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SVP-00-147

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D C 20555

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Summary Report of Changes, Tests, and Experiments Completed

In accordance with 10 CFR 50.59 and 10 CFR 50.71(e), we are forwarding Quad Cities Nuclear Power Station's Quarterly Summary Safety Evaluation Report. These safety evaluations cover the period of May 1, 2000 through July 31, 2000.

Should you have any questions concerning this letter, please contact Mr. C.C. Peterson at (309) 654-2241, extension 3609.

Respectfully,

C.C. Peterson for

Joel P. Dimmette
Site Vice President
Quad Cities Nuclear Power Station

Attachment:
Summary Report of Changes, Tests, and Experiments Completed

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

A001

bcc: Project Manager – NRR
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M. Wagner– Quad Cities Nuclear Power Station
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SVP Letter File

ATTACHMENT A

SUMMARY REPORT OF CHANGES, TESTS, AND EXPERIMENTS COMPLETED

MAY 1, 2000 to JULY 31, 2000

SVP-00-147

SE-99-075
SE-00-041
SE-00-043
SE-00-045
SE-00-046
SE-00-047
SE-00-048
SE-00-049
SE-00-055
SE-00-056
SE-00-059

SS-H-98-0112
SS-H-99-0230
SS-H-99-0243
SS-H-99-0244
SS-H-00-0078
SS-H-00-0079
SS-H-00-0081
SS-H-00-0082
SS-H-00-0094

Tracking No. SE-99-075
Activity No. DCP 9700180

DESCRIPTION:

Addendum # 4 to DCP 9700180, Heating Steam Upgrade, reduces the scope of the DCP from replacing all of the ventilation heating coils and condensate drainage piping to just replacing the Unit 1 West Turbine Building Ventilation (1-5737) heating coils and condensate drainage piping. In addition, to support the installation of the Unit 1 West Turbine Building Ventilation (1-5737) heating coils and condensate drainage piping, the previously abandoned in place evaporative cooler pump and motor, 1-5716, had to be removed. The new condensate drainage system has individual steam traps for each heating coil, isolation valves, air vents and vacuum breakers. This is the vendor recommended arrangement and should improve the condensate drainage and the venting of the non-condensible gasses. The condensate drainage system design requirements remain unchanged.

The other portion of this design change was to replace one area heater and replace the condensate cooler units and add a bypass. These are minor components in the heating steam and ventilation system and are not described in the UFSAR. These minor changes do not affect the function of the system. The addition of bypass valves will allow the condensate cooler to be bypassed if they fail in the future and allow the downstream portion of the heating stream to remain in service.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the heating steam system is a support system used to maintain area temperatures. It can not cause or mitigate the consequences of any accident or transient.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the heating steam system is a support system used to maintain area temperatures. It can not cause or mitigate the consequences of any accident or transient.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because there are not any Technical Specifications or Technical Specification bases affected by this change.

Tracking No. SE-00-041
Activity No. DCR 990494; UFSAR-99-R6-107

DESCRIPTION:

Revised Equipment Qualification (EQ) Zone 4 High-Energy Line Break (HELB) temperature from 110 degrees F High Pressure Coolant Injection (HPCI) to 283 degrees F Reactor Core Isolation Cooling (RCIC). Also remove note for EQ zone 7 depicting the room temperature as 150 degrees

F maximum, when equipment is operating. These changes are being made to insure current EQ Zone information is in the UFSAR.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because EQ Binder EQ-47Q demonstrates environmental qualification of the affected SSCs under the revised HELB conditions. The changes do not affect the functionality of the components required to mitigate this accident. The HPCI components required to mitigate a LOCA are not and were not required to be Environmentally Qualified. Their original HPCI design specification ensures proper operation of the affected HPCI SSCs. The change in temperature during equipment operation does not affect any accidents initiating event or condition. Therefore, the probability of any accident is not increased by the UFSAR change and DCR.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because EQ Binder EQ-47Q demonstrated environmental qualification of the affected SSCs under the revised conditions. The change does not affect the functionality of the components required to mitigate an accident. The HPCI components required to mitigate a LOCA are not and were not required to be Environmentally Qualified. Their original design specification ensures proper operation of these SSCs. Therefore, the possibility of a new accident or transient has not been created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the following information can be concluded for each Technical Specification identified. EQ Binder EQ-47Q demonstrated environmental qualification of the affected SSCs under the revised conditions. The HPC components required to mitigate a LOCA are not and were not required to be Environmentally Qualified. Their original design specification and system surveillance's ensures proper operation of these SSCs. The SSCs EQ and original design documentation demonstrate their ability to function under the revised environmental conditions. Hence, the changes do not affect the functionality of the components. Therefore, the margin of safety has not been reduced.

Tracking No. SE-00-043
Activity No. UFSAR-99-R6-109 UFSAR Change Package

DESCRIPTION:

This Safety Evaluation is for a change to the UFSAR and a number of procedure changes. The UFSAR in its description of the Sparge Air system currently states that it is used to purge hydrogen from the system during startup and shutdown. The UFSAR is being changed to say that Sparge Air is used to purge hydrogen from the offgas system when necessary. Procedures will insure that it is done, when necessary.

The procedural changes are:

1) Sparging of the Offgas train will not be required during Unit shutdown or after a

SCRAM, if the Offgas train has been run at least 4 hours since the reactor was critical and 4 hours since hydrogen was injected into the feedwater process stream;

2) Sparging the Offgas train is not required during Unit startup, as the shutdown of the Offgas System will insure that the system cannot have hydrogen concentrations above the detonation limits of 4% hydrogen; Sparge Air flow is also not needed to heatup the system when steam dilution is on;

3) The condenser Mechanical Vacuum Pump will be shut off during the startup of the Offgas System, instead of letting the pump run until it trips.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because Loss of Reactor Coolant Inventory. Since the systems are not in close proximity to or in any way attached to the primary system pressure boundary, they cannot cause a LOCA or other loss of inventory event.

   Explosion in the Offgas System

   The Offgas System shall be operated in a manner that minimizes the potential of an explosion hazard. Sparging the system with air is intended to purge and dilute the hydrogen concentration to the point where it will no longer be explosive. Insuring that the Offgas train remains running for at least 4 hours after all hydrogen generation has stopped insures that the system has purged itself of hydrogen and sparging is no longer necessary. If, for any reason, this condition is not met, it is expected that sparging of the system would still be performed. Therefore, this change does not make an explosion in the Offgas System more likely.

   Loss of Vacuum SCRAM
   The shutdown of the Mechanical Vacuum Pump cannot increase the potential of a loss of vacuum SCRAM, because this SCRAM is only possible when in the RUN mode (mode 1). The Offgas System is put online when the reactor pressure is about 130-300 psig and the vacuum pump would be OFF prior to reaching Mode 1 conditions. Therefore, whether using the original procedure or the new one, the Mechanical Vacuum Pump would be off prior to going to Mode 1.

   The use of (or failure to use) Sparge Air to purge the Offgas System has no impact on maintaining a vacuum on the main condenser. The procedures for using Sparge Air at Quad Cities only involve Offgas System startup, swapping of trains, and shutdown of the system. The only activities performed in Mode 1, swapping trains, will still have Sparge Air used.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the changes to the way the Offgas System is operated (i.e., eliminating the use of Sparge Air to purge the system under certain limited conditions and changing how the Mechanical Vacuum Pump is turned off) has no impact on the system in such a way as to make it more likely to fail or to not be available when needed. It also creates no new interfaces with other systems.

All of the modified procedures affect Offgas and its function to maintain a vacuum in the condenser. The loss of vacuum and a potential fire/explosion in the Offgas System have already been considered in the design basis. There is no other consequences possible from making these changes. Therefore, there is no new failure modes, such as a new type of transient or accident, created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the changes do not impact the automatic isolation of Offgas or the ability to detect high hydrogen concentration downstream of the recombiners. Sparging Air is not required to prevent having high hydrogen concentration downstream of the recombiner provided the system has been online after the contributors of hydrogen have stopped generating the hydrogen. The system operation 150 CFM of gas and vapor going through it normally. After the reactor is no longer critical and the hydrogen injection has stopped, much of the makeup flow to the system would stop, but water vapor and air inleakage would still amount to about 50 CFM (Reference UFSAR Table 11.3-4). This is more flow than the Sparge Air blowers can provide through a 1" line to the Offgas Train. Therefore, the Offgas System would purge itself of hydrogen in a period of 4 hours.

Tracking No. SE-00-045
Activity No. SEP-092-04 & SEP-092-02-01

DESCRIPTION:

There is a known industry issue concerning the Boraflex material that is used as a neutron absorber in the spent fuel pool. This testing will further characterize the amount of degradation of the Boraflex material to ensure that the inputs to the pool criticality analysis remain accurate.

The testing consists of moving a sealed neutron source vertically within an empty fuel cell. A neutron detector will traverse the other side of the panel collecting information concerning the level of neutron transmission. This allows for a quantitative evaluation of the amount of Boraflex material available in the spent fuel rack.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because performance of these procedures will not change the probability of or the consequences of an accident or malfunction because there are no new equipment interactions that could result in a new malfunction of equipment that is important to safety.

   The test equipment only has two failure modes: falling or dropping of the test equipment or inadvertent radiation exposure. The neutron source is controlled via administrative controls and they are no different than existing controls regarding the movement of high activity items in the spent fuel pools. The test equipment is significantly lighter in weight than other items (fuel) that are analyzed for movement in the spent fuel pool.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the test equipment only has two failure modes: falling or dropping of the test equipment or inadvertent radiation exposure. Both of these type of failure modes have been evaluated for other activities and are bounding for this testing.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the purpose of the spent fuel rack is to store new and spent fuel in a configuration that ensures that the K_{eff} remains ≤ 0.95.

   The testing of the spent fuel racks will not reduce the margin of safety because this test is designed to measure the amount of B-10 in the rack. It is passive in nature and does not degrade the ability of the spent fuel rack to absorb neutrons. The source activity is significantly smaller than a spent fuel bundle. Also, the cells of the racks to be tested will have no fuel in them during the test performance. Therefore, since the Boraflex material is not degraded by this activity and cells to be tested are without fuel, the margin of safety to the K_{eff} limit is unchanged.

Tracking No. SE-00-046
Activity No. TIC-0103

DESCRIPTION:

This temporary procedure will auto-start the Unit 1 HPCI Auxiliary Oil Pump (AOP) and Emergency Oil Pump (EOP) to verify proper operation of this circuitry. The HPCI steam supply valve and system injection valve will be de-energized in the closed position to prevent Unit 1 HPCI turbine start-up and injection.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because this test procedure prevents operation of the Unit 1 HPCI subsystem. All affected equipment is within the Unit 1 HPCI subsystem and no initiators of any accident are affected by this procedure. Additionally, there is an allowed outage time in the Technical Specifications for situations where the HPCI subsystem is inoperable.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because this procedure will isolate the Unit 1 HPCI subsystem for testing purposes. Additionally, the Unit 1 HPCI turbine is not operated during this test, the HPCI subsystem will not be operated in an abnormal line-up, outside of its design basis, nor in any manner that impacts its design functions or any other plant equipment. This procedure will impact Unit 1 HPCI equipment only and that equipment will be returned to a normal status at the conclusion of this test.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Unit 1 HPCI subsystem will not be inoperable for longer than the allowed

outage time. Therefore, this test meets the Technical Specification acceptance limit and does not reduce the margin of safety.

Tracking No. SE-00-047
Activity No. UFSAR-99-R6-102

DESCRIPTION:

This activity corrects the ventilation flow rates of the High Radiation Sampling System (HRSS) panels in UFSAR Table 9.3-1 (The Liquid Sampling Panel, the Chemical Analysis Panel, and the Containment Air Sample Panel). This activity also clarifies the post-accident sampling capabilities of the HRSS in that the liquid sampling system also has the capability of obtaining a sample via the Residual Heat Removal System. This is clarified in UFSAR Section 9.3.2.1.3.3.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the High Radiation Sampling System is a monitoring system, not a mitigating system and there is no physical change to the system or the system response as a result of this activity; therefore, the probabilities of occurrence or the consequences of an accident or malfunction cannot be increased.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the change creates no new failure modes because there are no new functions being added to the system. This activity only clarifies capabilities of the system that already exist.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because Post-Accident sampling occurs as an activity in an accident scenario. No margin of safety is reduced as HRSS is not a mitigating system.

Tracking No. SE-00-048
Activity No. UFSAR-99-R6-103

DESCRIPTION:

This activity clarifies statements made in sections 6.3.2.4.2 and 7.3.1.4 of the UFSAR to clearly describe that the individual instrument switches (contacts) in the Automatic Depressurization logic circuit do not require power to operate, but the overall logic operation does require power to function.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not

increased because since the activity more clearly describes the ADS logic operation but does not change the operation of any ADS logic component, the probability of occurrence or the consequences of any accident or transient will not change. Since there is no change to the operation of any equipment, the probability of occurrence or the consequences of a malfunction of equipment important to safety will not change.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because there is no change to the ADS components nor to the actual component operation. Therefore, a different accident or malfunction than that already evaluated cannot occur.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the activity does not change any instrument setpoints, nor does it change the actual operation of the ADS logic, nor does it affect the number of valves available for use; therefore, the margin of safety is not reduced.

Tracking No. SE-00-049
Activity No. UFSAR-99-R6-104

DESCRIPTION:

This UFSAR change:

1. Updates Table 5.2-1 - Summary of Stresses on Relief Valve Parts for Unit One with stress values and allowables from calculation EMD-021348 dated February 21, 1980 which was subsequent to Letter "Seismic Qualification of Electromatic Relief Valves" from Robert F. Janecek (ComEd) to Thomas A. Ippolito (NRC) dated January 31, 1980, and

2. Adds Table 5.2-2 - Forces and Stresses in Supporting Structure to identify the ERV pipe support stresses as historical only.

There is no physical change to the valve/plant nor is there any change to any operating procedure/parameter. The maximum stresses have always remained within the allowable stresses and below the yield stress. Therefore, this change will not affect the operation of the ERV's or their capability to perform their required functions.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the maximum calculated stresses have always remained within the allowable stress limits and below the yield stress, the operation of the ERV's is not affected by these changes. Consequently, the probability of or the consequences of an accident or a malfunction of equipment important to safety is not increased.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the possibility of an accident or malfunction of a different type is not created by this change since the maximum calculated stresses for the ERV and the ERV support structure have always remained

within the allowable stress limits and below the yield stress, ensuring the ERVs will function correctly.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Technical Specification requirement is that five relief valves shall be operable for overpressure protection of the reactor pressure vessel. Since maximum calculated stresses for the ERV and the ERV supports have always remained within the allowable stresses and below the yield stress, the operation of the ERV's has not been affected as a result of this UFSAR change and there is no reduction in the margin of safety.

Tracking No. SE-00-055
Activity No. DCP 9900373; QCOS 4100-34; FPR 00-05

DESCRIPTION:

The DCP requires a "fire truck" be on site and equipped with twice the equipment of a present hydrant house to transport the fire fighting equipment to the fire scene. This improves the fire brigade's response to a fire outside of the power block. The hose on the fire truck is credited for fighting fires on the exterior of the plant instead of the current hose in the hydrant houses.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because changing the storage location or transportation of fire fighting equipment will not affect the probability of a fire. The probability of a fire is based upon the amount of combustible loading and its proximity to an ignition source. Since neither of these parameters are changing the probability will not change. This change only affects fires that are outside of the power block and an external fire does not impact safe shutdown. Therefore, the consequences are not changed.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because Fire hose is used to mitigate (fight) a design basis fire and is not a precursor to an accident (fire). This change will require that the truck be equipped with twice the NFPA 24 recommended equipment which will preclude any affect of an equipment failure. Further, if a malfunction of a hydrant should occur, then there is adequate equipment available to use the next hydrant. Since this equipment is available in all operating modes and there are adequate backups available, this activity will not affect equipment failures.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because no Technical Specifications are affected by this change. Therefore, margins defined by the Technical Specifications are not changed. Administrative controls required by the Technical Specifications have been adequately updated for this change.

Tracking No. SE-00-056
Activity No. UFSAR-99-R6-125

DESCRIPTION:

Revise the description of Primary Containment Isolation System (PCIS) isolation logic in UFSAR section 7.3.2 to clarify the logic for the Reactor Core Isolation Cooling (RCIC) Steam Supply Line Low pressure isolation signal. The as found one-out-of-two-twice original existing logic which supplies a trip channel to one trip system is shown on drawings 4E-1484B(U1) and 4E-2484B sheet. 2. Wording which clearly defines this unique trip logic will be added to the UFSAR. Wording will also be added to state that the RCIC low steam supply pressure isolation will function as a backup to the other RCIC line break detection instruments.

Some additional clarification will be made to UFSAR wording which describes the Group 4 and 5 isolation system design and logic. As an example, the use of the term "trip channels" versus "trip systems" will be corrected where inappropriately used.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the primary function of the RCIC and PCIS systems is to mitigate accidents. The RCIC isolation logic being described by the UFSAR text change does not affect any parameters that could cause a loss of feedwater or a RCIC steam line piping line break. The PCIS logic for Group 5 is an electrical protection system which cannot cause a feedwater pump trip, a feedwater valve isolation and cannot create a piping line break accident. The PCIS logic for Group 4 is an electrical protection system which cannot cause a feedwater pump trip, a feedwater valve isolation and cannot create a piping line break LOCA. Therefore, the UFSAR change only clarifies the existing design basis and cannot increase the probability of any accidents.

   The PCIS Group 5 logic for RCIC is unchanged and will mitigate these accidents in the same manner previously analyzed. RCIC will operate when required and the PCIS Groups 4 and 5 logic will trip as required based on previously analyzed parameters. Therefore, this UFSAR change activity will not increase the consequences of any accidents.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the affected RCIC pressure switches have not changed, are installed in the same manner as previously evaluated, and do not perform a different function or perform in a different manner. The Groups 4 and 5 PCIS provide a protective function and do not change safety parameters for the operation of the reactor. These group isolations isolate the same containment isolation valves and have not changed in design. Therefore, this UFSAR change activity will not create an accident or transient of a different type.

   The malfunctions involve a malfunction of the Group 4 and 5 logic that prevents isolation when required. The affected RCIC pressure switches have not changed, are installed in the same manner as previously evaluated, and do not perform a different function or in a different manner. Only the terminology was changed by this activity to clarify the design

basis of the Groups 4 and 5 logic as well as the RCIC low pressure isolation logic. The clarified design basis was previously evaluated and currently meets operability requirements of the existing operating license. Based on the above discussion for this activity there is no increase in the probability of these malfunctions.

The Groups 4 and 5 PCIS provide a protective function only and do not change safety parameters for the operation of the reactor. These group isolations isolate the same containment isolation valves and have not changed in original design. This GE BWR design was evaluated to meet the intent of the criteria for reactor protection systems IEEE-279, 1968 and this design has not changed. Therefore, this UFSAR change activity will not create a malfunction of a different type.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this UFSAR Change reflects the original design as previously evaluated. The existing UFSAR description did not clearly reflect what was evaluated in the NEDO-10139 report due to some incorrectly used terminology in the UFSAR. The Technical Specification Acceptance Limits correctly reflects that only one trip system exists for the RCIC Reactor Vessel low pressure trip function versus the two trip systems for the other containment isolations functions. The Technical Specification basis does not specifically discuss the basis of this trip function acceptance limit, and this limit is unaffected by the change. Therefore, the margin of safety of the RCIC minimum operating channels per trip system is not affected.

Tracking No. SE-00-059
Activity No. UFSAR-99-R6-119

DESCRIPTION:

UFSAR Table 11.5-1, "Radiation Monitoring System Principal Design Parameters", is being revised to address discrepancies identified during the Design Basis Initiative (DBI) project review, and other minor discrepancies identified during the UFSAR change process. The discrepancies are associated with the following design parameters for process & area radiation monitors: Detector Sensitivity, Indicating Scale, Indicating Time Response, Recording Type, and Recording Scale. The UFSAR parameters are being revised to utilize validated values which are equivalent or conservative to the previous values, with exceptions described and justified.

SAFETY EVALUATION SUMMARY:

The following radiation monitors are affected: [A] Steam Jet Air Ejector (SJAE) Off-Gas, [B] Main Chimney Noble Gas, [C] Main Steam Line (MSL), [D] Service Water (SW) & Radwaste (RW) Effluent, [E] Reactor Building (RB) Ventilation, and [F] all Area Radiation Monitors (ARM). The detector sensitivity for [A] & [C] is being revised from "3 x 10E-10 amps/R/hr" to "3.7 x 10E-10 Amps/R/hr +/- 20%", which is the vendor specification and corresponds to (2.96-4.44) x 10E-10 Amps/R/hr. The detector sensitivities for [B] & [D] are being revised to be the Offsite Dose Calculation Manual (ODCM) requirements, which are equal to or better than the previous specified UFSAR values. The detector sensitivity for [E] is being revised to reflect low end of instrument range for the RB Vent Rad Monitors, which is a conservative value; also, detector sensitivity for the Refuel Floor Rad Monitors is being added to the table, due to the common inter-related function of the RB Vent & Refuel Floor Rad Monitors (as described in UFSAR Section 11.5.2.4).

The detector sensitivity for [F] is being revised to specify the low end of instrument range, which is consistent with other UFSAR sections.

The indicating & recording scales for [D] are being revised to reflect the as-built condition, resulting from previous approved plant modifications, with Table 11.5-1 missed during the associated UFSAR update. The indicating scale for [E] is being revised to reflect the as-built condition, which has the same number of decades as the previous value and well encompasses normal operating conditions as well as the monitor alarm and trip setpoints; the indicating scale for the Refuel Floor Rad Monitors is being added, due to the inter-relationship between the monitors.

The Indicating Time Response Sec/range parameter is being deleted from the table, which affects only [B] & [D]. No vendor specification is provided and the range is a fixed value. The time response of the indicators, analog or digital, is well less than the 10 seconds value specified, and therefore, this parameter is deemed not-required.

The recording scale for [F] is being revised to be consistent with the existing indicating scale for [F].

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the radiation monitors have no interaction nor impact on the Control Rod Drive (CRD) System, the reactor coolant pressure boundary, and fuel handling operations. The radiation monitors provide monitoring of the consequences of the applicable accidents and initiation of mitigating automatic actions as applicable. Monitors [A], [B], & [D] are not credited for UFSAR accident mitigation. The setpoint for Monitors [C] is well above the low-end sensitivity specification, which results in the negligible discrepancy of 0.04 x 10E-10 Amps/R/hr having no impact on the function of the monitors and therefore, no impact on accident consequences mitigation. The revised detector sensitivity for Monitors [E] is equal to or better than the previous UFSAR specified value. The revised detector sensitivity for Monitors [F] is consistent with other UFSAR sections, specifying the low end of instrument range for sensitivity; therefore, there is no impact on function.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the functions of the monitors are not impacted by this change, and there are no new failure modes introduced. The revised parameters do not result in any changed interactions with other plant equipment. These parameters affect instrument performance, but have no affect on failure modes.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because for each Technical Specification that may be affected, the instrument trip setpoint is well within the revised instrument sensitivity & scale parameter specified. With the exception described in Step 1 (above) associated with Monitors [C], the revised instrument sensitivity is equal to or better than the previous value. For Monitors [C], the margin of safety is not reduced as well, because the trip setpoint is well above the low-end instrument sensitivity specification and is therefore, unaffected by the negligible discrepancy associated with detector sensitivity.

Tracking No. SS-H-98-0112
Activity No. DCP 9800216; SE-98-081

DESCRIPTION:

Change the span of the Feed Water (FW) flow transmitters on Unit 1 to provide proper flow signal as determined by test results.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the Safety Analysis Report is not increased because the new Feedwater (FW) flow span calculation and uncertainty analyses were performed to ensure the FW flow input to the core thermal power meets accuracy requirements. Since the flow input will be accurately measured, the assumed starting point of the accident/transient analyses will be within the limits of this analysis. Therefore, this change will not increase the likelihood, predicted frequency, or consequences of an accident or malfunction previously evaluated in the SAR.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the function and the configuration of the transmitters will remain the same during all operating modes and accident conditions. Re-spanning of the transmitters only changes the output of the transmitters for a given input and does not change the method of operation or function of the transmitters. The failure mode of the transmitter is not affected by this change and no new failure mode is introduced.

3. The margin of safety, as described in the basis for any Technical Specification, is not reduced because the change does not affect any parameters upon which Technical Specifications are based; therefore, there is no reduction in the margin of safety.

Tracking No. SS-H-99-0230
Activity No. QCOP 2900-02, Rev. 9, SAFE SHUTDOWN MAKEUP PUMP SYSTEM START-UP;
QCOS 2900-04, Rev. 10, SAFE SHUTDOWN MAKEUP PUMP REACTOR VESSEL INJECTION TEST AT COLD SHUTDOWN;
QCOS 2900-07, Rev. 2, SAFE SHUTDOWN TO HPCI INJECTION CHECK VALVE CLOSURE TEST; SE-99-070

DESCRIPTION:

These procedures have been revised to reflect a modification where the SSMP discharge piping injection point was re-routed downstream of the Unit 2 HPCI system discharge check valve. This ensures that the SSMP system will perform its safety function if the HPCI discharge valve would spuriously open due to an Appendix R fire.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because relocating the piping injection point will not affect any accident precursor required for an Appendix R fire or any other evaluated accident. There will be no new combustibles added to the plant. The SSMP system is used to mitigate the consequences from an Appendix R fire. Relocating the injection point will remove the burden from the crews to close another valve manually. This will allow the crews to be more effective during certain Appendix R scenarios.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the SSMP system is used to mitigate the consequences of certain Appendix R fires. The performance of the SSMP and HPCI systems are not adversely affected by the relocation of the injection point. All components of both systems can safely handle the design pressures, flows, and temperatures. The piping reconfiguration will not create the possibility of a different type of malfunction or failure not previously evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the new piping tie-in on the HPCI system will not adversely affect HPCI system's hydraulic characteristics. In addition, the SSMP system will still be able to perform its safety function. Re-configuring the piping will eliminate the dependency of manual operator action under certain Appendix R scenarios. Therefore, the margin of safety is not reduced.

Tracking No. SS-H-99-0243
QCOS 1600-17 Rev 10, PCI GROUP 1 ISOLATION TEST;
QCOS 1600-35 Rev 2, PCI GROUPS 2 AND 3 PARTIAL ISOLATION TEST AT POWER;
SE-99-029

DESCRIPTION:

a. Indicate that a Unit 2 RWCU system isolation will result from high temperature in the RWCU Heat Exchanger Room, RWCU Phase Separator Tank area, D Heater Bay, or MSIV Room.
b. Correct annunciator tile wording at Panel 902-5 windows B-6 and B-8.
c. Indicate that the power supply for Unit 2 RWCU automatic isolation Panel 2202-77A is from MCC 28-1A-1, and that de-energization of the MCC will initiate numerous RWCU system related alarms and a RWCU system isolation signal. Add action to subsequently reset tripped components.
d. Indicate that the power supply for Unit 2 RWCU automatic isolation Panel 2202-77B is from MCC 29-1-1, and that de-energization of the MCC will initiate numerous RWCU system related alarms and a RWCU system isolation signal. Add action to subsequently reset tripped components.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the basic functions of the RWCU automatic isolation system are to initiate an automatic isolation of RWCU and to provide alarm indications in the main control room of high temperatures and system isolation. Modification DCP 9600436 provides the power feeds to the circuitry, a safety-related one-out-of-two automatic isolation logic, and various alarms indicating abnormal temperatures. The referenced procedures only reflect how the system will operate after the modification is installed.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because changes to the referenced procedures do not change how the RWCU system is operated. These changes only indicate plant configuration and response as a result of the modification.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the plant has been made more conservative than previously designed.

Tracking No. SS-H-99-0244
Activity No. QOA 6800-04 Revision 9, ANALOG TRIP SYSTEM TROUBLE;
QCAN 901(2)-5 C-13 revision 4, CHANNEL A/B REACTOR HIGH PRESSURE; SE-99-080

DESCRIPTION:

a. Indicate that Unit 2 Reactor scram pressure transmitters are PT 2-263-55A/B/C/D and are powered via Panels 2202-73A & B.
b. Indicate that the sensors for Panel 902-5 annunciator C-13 are PIS 2-263-191A/B/C/D.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the replacement transmitters have a higher reliability (less sensitive to vibration, easier to calibrate, less tendency to drift) and thus will give a more accurate reading of reactor vessel pressure. Therefore, the probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety is not increased.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because a malfunction in either the pressure switches or transmitters is the same malfunction that could have occurred previously. Therefore, a different type of accident or malfunction has not been created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because a corresponding Technical Specification change has been incorporated. This change does not affect the margin of safety and therefore, does not reduce the margin of safety.

Tracking No. SS-H-00-0078
Activity No. QCOS 1000-04 Revision. 22, QUARTERLY RHR SERVICE WATER PUMP OPERABILITY TEST
QCOP 5750-09 Revision 17, CONTROL ROOM VENTILATION SYSTEM
QCOS 5750-02 Revision 18, CONTROL ROOM EMERGENCY FILTRATION SYSTEM MONTHLY TEST
QCOS 5750-04 Revision 14, QUARTERLY TESTING OF CONTROL ROOM HVAC SYSTEM VALVES AND DAMPERS
QCOS 5750-11 Revision 9, CONTROL ROOM EMERGENCY FILTRATION SYSTEM 18-MONTH TEST
QOM 1/2-5750-01 Revision 3, CONTROL ROOM HVAC VALVE CHECK LIST; SE-00-031

DESCRIPTION:

1. Increase B train Control Room HVAC Refrigeration Condensing Unit flow rate from 120 gpm to 130 gpm. This includes direction to control flow within a band of 130 gpm to 140 gpm.
2. Increase B train Control Room HVAC Refrigeration Condensing Unit operating pressure to 285 psig. This includes direction to control pressure within a band of 100 psig and 295 psig.
3. Delete reference to FI 1/2-5795-342 as being an in-line Brooks flowmeter.
4. Add the following valves to QOM 1/2-5750-01:

0-5795-342-B/H/L	0-5799-1059	0-5799-1063
0-5795-357-B/H/L	0-5799-1060	0-5799-1064
0-5795-358	0-5799-1061	0-5799-1065
0-5799-1058	0-5799-1062	

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the procedure changes reflect implemenation of DCP 9900295 which does not affect the integrity of the reactor coolant pressure boundary or of any system connected to the reactor pressure boundary or any steam system outside containment. The increased RCU condenser/compressor discharge pressure is less than the desgin pressure of the associated components and within the vendor recommended maximum operating range. The RCU has adequate capacity to provide the required cooling to the control room under design basis accident conditions with the increased condenser operating pressure and cooling water flow rate. This ensures that the control room will be maintained within the required environmental/temperature conditions following a design basis accident. The increased design cooling water flow rate will not prevent the RHRSW system from providing its required mitigating function (containment cooling) following a

LOCA inside containment. Other than these functions, the changes have no effect on any release barriers or accident mitigation system or equipment.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the procedure changes reflect implementation of DCP 9900295 which does not create any new failure modes or any new system interactions or dependencies. The new operating parameters for the condenser pressure and design cooling water flow rate are within the capabilities of the compressor and condenser and will have negligible effect on the service water and RHR service water systems. The addition of the new instrumentation is for trending purposes and does not affect the functions or failure modes of the system or affect any interactions with other systems.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the procedure changes reflect implementation of DCP 9900295 which improves the heat removal capacity of the CR HVAC RCU by increasing the cooling water design flow rate and the number of passes through the condenser and by increasing the refrigerant pressure and temperature in the condenser. This improves the ability of the CR HVAC system to meet the cooling requirements of Technical Specification 3/4.8.D and will ensure that the RCU will not demand more than the design cooling water flow rate from the RHRSW system. The increased design cooling water flow rate will have an insignificant impact on the discharge pressure of the RHRSW system (Technical Specification 3/4.8.A), however, the surveillance that verifies this requirement is being updated to set the cooling water flow rate to 130 gpm while verifying the ability of RHRSW to meet its discharge pressure requirement.

Tracking No. SS-H-00-0079
Activity No. QCOS 4100-02, Rev. 17, ANNUAL SUPPRESSION SYSTEM VALVE OPERABILITY; SE-97-110

DESCRIPTION:

This procedure is being revised by deleting the testing of 2-4199-119, U-2 ACAD Preaction Fire Protection System Isolation valve because of the fire protection system for the U-2 ACAD system has been abandoned in place.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the ACAD system has been de-energized and abandoned in place. The ACAD system no longer serves any role in plant operations.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the ACAD fire protection system is no longer required because the combustibles have been removed from the ACAD system. There is no potential for creating an accident or malfunction of any type.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the removal of the fire protection for the ACAD system does not affect any Technical Specification or any parameter where any margin of safety is based.

Tracking No. SS-H-00-081
Activity No. QCOP 0500-07 Revision 2, BYPASSING "A" CHANNEL OF THE REACTOR MODE SWITCH TO SHUTDOWN SCRAM; SE-00-014

DESCRIPTION:

Add a PREREQUISITE that Channel "B" of the Reactor Mode Switch to Shutdown Scram is not bypassed.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the PREREQUISITE only documents that a condition assumed in SE-00-014 does exist. In this procedure, jumpers are placed on terminal blocks that the mode switch is connected to. No work will be performed directly on the mode switch. The jumper will only be placed in the logic for the manual scram relays for "A" channel (0590-109 relays) and will be removed immediately after the mode switch is moved to the SHUTDOWN position. The jumper will not affect any other mode switch functions. The jumper will only be placed when all rods are at position "00" (fully inserted). The jumper will not affect the REFUEL or STARTUP functions of the mode switch or bypass the rod block function of the SHUTDOWN position.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the PREREQUISITE only documents that a condition assumed in SE-00-014 does exist. None of the physical actions performed are changed by this revision. Since the activity will be performed in the same manner, the possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the PREREQUISITE only documents that a condition assumed in SE-00-014 does exist. None of the physical actions performed or controls in place are changed by this revision. Since the activity will be performed in the same manner, the margin of safety as defined in the basis of any Technical Specification is not reduced.

Tracking No. SS-H-00-082
Activity No. QCOP 0500-08 revision 0, BYPASSING "B" CHANNEL OF THE REACTOR MODE SWITCH TO SHUTDOWN SCRAM; SE-00-014

DESCRIPTION:

This procedure installs a jumper around the 0590-116B and 0590-115B contacts in the "B" RPS manual scram circuit. This will prevent the interruption of RPS power to manual scram subchannel trip relays 590-109B and D when the Reactor Mode Switch is moved to the SHUTDOWN position.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the jumper will be placed on terminal blocks that the mode switch is connected to. No work will be performed directly on the mode switch. The jumper will only be placed in the logic for the manual scram relays for "B" channel (0590-109 relays) and will be removed immediately after the mode switch is moved to the SHUTDOWN position. The jumper will not affect any other mode switch functions. The jumper will only be placed when all rods are at position "00" (fully inserted). The jumper will not affect the REFUEL or STARTUP functions of the mode switch or bypass the rod block function of the SHUTDOWN position.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the jumper will only be placed when all rods are at position "00" (fully inserted). The jumper will not affect the rod block function of the SHUTDOWN position. The jumper will be removed immediately after the mode switch is moved to the SHUTDOWN position. Per UFSAR paragraph 7.2-40: "This scram is not considered a protective function because it is not required to protect the fuel or nuclear system process barrier, and it does not act to minimize the release of radioactive material from any barrier."

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because per the PREREQUISITES of the procedure to install this jumper, all 177 control rods must be fully inserted, the reactor mode select switch ready to be moved from the STARTUP position to the SHUTDOWN position and no half scrams present on "B" RPS channel or half scram testing in progress. Installing this jumper will place the Unit in an ACTION statement to place the inoperable channel(s) and/or that trip system in the tripped condition within 1 hour but an inoperable channel need not to be placed in the tripped condition when this would cause the trip function to occur. In this case, the inoperable channel will be restored to operable status as soon as the mode switch is moved and the jumper removed, or the action required previously would apply. The limits addressed in the Technical Specifications are always maintained. Therefore, the margin of safety is not changing.

Tracking No. SS-H-00-0094
Activity No. DCP 9900378; SE-00-015

DESCRIPTION:

TMOD DCP 9900378 is an exact duplicate of TMOD DCP 9900303. This TMOD will install a temporary hose for the Reactor Core Isolation Cooling (RCIC) System Steam Line Drain, tapping off between valves AO 1-1301-34 and 35. The hose will be rated for at least 290°F and 100 psig, which represents the maximum temperature and pressure expected based on past testing. The hose will be routed to the Unit One Reactor Building Floor Drain Sump and discharge under the water level of the sump. The hose will be adequately secured to prevent it from coming out of the sump during operation. The RCIC Steam Trap Bypass Valve AO 1-1301-32 will be taken Out of Service closed for the duration of the hose installation. This measure will prevent the steam from bypassing the steam traps and exceeding the temperature or pressure rating of the hose. This will also minimize the amount of additional drainage and temperature loading on the Reactor Building Drain Sump, since only the condensate through the steam trap will be routed to the sump. The valve provides additional drain capacity around the steam trap when the condensed steam loads on the trap are high, which occurs during heat-up of the steam supply piping to the RCIC turbine when the steam supply is initially aligned. If the steam supply to the RCIC turbine is isolated, the valve will be returned to service before the steam supply to the RCIC turbine is re-established.

SAFETY EVALUATION SUMMARY:

1. The probability of occurrence or the consequences of an accident or a malfunction of equipment important to safety previously evaluated in the safety analysis report is not increased because the installation of this TMOD has no adverse effect upon the initiators of any transients listed in the Safety Evaluation. This TMOD will provide a flow path from the steam trap while RCIC is in standby operation. This will ensure the availability of the RCIC to provide its design function. This flow path is isolated during RCIC operation; and will therefore, not affect operation of the RCIC turbine or pump following the transient. The TMOD does not affect any barriers or any other mitigating systems for these transients.

2. The possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report is not created because the basic functions of the RCIC system, including the steam line drain, have not been changed. This TMOD still provides continuous removal of undesirable condensate from the steam supply lines to the RCIC turbine through the temporary hose. If this TMOD were to fail to operate as intended, the result would be the same as if any of the existing valves or components in the drain flow path to the main condenser were to fail. If condensate is allowed to accumulate in the RCIC steam supply piping, the RCIC system could fail on start-up; however, this is an existing failure mode if the current drain line failed to pass the required flow. This TMOD does not affect the high level alarm that would alert the Control Room if this failure were to allow water to back-up in the drain piping. Other than the RCIC system, this TMOD does not affect any equipment important to safety.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this TMOD will provide a flow path from the steam trap while RCIC system is in standby operation. This will ensure the availability of the RCIC system to operate if required. This flow path is isolated during RCIC operation; and will therefore, not affect the

ability of the system to provide the flow rate required by Technical Specifications. Therefore, this activity does not reduce the margin of safety associated with this Technical Specification.