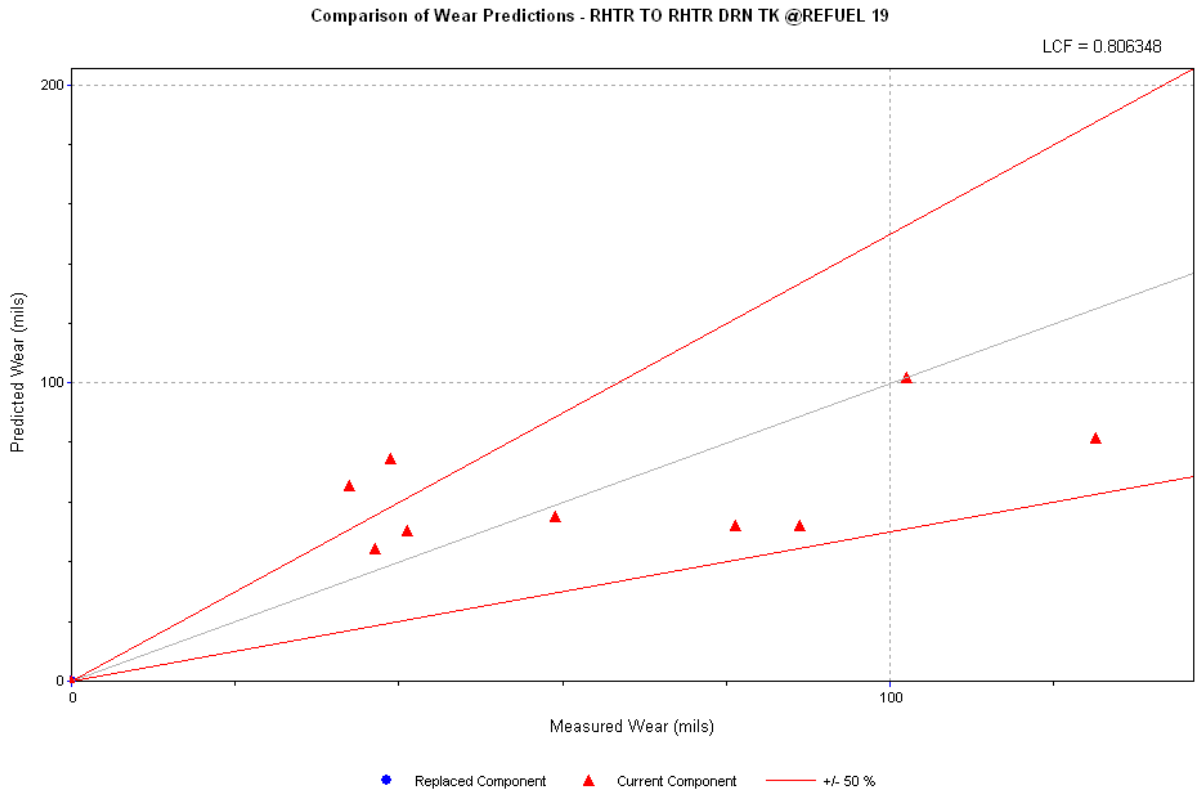
Plot J.37: RHTR DTK A DRN DSCV



Plot J.38: RHTR DTK B DRN DSCV



Plot J.39: RHTR TO RHTR DRN TK



Appendix K

Components with Negative Time to Tcrit

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
3RD POINT EXTRAC STM	ES1-3-3RDPT ES to FWH 23A	3EXA-14	**No**	An inspection is recommended on the tee to determine validity of CHECWORKS prediction. An inspection for this component has not been planned for outage 2R19.
3RD POINT EXTRAC STM	ES2-3-3RDPT ES to FWH 23B	3EXB-10	**No**	An inspection is recommended on the tee to determine validity of CHECWORKS prediction. An inspection for this component has not been planned for outage 2R19.
3RD POINT EXTRAC STM	ES1-2-3RDPT ES to FWH 23A	3EXA-22N	**No**	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
3RD POINT EXTRAC STM	ES1-1-3RDPT ES to FWH 23A	3EXA-18N	**No**	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
3RD POINT EXTRAC STM	ES2-1-3RDPT ES to FWH 23B	3EXB-14N	**No**	An inspection on this component is planned for outage 2R19.
3RD POINT EXTRAC STM	ES2-2-3RDPT ES to FWH 23B	3EXB-18N	**No**	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
3RD POINT EXTRAC STM	ES3-1-3RDPT ES to FWH 23C	3EXC-18N	**No**	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
5TH POINT EXTRAC STM	ES7-1-5THPT ES to FWH 25ABC	5EX-VALVE-5EX-1	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
5TH POINT EXTRAC STM	ES7-1-5THPT ES to FWH 25ABC	5EX-VALVE-5EX-3	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
5TH POINT EXTRAC STM	ES7-1-5THPT ES to FWH 25ABC	5EX-VALVE-5EX-4	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
5TH POINT EXTRAC STM	ES7-2-5THPT ESHDR to FWH 25C	5EX-VALVE 5EX-5-2	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
5TH POINT EXTRAC STM	ES7-4-5THPT ESHDR to FWH 25B	5EX-VALVE 5EX-5-1	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
5TH POINT EXTRAC STM	ES7-5-5THPT ESHDR to FWH 25A	5EX-VALVE 5EX-5	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
6TH POINT EXTRAC STM	ES8-3-6THPT ESHDR to FWH 26	6EX-VALVE-6EX-1	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
6TH POINT EXTRAC STM	ES8-3-6THPT ESHDR to FWH 26	6EX-VALVE-6EX-3	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
6TH POINT EXTRAC STM	ES8-3-6THPT ESHDR to FWH 26	6EX-VALVE-6EX-4	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
6TH POINT EXTRAC STM	ES8-4-6THPT ESHDR to FWH 26C	6EX-VALVE-6EX-5-2	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
6TH POINT EXTRAC STM	ES8-6-6THPT ESHDR to FWH 26B	6EX-VALVE-6EX-5-1	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
6TH POINT EXTRAC STM	ES8-7-6THPT ESHDR to FWH 26A	6EX-VALVE-6EX-5	**No**	The dowstream component was replaced. Measurements on the new component will not reflect wear on the valve since the valve has a longer life. The valve should be inspected per plant procedure. An inspection for this component has not been planned for the 2R19 outage.
BLOWDOWN	SG51-1-CONT PEN to SGBFTK	MS46-VALVE-PCV-1214	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG51-1-CONT PEN to SGBFTK	MS46-VALVE-PCV-1214A	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG51-1-CONT PEN to SGBFTK	MS46-Valve-MS-71-A	**No**	If the downstream component has been inspected, has similar material and has been in service for the same amount of time as the valve, the wear of the valve can be estimated by the wear of the downstream component. An inspection for this component has not be planned for outage 2R19.
BLOWDOWN	SG51-1-CONT PEN to SGBFTK	MS46-VALVE-MS-131-A	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG51-1-CONT PEN to SGBFTK	MS46-VALVE-HCV-5046	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
BLOWDOWN	SG52-1-CONT PEN to SGBFTK	MS45-VALVE-PCV-1215	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG52-1-CONT PEN to SGBFTK	MS45-VALVE-PCV-1215A	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG52-1-CONT PEN to SGBFTK	MS45-VALVE-HCV-5047	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
BLOWDOWN	SG52-1-CONT PEN to SGBFTK	MS45-VALVE-MS-71-B	No	If the downstream component has been inspected, has similar material and has been in service for the same amount of time as the valve, the wear of the valve can be estimated by the wear of the downstream component. An inspection for this component has not been planed for the 2R19 outage.
BLOWDOWN	SG52-1-CONT PEN to SGBFTK	MS45-VALVE-MS-131-B	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG53-1-CONT PEN to SGBFTK	MS47-VALVE-PCV-1216	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
BLOWDOWN	SG53-1-CONT PEN to SGBFTK	MS47-VALVE-PCV-1216A	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG53-1-CONT PEN to SGBFTK	MS47-VALVE-MS-71C	No	If the downstream component has been inspected, has similar material and has been in service for the same amount of time as the valve, the wear of the valve can be estimated by the wear of the downstream component. An inspection for this component has not been planned for the 2R19 outage.
BLOWDOWN	SG53-1-CONT PEN to SGBFTK	MS47-VALVE-MS-131C	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
BLOWDOWN	SG53-1-CONT PEN to SGBFTK	MS47-VALVE-HCV-5048	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG54-1-CONT PEN to SGBFTK	MS48-VALVE-PCV-1217	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG54-1-CONT PEN to SGBFTK	MS48-VALVE-PCV-1217A	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
BLOWDOWN	SG54-1-CONT PEN to SGBFTK	MS48-VALVE-MS-71D	**No**	If the downstream component has been inspected, has similar material and has been in service for the same amount of time as the valve, the wear of the valve can be estimated by the wear of the downstream component. An inspection for this component has not been planned for the 2R19 outage.
BLOWDOWN	SG54-1-CONT PEN to SGBFTK	MS48-VALVE-MS-131D	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
BLOWDOWN	SG54-1-CONT PEN to SGBFTK	MS48-VALVE-HCV-5049	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND DWNSTRM HDPD	CD83-2-HDR to BFP21	CD-VALVE-CD-21	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND DWNSTRM HDPD	CD83-2-HDR to BFP21	CD-72FE	**Yes**	The downstream extension has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the orifice. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the orifice.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
CND DWNSTRM HDPD	CD83-3-HDR to BFP22	CD-VALVE-CD-21-1	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
CND DWNSTRM HDPD	CD83-3-HDR to BFP22	CD-76FE	**Yes**	The downstream extension has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the orifice. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the orifice.
CND FWH 22 TO FWH 23	CD80A-1-FWH 22A to HEADER	CD-VALVE-CD-8	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
CND FWH 22 TO FWH 23	CD80A-2-FWH 22B to HEADER	CD-108N	**No**	An inspection on this component is planned for outage 2R19.
CND FWH 22 TO FWH 23	CD80A-2-FWH 22B to HEADER	CD-VALVE-CD-8-1	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND FWH 22 TO FWH 23	CD80A-3-FWH 22C to HEADER	CD-113N	**No**	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
CND FWH 22 TO FWH 23	CD80A-3-FWH 22C to HEADER	CD-VALVE-CD-8-2	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND FWH 22 TO FWH 23	CD80A-5-FWH 22 to FWH 23 HEAD	CD-VALVE-CD-1110	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND FWH 22 TO FWH 23	CD80A-7-HEADER to FWH 23A	CD-VALVE-CD-16	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND FWH 22 TO FWH 23	CD80A-8-HEADER to FWH 23B	CD-VALVE-CD-16-1	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CND FWH 22 TO FWH 23	CD80A-9-HEADER to FWH 23C	CD-VALVE-CD-16-2	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
CND FWH 24 TO FWH 25	CD81-1-FWH 24A to FWH 25A	CD-37N	No	An inspection on this component is planned for outage 2R19.
CND FWH 25 TO HEADER	CD82-1-FWH 25A to HDR	CD-VALVE-CD-18	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
CND FWH 25 TO HEADER	CD82-2-FWH 25B to HDR	CD-VALVE-CD-18-1	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
CND FWH 25 TO HEADER	CD82-3-FWH 25C to HDR	CD-VALVE-CD-18-2	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
CROSSUNDER	MS56-7-PRESEP to MSR21A	5EX-59EJ1	Yes	This component has been inspected. Future inspections should be governed on the analysis of the current inspection data. An inspection is not planned for the 2R19 outage.
FW BFP TO FWH 26	FW71-1-BFP21 DISCH to HDR	BFD-14	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW71-1-BFP21 DISCH to HDR	BFD VALVE-BFD-1	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW BFP TO FWH 26	FW71-1-BFP21 DISCH to HDR	BFD VALVE-BFD-2-21	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW BFP TO FWH 26	FW71-1-BFP21 DISCH to HDR	BFD-5	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW71-1-BFP21 DISCH to HDR	BFD-7	No	An inspection on this component is planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-15	No	An inspection is recommended on the elbow to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-VALVE-BFD-1-1	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-VALVE-BFD-2-22	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-17	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-18	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-19	No	An inspection is recommended on the elbow to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-20	No	An inspection is recommended on the elbow to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW72-1-BFP22 DISCH to HDR	BFD-22	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-24	No	An inspection is recommended on the elbow to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-27	No	An inspection on this component is planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-27P	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-28	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-28P	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-32P	No	An inspection is recommended on the pipe to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW73-1-BFPHDR to FWH26ABC	BFD-29P	No	An inspection is recommended on the pipe to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW73-3-BFPHDR to FWH26C	BFD-VALVE-BFD-3-2	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW BFP TO FWH 26	FW73-3-BFPHDR to FWH26C	BFD-41	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW73-5-BFPHDR to FWH26B	BFD-37	No	An inspection is recommended on the elbow to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW BFP TO FWH 26	FW73-5-BFPHDR to FWH26B	BFD-VALVE-BFD-3-1	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW BFP TO FWH 26	FW73-6-BFPHDR to FWH26A	BFD-VALVE-BFD-3	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW BFP TO FWH 26	FW73-6-BFPHDR to FWH26A	BFD-35	No	An inspection on this component is planned for outage 2R19.
FW BFP TO FWH 26	FW73-6-BFPHDR to FWH26A	BFD-36N	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-1-FWH26A to DISHDR	BFD-VALVE-BFD-4	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW FWH 26 TO STM GEN	FW74-1-FWH26A to DISHDR	BFD-58	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-1-FWH26A to DISHDR	BFD-59	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-1-FWH26A to DISHDR	BFD-55N	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-2-FWH26B to DISHDR	BFD-VALVE-BFD-4-1	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW FWH 26 TO STM GEN	FW74-2-FWH26B to DISHDR	BFD-53	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-2-FWH26B to DISHDR	BFD-54	No	An inspection is recommended on the elbow to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW FWH 26 TO STM GEN	FW74-2-FWH26B to DISHDR	BFD-51N	No	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW FWH 26 TO STM GEN	FW74-4-FWH26C to DISHDR	BFD-VALVE-BFD-4-2	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-4-FWH26C to DISHDR	BFD-49	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-4-FWH26C to DISHDR	BFD-50	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-4-FWH26C to DISHDR	BFD-47N	No	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
FW FWH 26 TO STM GEN	FW74-5-FWH26 to DISHDR	BFD-62	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-5-FWH26 to DISHDR	BFD-65	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-5-FWH26 to DISHDR	BFD-65P-1	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-5-FWH26 to DISHDR	BFD-62P US	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW74-5-FWH26 to DISHDR	BFD-63P DS	No	An inspection on this component is planned for outage 2R19.
FW FWH 26 TO STM GEN	FW75-1-DISHDR to SG21	BFD-VALVE-BFD-5	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW FWH 26 TO STM GEN	FW75-1-DISHDR to SG21	BFD-VALVE-FCV-417	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW FWH 26 TO STM GEN	FW75-1-DISHDR to SG21	BFD-VALVE-BFD-6	No	The down stream component is another valve. Because inspections cannot be performed directly on valves inspections on this component should be handled per plant procedure. Because CHECWORKS predictions are not reliable inspections are needed to verify wear. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW75-1-DISHDR to SG21	BFD-VALVE-BFD-7	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW76-1-DISHDR to SG22	BFD-VALVE-BFD-5-1	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW76-1-DISHDR to SG22	BFD-VALVE-FCV-427	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW FWH 26 TO STM GEN	FW76-1-DISHDR to SG22	BFD-VALVE-BFD-6-1	No	The down stream component is another valve. Because inspections cannot be performed directly on valves inspections on this component should be handled per plant procedure. Because CHECWORKS predictions are not reliable inspections are needed to verify wear. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW76-1-DISHDR to SG22	BFD-VALVE-BFD-7-1	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW77-1-DISHDR to SG24	BFD-VALVE-BFD-5-3	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW77-1-DISHDR to SG24	BFD-VALVE-FCV-447	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW FWH 26 TO STM GEN	FW77-1-DISHDR to SG24	BFD-VALVE-BFD-6-3	No	The down stream component is another valve. Because inspections cannot be performed directly on valves inspections on this component should be handled per plant procedure. Because CHECWORKS predictions are not reliable inspections are needed to verify wear. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW FWH 26 TO STM GEN	FW77-1-DISHDR to SG24	BFD-VALVE-BFD-7-3	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW FWH 26 TO STM GEN	FW77-1-DISHDR to SG24	BFD-106	Yes	This component has been inspected. Future inspections should be governed on the analysis of the current inspection data. An inspection is not planned for the 2R19 outage.
FW FWH 26 TO STM GEN	FW78-1-DISHDR to SG23	BFD-VALVE-BFD-5-2	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
FW FWH 26 TO STM GEN	FW78-1-DISHDR to SG23	BFD-VALVE-FCV-437	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FW FWH 26 TO STM GEN	FW78-1-DISHDR to SG23	BFD-VALVE-BFD-6-2	No	The down stream component is another valve. Because inspections cannot be performed directly on valves inspections on this component should be handled per plant procedure. Because CHECWORKS predictions are not reliable inspections are needed to verify wear. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FW FWH 26 TO STM GEN	FW78-1-DISHDR to SG23	BFD-VALVE-BFD-7-2	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FWH 24 DRNS DSCV	HD21A-2-FWH24A CV to FWH23A	4EXD-VALVE- LCV-1115	**No**	The downstream component has been replaced since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection has not been planned for the 2R19 outage.
FWH 24 DRNS DSCV	HD22A-2-FWH24B CV to FWH23B	4EXD-VALVE-LCV-1116	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FWH 24 DRNS DSCV	HD23A-2-FWH24C CV to FWH23C	4EXD-VALVE-LCV-1117	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FWH 24 DRNS USCV	HD21A-1-FWH24A to CV	4EXD-VALVE-4EX-8	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
FWH 24 DRNS USCV	HD22A-1-FWH24B to CV	4EXD-VALVE-4EX-8-1	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FWH 24 DRNS USCV	HD23A-1-FWH24C to CV	4EXD-VALVE-4EX-8-2	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
FWH 24 DRNS USCV	HD23A-1-FWH24C to CV	4EXD-60P	**No**	An inspection is recommended on the pipe to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
HTR DRN PMP DISCH	HD20-1-HDP21 to BFP SUCTION	HD-VALVE-HD-1	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
HTR DRN PMP DISCH	HD20-1-HDP21 to BFP SUCTION	HD-VALVE-LCV-1127	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
HTR DRN PMP DISCH	HD20-1-HDP21 to BFP SUCTION	HD-VALVE-HD-2	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
HTR DRN PMP DISCH	HD20-1-HDP21 to BFP SUCTION	HD-8N	**No**	An inspection is recommended on the nozzle to determine validity of CHECWORKS prediction. There is no planned inspection for this component during outage 2R19.
HTR DRN PMP DISCH	HD20-2-HDP22 to BFP SUCTION	HD-VALVE-HD-1-1	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
HTR DRN PMP DISCH	HD20-2-HDP22 to BFP SUCTION	HD-VALVE-LCV-1127A	**Yes**	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
HTR DRN PMP DISCH	HD20-2-HDP22 to BFP SUCTION	HD-VALVE-HD-2-1	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MS - HP TURB TO MOPS	MS-HP Turbine to MPS A	TEMP01	**No**	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
MS - HP TURB TO MOPS	MS-HP Turbine to MPS B	TEMP02	No	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.
MS - HP TURB TO MOPS	MS-HP Turbine to MPS C	TEMP03	No	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.
MS - HP TURB TO MOPS	MS-HP Turbine to MPS D	TEMP04	No	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.
MSR SHELL DRAINS	MSD27-5-MS21A to MSDT 21A	1A-VALVE-5EX-19L	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream extension closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.
MSR SHELL DRAINS	MSD27-5-MS21A to MSDT 21A	1A-VALVE-5EX-19M	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD28-5-MS22A to MSDT 22A	2A-18	Yes	This component has been inspected. Future inspections should be governed on the analysis of the current inspection data. An inspection is not planned for the 2R19 outage.
MSR SHELL DRAINS	MSD28-5-MS22A to MSDT 22A	2A-VALVE-5EX-19J	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the valve. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the valve.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
MSR SHELL DRAINS	MSD28-5-MS22A to MSDT 22A	2A-VALVE-5EX-19K	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD29-5-MS23A to MSDT 23A	3A-VALVE-5EX-19G	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD29-5-MS23A to MSDT 23A	3A-VALVE-5EX-19H	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD30-5-MS21B to MSDT 21B	1B-VALVE-5EX-19	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD30-5-MS21B to MSDT 21B	1B-VALVE-5EX-19F	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD31-5-MS22B to MSDT 22B	2B-VALVE-5EX-19D	No	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
MSR SHELL DRAINS	MSD31-5-MS22B to MSDT 22B	2B-VALVE-5EX-19E	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD32-5-MS23B to MSDT 23B	3B-VALVE-5EX-19B	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
MSR SHELL DRAINS	MSD32-5-MS23B to MSDT 23B	3B-VALVE-5EX-19C	**No**	The downstream component of this valve has not been inspected. A downstream inspection will closely reflect wear conditions in the valve. An inspection for this component has not been planned for outage 2R19.
PD - MPS TO SEP TNK A	PD-MPS A to Separating Tk A	TEMP07	**No**	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.
PD - MPS TO SEP TNK A	PD-MPS B to Separating Tk A	TEMP08	**No**	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.
PD - MPS TO SEP TNK A	PD-MPS C to Separating Tk B	TEMP09	**No**	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.
PD - MPS TO SEP TNK A	PD-MPS D to Separating Tk B	TEMP10	**No**	This is a temporary component. Once the correct components have been added to the model inspections are needed on each to accurately determine wear.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
RHTR DRN TK 22B USCV	MSD49A-1-RHDT22B to CV	MS-2B17FE	Yes	The downstream component has been inspected and does not have significant wear. Industry experience shows that wear on the downstream component closely reflects wear on the orifice. The negative time to Tcrit cannot be eliminated because an inspection cannot be performed directly on the orifice.
RHTR DTK A DRN DSCV	MSD45B-1-RHDT21A CV to FWH26	MS-1A-VALVE-LCV-1104	No	The downstream component has been replaced with FAC-resistant material since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection for this component has not been planned for the 2R19 outage.
RHTR DTK A DRN DSCV	MSD46A-2-RHDT22A CV to FWH26	MS-2A-VALVE-LCV-1104A	No	The downstream component has been replaced with FAC-resistant material since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection for this component has not been planned for the 2R19 outage.
RHTR DTK A DRN DSCV	MSD47-2-RHDT23A CV to FWH26	MS-3A-VALVE-LCV-1104B	No	The downstream component has been replaced with FAC-resistant material since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection for this component has not been planned for the 2R19 outage.

WRA Run Name	Line Name	Component Name	Negative Time to Tcrit Understood?	Explanation
RHTR DTK B DRN DSCV	MSD48B-1-RHDT21B CV to FWH26	MS-1B-VALVE-LCV-1105	**No**	The downstream component has been replaced with FAC-resistant material since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection for this component has not been planned for the 2R19 outage.
RHTR DTK B DRN DSCV	MSD49B-1-RHDT22B CV to FWH26	MS-2B-VALVE-LCV-1105A	**No**	The downstream component has been replaced with FAC-resistant material since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection for this component has not been planned for the 2R19 outage.
RHTR DTK B DRN DSCV	MSD50C-1-RHDT23B CV to FWH26	MS-3B-VALVE-LCV-1105B	**No**	The downstream component has been replaced with FAC-resistant material since the last inspection. The valve should be inspected as per plant procedure because the new downstream component is no longer an accurate indication of wear in the valve. An inspection for this component has not been planned for the 2R19 outage.

Attachment A

Referenced Correspondence and Communications

Reference 7.8.1

Email from Ian Mew (IP) to Brian Trudeau (CSI Technologies) regarding IP2 Cycle 18 operating time, 5/21/2008, CSI Doc. No. 0705.101.13.

IP2 CYCLE 18

Initial Criticality (Date & Time) =	May 19,2006 @ 0240 hours
Initial Sync. (Date & Time) =	May 19,2006 @ 1836 hours
Turbine Shutdown (Date & Time) =	March 23,2008 @ 2216 hours
Reactor Shutdown (Date & Time) =	March 23,2008 @ 2216 hours
Gross Generation (MWhrs.) =	16,786,307
Net Generation (MWhrs.) =	16,239,871
Reactor Criticality (Hours) =	16,137.79
Turbine Sync. (Hours) =	16,036.56
Turbine Availability (Percent) =	99.12
Capacity Factor MDC(Percent) =	100.60
Gross Heat Rate (Btu/GMWhrs.) =	7,930
Net Heat Rate (Btu/NMWhrs.) =	8,197
Total Cycle Period (Hours) (from Initial Sync.) =	16,179.67
CYCLE EFPD's =	663.130

From: Brian Trudeau [mailto:btrudeau@csitechnologies.com]
Sent: Monday, May 12, 2008 1:12 PM
To: Mew, Ian

Cc: Daniel Poe; David Windhorst; Robert M. Aleksick
Subject: Status of Indian Point SFA Reports

Ian,

Per our discussion today, you have possession of the most recent model predictions for Unit 3 in the SFA Pass 2 report that was issued for use on Nov 14, 2007. For Unit 2, you will have this information following completion of the planned Pass 2 project (contract is currently in final approval stage at IPEC). CSI won't send any Pass 2 reports at this time as the Unit 3 model is already up to date and the Unit 2 model is planned for update in the near future.

As you requested, here is the input data we need for a Pass 2. As part of project there will be a formal input request for this data and more detail given. This should give you sufficient information to start.

- Chemistry Data (see attached spreadsheet for example of what Harry sent last time)
- Plant period (online hours, start/end dates for last outage and cycle)
- Replacements from last outage (material, size, components, etc.)
- UT Inspection reports/grid sketches (hardcopy or electronic)
- Electronic UT text files
- Outage summary report (or similar if exists) – typically good source for inspection scope and replacements
- Current U2 SFA Model
- Copy of current FAC Manager database

I look forward to hearing from you about the IPEC Unit 2 SFA model update project.
Thank you,

Brian L. Trudeau
Engineering Supervisor
CSI Technologies, Inc.
(847) 836-3000 ext. 717

Reference 7.8.2

Email from Harry Hartjen (IP) to Mike Aplington (CSI Technologies), dated 8/8/2006, regarding replacements during 2R17, CSI Doc. No. 071703.

Mike:

The two (2) extraction steam lines to the 22C feedwater heater is being replaced with chrome moly P22. Attached is a drawing showing the components making up these lines. Replacement date will be the last day of the outage

In addition, I have attached the marked up sketches showing the other additions to the model; 21, 22, 23 and 24 extraction lines in the condenser anf the feedwater tees upstream of the feedwater reg valves.

Harry G. Hartjen
Engineering Code Programs
Entergy Nuclear - Indian Point Energy Center
Phone: 914-271-7239
hhartje@entergy.com

From: Mike Aplington [mailto:maplington@csitechnologies.com]
Sent: Tuesday, August 08, 2006 2:19 PM
To: Hartjen, Harry G
Subject: Replacement Questions

Harry,

I have a few questions regarding 2R17 replacements. I am assuming that the line to LP FWH 22C was the only thing replaced, and that this information has not yet been entered into the CW model.

1) Were all three components (outlet nozzle, 45 deg elbow, inlet nozzle) in this line replaced?

2) What material were they replaced with?

3) On what date were they replaced? Can we assume the last day of the outage?

Thanks.

Mike Aplington