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GCT-92-28

July 14,1992

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

SUBJECT: Quad Cities Nuclear Station Units 1 and 2
Changes, Tests, and Experiments Completed
NRC Docket Nos. 50-254 and 50-265

Enclosed please find a listing of those facility and procedure changes, tests, and experiments requiring safety evaluations completed during the months of May and June 1992, for Quad-Cities Station Units 1 and 2, DPR-29 and DPR-30. A summary of the safety evaluations are being reported in compliance with 10CFR50.59 and 10CFR50.71(e).

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

Gerald Tietz

Gerald Tietz
Technical Superintendent

GCT/dak

Enclosure

cc. A. B. Davis, Regional Administrator
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TS 92

JE47

SE-92-48

Temporary Procedure 7506
QOP 300-14 Control Rod Drive Maintenance with Fuel Loaded

DESCRIPTION:

Delete the prerequisite to verify operable and functionally test the refueling interlocks, with the exception of the one rod out permissive, and delete the precautions to restrict fuel and personnel movements on the refuel floor during the performance of QOP 300-14 on rod J-2 of Unit One Reactor.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the plant has been analysised for this condition. Refueling cannot physically occur due to the Drywell Head and Reactor Head barriers.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because Technical Specification 3.10.D.1 requires refueling interlocks to be operable during CRD maintenance. In the current plant condition the testing of and operability for the refuel interlocks is not required because the RX Core cannot be altered with the Drywell head and vessel intact.

SE-92-87

Out of Service for the Air Operators on the
2-1402-9A and 2-1402-9B
Testable Check Valves

DESCRIPTION:

The proposed change is to take the air supply to the solenoid operator on the Core Spray 2-1402-9A and 2-1402-9B check valves Out of Service (OOS), and pull fuses 1430-707A and 1430-707B which will electrically disable the actuator. This change will disable the remote testability of the check valves and disable the control room indication of check valve actuator status and valve position.

The operation of these check valves will not be affected by this proposed change. The UFSAR and Tech. Specs. do not refer in any way to the testable function or the control room indication associated with these check valves. There are no documented regulatory guidance which required these check valves to be pnuematically operated remotely.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA UFSAR SECTION 6

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this Out of Service will not affect the operation of the check valves or the core spray system. The OOS will also not impact any other system or structure in any way. Therefore, the OOS does not create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because Technical Specification Section 4.5; Surveillance Requirements Bases, addresses the testability of the core spray system and its components. This section states, "The core cooling systems have not been designed to be fully testable during operation . . . To increase the availability of the individual components of the core and containment cooling systems, the components which make up the system, i.e., instrumentation, pumps, valve operators, etc., are tested more frequently. The instrumentation is functionally tested each month. Likewise the pumps and motor operated valves are also tested each month to assure their operability. The combination of a yearly simulated automatic actuation test and monthly tests of the pumps and valve operators is deemed to be adequate testing of those systems."

   This OOS will not affect this specification bases. The performance of QCOS 1400-9, Flushing Core Spray Lines into the Reactor, performed once per quarter and during periods of shutdown, will adequately test the operability of the check valves. All other component and system testing will not be affected.

SE-92-88

Various QCOS 6600 and QCOP 6600
Diesel Generator Procedures

DESCRIPTION:

Revise the requirements for determining the operability of a Diesel Generator (DG). The new requirement for proving DG operability when the other DG for a Unit is inoperable will be revised to allow running he DG unloaded to verify operability.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   None

   The accidents which meet these criteria are listed below:

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because The DG is designed with the capability of running unloaded for a period of time. This configuration does not create any new accident mode, and is in fact the configuration at the beginning of a normal monthly load test. During a loaded run, the DG is first run for a period of time unloaded in order to verify settings and warm up the engine.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because a Technical Specification Interpretation has been performed to establish what is meant by "demonstrated to be operable." When a DG is paralleled to the grid it must be considered inoperable (automatic load shedding and sequencing are inhibited since an undervoltage will not occur, and the DG would thus be overloaded). Therefore, when on DG is found inoperable, demonstrating the

other DG to be operable by loading it to the grid would result in both DGs for the Unit to be inoperable. The Technical Specification Interpretation states that if a DG is found to be inoperable, demonstration of operability of the other DG will constitute an unloaded run. It further states that verification of operability of the remaining required systems means an administrative check. The procedure change addressed by this evaluation incorporate the guidelines of the Technical Specification interpretation. Therefore, the acceptance limits are met and the margin of safety is not reduced.

SE-92-89

QCOS 6600 One EDG Outage Reports

DESCRIPTION:

Revise the Emergency Diesel Generator (EDG) Outage Report requirements to concur with Technical Specification Interpretation. Revised procedure requirements to administratively insure operability of RHR and Core Spray systems while one EDG is inoperable. Verification will be accomplished by review of logs and completed surveillances, and not require the performance of these surveillances to demonstrate operability.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because The operability and function of the RHR and Core Spray systems is not altered in any way by this procedural change. The systems components are administratively verified to be operable by review of current monthly surveillances, and review of logs to insure that no components are inoperable.

   Daily operation of these systems is not required to prove operability. Technical Specification Interpretation defines 'demonstration of operability' to mean administrative checks and examination of logs and current surveillances.

   This procedure change is administrative in nature and will not adversely impact or degrade the operation of any structure, system or component described in the UFSAR so as to create the possibility of an accident or transient outside of those previously annualized.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because a Technical Specification Interpretation has been performed to establish intent of 'demonstration of operability' to mean administrative checks and examination of logs and current surveillances. The procedure change incorporates the interpretation guidelines, by changing 'demonstrate operable' to 'verify operable', and qualifies 'verify'.

SE-92-92

Component Replacement #C04-2-92-001 (2-1153)

DESCRIPTION:

This safety evaluation is for the design and final installation of the Rosemount Transmitter Type 1152DP4L22T1805PB. This transmitter will replace the GEMAC Type 553 currently installed.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because SBLC level transmitter 2-1153 function will remain as is, thus no adverse system interaction or component malfunction will be created that has not already been evaluated.

3. The margin of safety, is not defined in the basis for any Technical Specifica[illegible], therefore, the safety margin is not reduced.

SE-92-95

QOS 250-4, Rev. 11

DESCRIPTION:

Deletes fail-safe test using test switch and reorders the testing sequence.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Main Steam Line Break Outside of Drywell	UFSAR SECTION	14.2.3
Loss of Coolant Accident	UFSAR SECTION	14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because by reordering the steps, the MSIVs will be stroked with steam flow which is the actual conditions under which the MSIVs would have to operate. The fail-safe test is being verified during cold shutdowns as a part of QOS 250-8. The fail-safe test detailed in QOS 250-8 provides a better simulation of an actual loss of actuator power than what was demonstrated by actuating the test switch. Since the fail-safe operation of the MSIVs is being verified outside of this procedure, the deletion of the redundant, less effective fail-safe test using the test switch is of no consequence. This procedure change does not introduce any testing methods not already described in the FSAR and required by the technical specifications.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-97

Temporary Alteration

DESCRIPTION:

This Temporary Alteration will connect mounting brackets to the HPCI Turbine, pumps, and speed reducer in order to mount opti-lign/perm-align equipment. Data will be taken during HPCI startup surveillances.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION 1.3.5, 6.2.5, 6.2.7, 7.7.2, 14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the mounting brackets and bolts have been evaluated by an A/E and General Electric and found to be acceptable. Therefore, the UFSAR is still the bounding document for HPCI failure analysis.

   The only possible new failure introduced by this temporary alteration would be loss of lube oil due to failure of one of the bolts. Total failure of HPCI controls would occur and would render HPCI inop. Failure of the HPCI system has already been analyzed per UFSAR. Per Technical Specification, HPCI would enter a 14 day LCO and continued Reactor operation would be allowed due to back-up ECCS Systems - ADS, RCIC, LPCI mode of RHR, and core spray. These systems would be operable, thus plant operation would not be affected.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-98

DCR 4-92-008

DESCRIPTION:

Revise GE Drawings 117C2401 (Unit One) and 117C2415 (Unit Two) to show correct as built identification of the HIGH and LOW sides of Reactor Level Transmitters 1-263-57A, 1-263-57B, 2-263-57A, and 2-263-57B.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   DBA LOCA UFSAR SECTION 14.2 4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the low side of transmitters 1(2)-263-57A & B is identified to be the Reference Leg. The High side, the variable leg, is the side which changes as Reactor Vessel level changes. A loss of the High Side would cause the instruments to fail downscale and trip as designed.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-99

Component Replacement C04-1-92-004/002

DESCRIPTION:

Component Replacement: Replace Barton transmitter with Rosemount transmitters and replace the Foxboro square root converters with Moore square root converters for the main steam line. The transmitters provide input to the square rooter. Then the square root converters provide inputs to both a main steam line flow summer and individual indication of steam pipe flow.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Main Steam Line Break Outside Drywell	UFSAR SECTION	14.2.3
Feedwater Flow Transient Excess feedwater flow	UFSAR SECTION	11.3.3
MSIV Closure	UFSAR SECTION	11.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the replacement transmitters/square rooters will not adversely impact systems or functions so as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR.

   The new transmitters/square rooters have the same outputs as the old transmitters/square rooters to the following equipment. The following failure evaluations, which apply to the Rosemount transmitters, Barton transmitters, Foxboro square rooters and Moore square rooters, have the same affect on the following equipment unless otherwise stated.

   A. Failure high: Actual steam flow is less than the transmitter/square rooter indicates (output is 50mA or greater).

   - Rodworth minimizer: Receives an input signal from feedwater flow as well as from steam flow. The rod worth minimizer would still function as expected since it would compare both signals and act according to the lowest signal of either steam flow or feedwater flow. Therefore the rodworth minimizer would be functioning according to actual reactor power.

   - Steam flow recorder: The steam flow recorder has a passive function. The steam flow recorder will read at a greater steam flow rate than the actual steam flow rate. Other indications in the control room are available to determine if a high steam flow condition exists.

   - Individual pipe steam flow indication: The individual pipe steam flow indication has a passive function. The indication for the failed transmitter/square rooter will read at a greater steam flow rate than the actual steam flow rate. Other indications in the control room are available to determine if a high steam flow condition exists.

   - Main steam line leakage alarm: The alarm will annunciate if a mismatch between total steam flow and first stage turbine pressure is greater than 10% for greater than 30 seconds. However, if the alarm annunciates and a main steam line leakage condition does not exist, then other indications are available in the control room to determine if a high steam flow condition exists.

   - Hydrogen Water Chemistry: Hydrogen is normally injected at 50 SCFM at 100% reactor power. The hydrogen injected system can inject up to and is limited to 50 SCFM at any reactor power level. Past operating experience has shown: 1) Main steam line radiation monitors will increase but no alarms or trip set points will be reached. 2) Reactor water dissolved oxygen concentration would be very low. This shall not affect piping integrity or fuel integrity. However, if reactor water chemistry were to deteriorate, Technical Specifications would ensure that piping and fuel integrity would be maintained.

- Three element control: 1) If the transmitter/square rooter fails at its maximum allowable output signal (50 mA) the feedwater control system will respond by adjusting feedwater flow up to 100% Reactor level will be maintained at 30 inches. 2) If the transmitter/square rooter fails at greater than its maximum allowable output signal. Three element control responds by opening the feedwater regulating valves, thereby increasing feed flow. As reactor level is increased the following automatic actions will occur: at +36 inches the 'vessel high level alarm' will annunciate; at +44 inches the trips at +48 inches will reset; at +48 inches the HPCI turbine trips, RCIC trips, main turbine trips, and the reactor feed pump trips. If a square rooter or transmitter caused an 'excess feedwater flow transient' the high level +48 inches trips will occur in about 18 seconds. This does not create a new type of event not previously analyzed.

B. Failure low or no output; actual steam flow is greater than a transmitter/square rooter indicates (output is 10 mA or less):

- Rodworth minimizer: Receives an input signal from feedwater flow as well as from steam flow. The rodworth minimizer would still function as expected since it would compare both signals and act according to the lowest signal of either steam flow or feedwater flow. Therefore the rodworth minimizer would fail conservatively in that it would operate at the less than 20% power region prior to actual reactor power decreasing to less than 20% power.

- Steam flow recorder: The steam flow recorder has a passive function. The steam flow recorder will read at a lower steam flow rate than the actual steam flow rate. Other indications exist in the control room to determine if there actually is a low steam flow condition.

- Individual pipe steam flow indication: The individual pipe steam flow indication has a passive function. The indication for the failed transmitter/square rooter will read at a lower steam flow rate than the actual steam flow rate. Other indications in the control room are available to determine if a high steam flow condition exists.

- Main steam line leakage alarm: The alarm will annunciate if a mismatch between total steam flow and first stage turbine pressure is greater than 10% for greater than 30 seconds. However, if the alarm annunciates and a main steam line leakage condition does not exist, then other indications are available in the control room to verify that a main steam line leak condition does not exist.

- Hydrogen Water Chemistry: Hydrogen injection system will inject hydrogen at a lower rate than the amount specified for the actual steam flow. 1) The main steam line radiation monitors will decrease slightly. 2) Reactor water dissolved oxygen concentration will be higher. Hydrogen injection system is not required for plant operation.

- Three element control: At 100% power three element control fails. 1) Three element control responds by closing the feedwater regulating valves, thus reducing the feedwater flow. The feed flow is now less than the steam flow, and the vessel level begins to decrease. The reactor water level would have to decrease below the scram set point to compensate for this flow error. The reactor would scram on low level. At +24 inches the 'Vessel low level alarm would annunciate; at +20 inches the runout flow control would reset; at +8 inches trips reactor scram, group 2 isolation, group 3 isolation, reactor bldg. ventilation isolates and standby gas treatment starts, control room ventilation shifts to 100% recirc. 2) Three element control fails causing a 'loss of feedwater transient'. Low water level scram occurs after about 7.4 seconds. This event does not create a new type of event not previously analyzed.

C. Erratic output: Actual steam flow is not represented by the erratic output of a square root converter (output is between 10mA and 50mA).

I. Per the vendors, the Rosemount or Barton transmitters should not fail erratically or with an intermediate output signal.

II. Rodworth minimizer: Receives an input from feedwater flow as well as from steam flow. The rodworth minimizer would still function as expected since it would compare both signals and act according to the lowest signal of either (erratic/intermediate) steam flow or feedwater flow. The rodworth minimizer would either fail conservatively on a low erratic steam flow signal and operate as if power were less than 20%, or, the rodworth minimizer would function according to actual reactor power based on the lower feedwater flow signal.

- Steam flow recorder: The steam flow recorder has a passive function. The steam flow recorder will show erratic readings.

- Individual pipe steam flow indication: The individual pipe steam flow indication has a passive function. The indication for the failed transmitter will show erratic readings or an incorrect intermediate signal.

- Main steam line leakage alarm: If the square rooter erratically deviates far from the actual pipe steam flow, the alarm will annunciate even though a main steam line leakage condition does not exist.

- Hydrogen Water Chemistry: Hydrogen injection rate will be either erratic or at a lower rate or at a greater rate than the amount normally specified for the actual steam flow. 1) The main steam line rad monitors will increase and/or decrease depending on the injected amount. 2) Reactor water dissolved oxygen concentration will increase or decrease depending on the inject amount. However, if reactor water chemistry were to deteriorate, Technical specifications would ensure that piping and fuel integrity would be maintained.

- Three element control: On an intermediate or erratic signal the three element control would have the same response as either A. Failure high, or B. Failure low or no output. This depends on whether the total steam flow signal is greater or lower than the actual steam flow.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-101

Component Replacement C04-2-92-012

DESCRIPTION:

The component replacement will replace the existing .075 kva control power transformer in MCC 29-1 cubicle G1 with a .150 kva control power transformer. The design of the new transformer is similar to that of the existing transformer. The new transformer has a lower impedance because the size of the transformer wire is larger in diameter than that of the existing. This make the new transformer more reliable because less heat will be generated in the transformer during normal and abnormal conditions. The new transformer does not change the power requirements of the U2 Diesel Generator HVAC Supply Fan because no additional loading is being added to the control circuit. In addition, the new transformer is being purchased Safety-Related EQ to meet the requirements of the existing transformer.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION	14.2.4
Power bus loss of voltage	UFSAR SECTION	8.2.2
Failure of one DG to start	UFSAR SECTION	8.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the component replacement has no adverse effect on plant operating modes or equipment

functions. The installation of the new control power transformer enhances the reliability of the Unit 2 Diesel Generator HVAC Supply Fan, because it improves the voltage at the load under degraded voltage conditions. The new transformer has a lower impedance because the size of the transformer wire is larger in diameter than that of the existing. This makes the new transformer more reliable because less heat will be generated in the transformer during normal and abnormal conditions. The new transformer does not change the power requirements of the U2 Diesel Generator HVAC Supply Fan because no additional loading is being added to the control circuit. In addition, the new transformer is being purchased Safety-Related EQ to meet the requirements of the existing transformer. In addition, the new control power transformer increases the voltage to the control transformer. In addition, the new control power transformer increases the voltage to the control circuit under degraded voltage conditions. Therefore, the component replacement will not create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-102

Component Replacement C04-1-92-003

DESCRIPTION:

Component Replacement: Replace General Electric Summer with Moore summer for the main steam line. The summer provides input to: total steam flow recorder, rodworth minimizer, three element control, main steam line leakage alarm, and hydrogen water chemistry.

SAFETY EVALUATION SUMMARY:

1. The change descr ed above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Main Steam Line Break Outside Drywell	UFSAR SECTION	14.2.3
Feedwater Flow Transient		
Maximum feedwater flow		
Minimum feedwater flow	UFSAR SECTION	11.3.3
MSIV Closure	UFSAR SECTION	11.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the replacement summer will not adversely impact systems or functions so as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR. The new summer has the same outputs as the old summer to the following equipment. The following failure evaluations apply to both the General Electric and the Moor summers and have the same affect on the following equipment unless otherwise stated.

A. Failure high: actual steam flow is less than the summer indicates (output is 50mA or greater).

- Rodworth minimizer: Receives an input signal from feedwater flow as well as from steam flow. The rod worth minimizer would still function as expected since it would compare both signals and act according to the lowest signal of either steam flow or feedwater flow. Therefore the rodworth minimizer would be functioning according to actual reactor power.

- Steam flow recorder: The steam flow recorder has a passive function. The steam flow recorder will read at a greater steam flow rate than the actual steam flow rate. Other indications in the control room are available to determine if a high steam flow condition exists.

- Main steam line leakage alarm: The alarm will annunciate if a mismatch between total steam flow and first stage turbine pressure is greater than 10% for greater than 30 seconds. However, if the alarm annunciates and a main steam line leakage condition does not exist, then other indications are available in the control room to determine if a high steam flow condition exists.

- Hydrogen Water Chemistry: Hydrogen is normally injected at 50 SCFM at 100% reactor power. The hydrogen injected system can inject up to and is limited to 50 SCFM at any reactor power level. Past operating experience has shown: 1) Main steam line radiation monitors will increase but no alarms or trip set points will be reached. 2) Reactor water dissolved oxygen concentration would be very low. However, if reactor water chemistry were to deteriorate, Technical Specifications would ensure that piping and fuel integrity would be maintained.

- Three element control: 1) If the summer fails at its maximum allowable output signal (50 mA) the feedwater control system will respond by adjusting feedwater flow up to 100%. Reactor level will be maintained at 30 inches. 2) If the summer fails at greater than its maximum allowable output signal. Three element control responds by opening the feedwater regulating valves, thereby increasing feed flow. As reactor level is increased the following automatic actions will occur: at +36 inches the 'vessel high level alarm' will annunciate; at +44 inches the trips at +48 inches will reset; at +48 inches the HPCI turbine trips, RCIC trips, main turbine trips, and the reactor feed pump trips. If a summer caused an 'excess feedwater flow transient' the high level +48 inches trips will occur in about 18 seconds. This does not create a new type of event not previously analyzed.

B. Failure low or no output; actual steam flow is greater than a transmitter/square rooter indicates (output is 10 mA or less):

- Rodworth minimizer: Receives an input signal from feedwater flow as well as from steam flow. The rodworth minimizer would still function as conservatively since it would compare both signals and act according to the lowest signal of either steam flow or feedwater flow. Therefore the rodworth minimizer would fail conservatively in that it would operate at the less than 20% power region prior to actual reactor power decreasing to less than 20% power. At zero percent steam flow signal the rodworth minimizer will still function on even though reactor power may be greater than zero.

- Steam flow recorder: The steam flow recorder ha a passive function. The steam flow recorder will read at zero steam flow rate instead of the actual steam flow rate. Other indications exist in the control room to determine if there actually is a low steam flow condition.

- Main steam line leakage alarm: The alarm will annunciate if a mismatch between total steam flow and first stage turbine pressure is greater than 10% for greater than 30 seconds. However, if the alarm annunciates and a main steam line leakage condition does not exist, then other indications are available in the control room to verify that a main steam line leak condition does not exist.

- Hydrogen Water Chemistry: The total steam flow summer controls the amount of hydrogen being injected. If the signal from the summer were to fail, the worst case scenario would be low hydrogen flow which would trip the hydrogen injection system. Hydrogen water chemistry is not required for plant operation.

- Three element control: At 100% power three element control fails. 1) Three element control responds by closing the feedwater regulating valves, thus reducing the feedwater flow. The feed flow is now less than the steam flow, and the vessel level begins to decrease. The reactor water level would have to decrease below the scram set point to compensate for this flow error. The reactor would scram on low level. At +24 inches the 'Vessel low level alarm would annunciate; at +20 inches the runout flow control would reset; at +8 inches trips reactor scram, group 2 isolation, group 3 isolation, reactor bldg. ventilation isolates and standby gas treatment starts, control room ventilation shifts to 100% recirc.. 2) Three element control fails causing a 'loss of feedwater transient'. Low water level scram occurs after about 7.4 seconds. This event does not create a new type of event not previously analyzed.

C. Erratic output or intermediate signal: Actual steam flow is not represented by the erratic output of the intermediate signal of the summer. (output is between 10mA and 50mA).

Rodworth minimizer: Receives an input from feedwater flow as well as from steam flow. The rodworth minimizer would still function as expected since it would compare both signals and act according to the lowest signal (erratic/intermediate) of either steam flow or feedwater flow. The rodworth minimizer would either fail conservatively on a low erratic steam flow signal and operate as if in the less than 20% power region 20% power; or, the rodworth minimizer would function according to actual reactor power based on the lower feedwater flow signal.

- Steam flow recorder: The steam flow recorder has a passive function. The steam flow recorder will show erratic readings or an incorrect intermediate signal.

- Main steam line leakage alarm: If the summer erratically or intermediately deviates 10% or more from the actual steam flow for more than 30 seconds, the alarm will annunciate even though a main steam line leakage condition does not exist.

- Hydrogen Water Chemistry: Hydrogen injection rate will be either erratic or at a lower rate or at a greater rate than the amount normally specified for the actual steam flow. 1) The main steam line rad monitors will increase and/or decrease depending on the injected amount. 2) Reactor water dissolved oxygen concentration will increase or decrease depending on the inject amount. However, if reactor water chemistry were to deteriorate, Technical Specifications would ensure that piping and fuel integrity would be maintained.

- Three element control: At worst case on an intermediate or erratic signal the three element control would have the same response as either A. Failure high, or B. Failure low or no output. This depends on whether the total steam flow signal is greater or lower than the actual steam flow.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

1. Updated population density to reflect 1980 census and Cordova, Illinois population to reflect 1980 census.

2. Revised certain distances from the site to certain residences and towns.

3. Added a table with population information in 22 1/2 degree sections out to 50 miles to reflect 1980 census data.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Control Rod Drop	SAR SECTION	14.2.1
Refueling Accident	SAR SECTION	14.2.2
Loss of Coolant Accident	SAR SECTION	14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes made concern offsite issues (population densities and distributions and distances). Since no systems, structures, or components are being changed and there are no operational changes being made to the plant, no new type of accident or malfunction is created. There are no credible event which could occur based on total population, population densities, population

distribution and distances to the plant. Again, since the systems, structures and components of the plant are not being changed, an onsite event would result in the same total release as prior to the change to the Rebaselined FSAR Section 2.1. Since the per person exposure remains constant, with 10CFR 100 exposure limits, no new event is created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the potential impact on Technical Specification 3.8.A from the change identified in the Rebaselined FSAR Section 2.1 related to offsite dose. Effluent gaseous releases (addressed in Technical Specification 3.8.A) would not be changed since no change is being made to any plant systems, structures or components nor to any plant operating practices. Although total offsite exposure could increase due to the increased population, the per person exposure which is specified in this Technical Specification is not effected since release rates are not changed. Based on the above, this Technical Specification is not impacted in any way and no reduction in the margin of safety would result.

DESCRIPTION:

1. Revised SAR description of turbine stop valve closure scram logic to delete the phrase "closure of any two valves causes a single system trip". Review of the design drawings indicates that this statement is not correct - closure of any one of four (of the six possible) combinations of two valves will cause a single channel trip. This revised description does not change the logic for a two trip system trip (i.e., full scram). Therefore, closure of any three of four stop values continues to result in a full scram.

2. Changed SAR description of turbine control valve fast closure scram logic from "operation of any two solenoids causes a single system trip and operation of three or more initiates a scram" to "operation of any solenoid causes a single system trip and the operation of one solenoid in each trip system initiates a scram" to accurately reflect a one-out-of-two-twice logic.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Turbine Trip/Bypass Failure	UFSAR SECTION	4.4.3
Loss of Generator Load	UFSAR SECTION	11.2.3
Turbine Stop Valve Closure	UFSAR SECTION	11.2.3
Anticipated Transient Without Scram	UFSAR SECTION	7.10

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes made involve the detailed interconnection of the turbine trip-type sensors to the RPS scram function. The change reflects the original design and meets the Technical Specification Bases description. The revised descriptions reflect the circuit configurations which were evaluated by GE Topical Report NEDO-10139 for conformance to IEEE Proposed Criteria for Nuclear Power Plant Protection Systems (IEEE-279) and involve only revisions of an erroneous description in the FSAR. Since failure to scram (the ATWS event) already incorporates failures in the logic or associated components and is analyzed in the SAR, no accident or malfunction different from those analyzed in the SAR is introduced by this change. The logic change remains a fully redundant one-out-of-two-twice configuration using the same equipment and relays described in the SAR. The logic responds to the closure of any three or more of the four stop valves or three or more of the four control valves (fast closure) to reliably initiate a scram.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Remove all mentions of neutron flux relating to a specific thermal power. There is no evidence that the flux values which were i the original FSAR are correct for the fuel now used. In Technical Specifications, 100% rated neutron flux is defined as that flux required to generate 2511 MWt. Thermal power is determined by a periodic heat balance. This heat balance is the calibration basis for intermediate and power range nuclear instrumentation. No attempt is ever made to relate source range readings to thermal power. All Technical Specification limits are based on thermal power. Therefore, relating a specific quantity for flux to a specific thermal power has no meaning to the safety analysis. This number, even if known, would change from cycle-to-cycle, and also during a given cycle.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Rod drop accident SAR SECTION 14.2.1

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because all core protection limits and all relevant pressure vessel limits are based on thermal power, a lack of knowledge of neutron flux would not cause an accident or malfunction of a different type from those previously evaluated.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Rebaselined FSAR Section 9.3
Compressed Air Systems Section 9.3.1

DESCRIPTION.

The following changes are being made to the air systems description:

A. Section 9.3.1.1, Paragraph 1, deleted "This unit is identical to the other two, except that it loads at 92 psig and unloads at 102 psig."

B. Section 9.3.1.1, Paragraph 3, Item A, deleted "Loads at 95 psig and unloads at 105 psig."

C. Section 9.3.1.1, Paragraph 5, Item A, changed the setpoint for the service air backup supply regulating valve from "91 psig" to "approximately 90 psig."

D. Section 9.3.1.2, Paragraph 2, deleted "from 105 to 110 psig."

E. Section 9.3.1.2, Paragraph 3, changed the setpoint for the relief valve from "125 psig" to "approximately 125 psig."

F. Section 9.3.1.2, Paragraph 3, deleted service air operating pressure of 110 psig.

G. Section 9.3.1.2, Paragraph 5, revised the service air load description by deleting the correlation between specific loads and specific receivers, providing a general list of all service air loads, and

H. Section 9.3.1.2, Paragraph 5, deleted the lift station from the list of service air loads.

The above changes were made up update the original text (Items G and H) or remove setpoint and operating ranges which are not required by Regulatory Guide 1.70 and are beyond the level of detail desired in the FSAR (Items A, B, C, D, E, and F).

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Instrument air failure	SAR SECTION	10.7
MSIV closure	SAR SECTION	11.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the only malfunctions related to the instrument air changes are failure of instrument air to provide for operation of pneumatic loads. This is an evaluated transient.

   The deletion of the receiver-load detail does not change the reliability of the service air system to perform its instrument air backup since no equipment failure, piping failure, compressor failure, component failure, or operating properties are altered by this change.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

The following changes are being made in the text describing the high radiation sampling system:

A. Section 9.3.2.1.1, Paragraph 1, deleted the last sentence which read:

"Although the main objective is to sample the reactor coolant, sampling of the associated reactor waste streams has also been provided in order to enable the operator to assess the extent of the coolant leakage and spread of contamination throughout the station during post-accident operations."

B. Section 9.3.2.1.2, Paragraph 1, Item D, deleted this listed function which read:

"d. Obtain sampling from other auxiliary services such as sumps and radwaste tankage to ascertain spread of radioactivity throughout the plant."

C. Section 9.3.2.1.2, Paragraph 1, deleted two functions previously in Section 12.3.4.1.1 which read:

"To provide for high range gross gamma monitoring of containment atmosphere, torus atmosphere, and standby gas treatment atmosphere following an accident."

"To provide continuous radiation monitoring for noble gases, iodine and particulate in the containment, suppression chamber, and standby gas treatment atmospheres during routine plant operations."

D. Section 9.3.2.1.3.1, Paragraph 1, deleted the description of sump sampling capabilities which read:

"The reactor building equipment drain tank, and the Reactor building floor drain sumps belong to the Radwaste Sampling Module."

E. Section 9.3.2.1.3.3, Paragraph 2, changed the number of liquid sample panel modules from three to two.

F. Section 9.3.2.1.3.3, Paragraph 2, Item 2, deleted the description of the radwaste module which read:

"The radwaste module has the capacity to accept ten different water sources entering at 120°F and 150 psig. Design flow rates are: (a) 1900 cc/min during recirculating mode, and (b) 200 cc/min during sampling. The module has power operated valves to automatically stop sample flow and purge flow in the event of excessive sample temperature."

G. Section 9.3.2.1.3.5, Paragraph 1, changed the number of distinct subsystems in the containment air sampling panel from four to three and deleted the description of the other subsystem which read:

"(4) an extended range containment air monitor (CAM)," and

"with the exception of the containment air monitor, which is controlled from a console located in the main control room."

H. Section 9.3.2.1.5, Paragraph 6, deleted the paragraph which read:

"The CAM unit and the dryer are located in the limited access area."

I. Section 9.3.2.1.5, Paragraph 8, deleted the description of the gross gamma detector which read:

"The GGD is located at the beginning of the common header leaving the containment suppression pool, and standby gas treatment tie-ins."

J. Section 9.3.2.1.8.2, Paragraph 1, deleted this paragraph which read:

"During routine plant operation, the CAM unit will normally be operating in parallel with the GC. The CAM unit monitors the atmosphere for radionuclides by utilizing gamma detectors, a particulate filter, and a charcoal cartridge. The HRSS CAM unit is controlled by, and alarms at, a remote console located in the control room. This remote console which is also used to monitor other radiation detectors, also controls the stack monitor CAM units. The CAM particulate and iodine cartridges are periodically removed and analyzed in the plant laboratory. The gamma detectors provide for both low, medium and high range monitoring. Should radiation levels exceed the range of the medium range detector, automatic isolation of the CAM unit from the containment sample will occur; however, flow through the GGD can be continued using the CASP bypass valve and the nitrogen eductor."

K. Section 9.3.2.1.8.2, Paragraph 3, deleted the description of the CAM from this paragraph in both sentences.

L. Section 9.3.2.1.8.2, Paragraph 7, deleted the paragraph which described the containment air monitor and gross gamma detector which read:

"Though the other components of the CAM have been isolated from the sample system, the high range gross gamma detector (GGD) will be in operation during the post-accident mode. Sample flow is established by the CASP nitrogen educator and the air drawn past the GGD. The interval for GGD readings is set for once every 20 minutes but can be adjusted up to one hour per reading."

M. Section 9.3.2.1.8.2, Paragraph 2, deleted the capability to sample CO in the gas chromatograph.

N. Section 9.3.2.1.2, Paragraph 1, Item G, changed "gaseous constituents" to "hydrogen and oxygen concentrations."

O. Section 9.3.2.1.1, Paragraph 2, deleted specific information on integrated dose which read:

"for the 37 minutes it takes to obtain and transport the sample is 0.7 Rem. This is well below the limits established in 10CFR20."

P. Section 9.3.2.1.1, Paragraph 4, deleted the entire paragraph which read:

"The design life of the components before requiring maintenance is two years in a post-accident environment."

Q. Section 9.3.2.1.1, Paragraph 6, deleted the words "within one hour" from the phrase" ...designed to capture reactor coolant source samples within one hour after a decision is made to sample..."

R. Section 9.3.2.1.8.2, Paragraph 6, deleted the last three sentences which identified sampling methodology and read:

"The sample is trapped in a shielded cart, which the operator can disconnect and transport to the hot lab for analysis. The CASP can automatically obtain up to 2 more samples on intervals preselected by the timers on the control panel. A fourth sample flask is available for automatic sampling, but its automatic sequence must be initiated manually."

In the above changes Items A through L are being made to reflect the as built condition of the plant. Items M and N reflect fewer sampled components than had been identified in the original UFSAR presentation. Items O and P are being deleted because they present detail which is not required by Regulatory Guide 1.70 and may be interpreted as a commitment. These changes have been verified not to affect a commitment. Item Q is deleted because it could imply a commitment not intended by Commonwealth Edison Company. Item R is being deleted because the operating data presented is no longer accurate.

For the purpose of this safety evaluation, these changes can be viewed and evaluated as one change to the high radiation sampling system. An evaluation made during the development of Section 9.3, determined that none of the above changes eliminates a commitment which Commonwealth Edison has made to the NRC.

Attachment A identifies the eleven criteria specified in NUREG 0737, Item II.B.3 and the various elements which the NRC issued SER specified had fulfilled the requirement. The status of each item is also shown; either identified as not applicable, an HRSS capability which is included in the system configuration or the requirement is fulfilled by equipment outside the HRSS panels.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA SAR SECTION 14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the equipment description being deleted and the HRSS panel have no active function in normal plant operation or during an accident. Therefore, the only concerns involve passive failures. Two main passive failures that could occur are (1) pipe/tubing failure or (2) insufficient sampling during an accident. Since no piping changes are involved in the deleted tubing equipment descriptions (either piping was never installed or was abandoned in place), no new piping/tubing failure is created. The impact of the sampling capabilities being deleted is minimal. First, several of the functions being deleted are still available by other means at the plant. Second, the necessary sampling to monitor the evolution of an accident, provided by the HRSS panel, meets the requirements of NUREG 0737.

In addition to the equipment changes being identified; other changes are being made to the HRSS description. The potential for a new accident or malfunction because of these changes is as follows:

A. Deleting sample times and dose vs. time information does not impact equipment operation or operational requirements;

B. Deleting the design life information does not impact equipment since other plant programs both establish and maintain equipment qualifications;

C. Changing the sampled components has no impact on equipment provided the equipment can support the sampling; and

D. Changing (deleting) the sampling techniques does not impact equipment since the worst case that could be created by improper sampling techniques is inability to obtain a sample which does not impact the remainder of the plant.

For the above reasons, no new accident or malfunction is created by this change.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

This change eliminates the requirement to process and discharge radiological wastes in high activity waste tanks prior to filling these tanks in anticipation of a flood in the waste tank rooms. The high activity waste tanks are filled prior to the flood to prevent uplift or floating of the tank during the flood.

The reasons for the change are:

A. Onsite processing is no longer available, therefore, processing tank contents prior to the flood may not be possible, and

B. There is no need to process tank contents prior to filling.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   External Flooding SAR SECTION 2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because during a flood of the plant site, the plant would be in a shutdown state with the exception of minimal cooling flows as outlined in Amendment 23, Section 2, Comment 1.0. The radioactive waste tanks, which are impacted by this change, are totally passive once they are filled, thereby negating any type of operational failure during the flood. Once the flood had subsided, the tank contents would be processed and discharged using the same processing methods regardless of whether or not the tanks had been processed and discharged prior to filling. This processing would not introduce any new failure or malfunction. Therefore, no new accident or malfunction is created.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Rebaselined UFSAR Section 12.5 "Health Physics Program"

DESCRIPTION:

During the effort to rebaseline the UFSAR, and specifically Section 12.5 "Health Physics Program," of the rebaselined UFSAR, nine items were identified which require a safety evaluation to be performed.

1. Deletion of a paragraph in Section 12.5.2.2 of the ABB-Impell Regulatory Guide 1.70 reformated UFSAR. This paragraph stated in part "All regularly assigned employees, contractor personnel and special visitors are issued and required to wear film badges at all times when on station property." This information is no longer true because certain individuals, who do not require access to radiologically restricted areas, may not be issued dosimetry. Subsequent sentences in this paragraph detailed the types of film badges available and the availability of pocket ionization chamber dosimeters. Replacement of the film badges with thermoluminescent dosimeters (TLDs), and availability of electronic dosimeters in addition to or in place of pocket ionization chambers has previously been evaluated in safety evaluation SE-91-240 (Dated 4/15/92)

2. Three sentences are deleted in Section 12.5.3.3 stating "Dosimeters are read, recorder, and recharged periodically by the user. Personnel are required to submit dosimeter totals to the rad chem department daily. Any individual who receives a dosimeter reading greater than 200 mrem is required to report his exposure to the radiation protection personnel immediately." This information is obsolete. Currently, users do not record or recharge their own dosimeters. Dosimeters are checked and issued by radiation protection personnel. Radiation protection personnel maintain the dosimetry records and monitor total exposure. Procedures QRP-1210-1 (Revision 9) and QAP-1120-2 (Revision 4) provide the administrative exposure controls.

3. Part of the text of the first paragraph from Section 12.5.2.3 of the ABB-Impell Regulatory Guide 1.70 reformated UFSAR is deleted. The third and fourth sentences were deleted as this information on respiratory protection equipment is very obsolete. The current requirements for respiratory equipment is provided by reference to Regulatory Guide 8.15 and 30 CFR 11 in the respiratory equipment issue procedure QRP-1301-1 Revision 9.

4. The paragraph in Section 12.5.3.6 detailing station access procedures was deleted as obsolete information. This section was originally intended to show access controls to potential radiological hazard areas. However, this no longer reflects current station practice. Details of entry into the protected area, and issue of security badges are found in the security plan. This information is not a level of detail required in this section of the UFSAR, nor is it prudent to provide this information in public access document.

5. The last paragraph of Section 12.5.3.6 detailing restricted areas as they apply to security was deleted because the definitions of these areas is no longer current station terminology or in accordance with 10 CFR 20. A revised definition of restricted area, based on 10 CFR 20, was provided in the section on radiation area access Section 12.5.3.8. Security definitions are discussed in the security plan.

6. In Section 12.5.3.7 controlled area was changed to radiological posted area. This change was made to provide consistency with the term currently in use are the station.

7. Section 12.5.3.8 added information that access to radiation areas and restricted areas was controlled in accordance with 10 CFR 20. Definitions of radiation area, and restricted area in accordance with 20 CFR 20 were added.

8. Section 12.5.3.9 referred to locked barriers to prevent unauthorized access to high radiation areas. This reference was deleted and reference made to the access controls of 10 CFR 20. This deletion was made because under certain circumstance, special maintenance or emergencies for example, locked barriers are impractical or impossible to erect. 10 CFR 20 provides guidance and regulatory relief in these circumstances. Reference was made to the fact that access to high radiation areas are in accordance with 10 CFR 20.

9. Similarly, the text moved from Section 13.6, which identified specific lock types and controls on locks for high radiation area was deleted in favor of the reference to 10 CFR 20 above.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because occupational exposure is not subject to 10 CFR 50.59 except that exposures must not preclude operator access required for safe shutdown.

   Item 1: This change deletes the requirement for all personnel assigned to the station to be issued dosimetry. Those personnel not regularly, or routinely assigned to work in a restricted area are not required to be issued dosimetry according to 10 CFR 20. The presence of personnel without dosimetry outside radiologically restricted area cannot affect any plant equipment. Therefore no possibility of an accident or malfunction of equipment not previously evaluated in the SAR is created.

   Item 2: This change deletes obsolete range allowing personnel to record and recharge their own dosimeters. Current procedures QRP-1210-1, Revision 9: QAP 1120-2, Revision 4) have the radiation protection department responsible for dosimetry and maintenance of dosimetry records. This is more conservative than relying on the individual users. Therefore no possibility of an accident or malfunction of equipment not previously evaluated in the SAR is created.

   Item 3: This change eliminates obsolete language regarding respiratory protective equipment. The new text will refer to current equipment requirements of Regulatory Guide 8.15 and 30 CFR 11. Quad cities Station already has in place a procedural requirement to use respiratory protective equipment that meets the Regulatory Guide 8.15 and 30 CFR 11 (Refer to QRP-1301-1 Revision 9). These requirements are more stringent than the original language that is being deleted. Therefore, no possibility of an accident or malfunction or equipment not previously evaluated in the SAR is created.

   Item 4: This change deletes obsolete language regarding access to the station and control of access to radiation/radiological areas. Details of the entry requirements to the station are provided in the security plan. It is not required nor desirable to provide these details in the UFSAR. Access controls for radiation and restricted areas are in accordance with 10 CFR 20, and revised wording stating this fact is presented in Section 12.5.3.8 of the rebaselined UFSAR. Therefore, no possibility of an accident or malfunction of equipment not previously evaluated in the SAR is created.

Item 5: This change deletes obsolete definitions of unrestricted and restricted area. The change removes wording that was used to define security areas which was confusing when discussing radiological areas. A revised definition of restricted area in accordance with 10 CFR 20 is provided in Section 12.5.3.8 of the rebaselined UFSAR. Since no equipment is involved, no possibility of an accident or malfunction of equipment not previously evaluated in the SAR is created.

Item 6: This change deletes reference to controlled areas, and replaces with radiologically posted areas. This change is basically editorial in nature. The change avoids confusion with the specific definition of controlled area in 10 CFR 20 and uses the more descriptive radiological posted area. This change is only a wording change and cannot create the possibility of an accident or malfunction of equipment not previously evaluated in the SAR.

Item 7: This change added that access to radiation areas and restricted areas were controlled in accordance with 10 CFR 20. This change also added the definitions or radiation area, and restricted area in accordance with 10 CFR 20. This change added information directly from 10 CFR 20. These changes provide clear definition as to the current requirements so there will be no confusion or misinterpretation. Therefore no possibility of an accident or malfunction of equipment not previously evaluated in the SAR is created.

Items 8 and 9: These changes delete language requiring locked barriers for all High Radiation areas. Current station practice and 10 CFR 20 allow exceptions to locked barriers if the establishment of such barriers is impractical or impossible, as long as other control measures are in place. Such cases may occur during an accident or maintenance. Such flexibility may actually enhance safe shutdown capability. However, by ensuring compliance with the requirements of 10 CFR 20, no possibility of an accident or malfunction of equipment not previously evaluated in the SAR is created.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Delete "8 hour" in front of battery-powered lights in the first paragraph of rebaselined FSAR Section 9.5.3 (former 10.12). This condition was added to the UFSAR. The change will return the wording to that of the original FSAR. Present wording disagrees with actual plant conditions in that it implies all battery powered lights are required to have 8-hour batteries which is untrue. An addition later in the section correlated the 8-hour requirement to only safe shutdown areas per M-4-1(2)-81-023.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Loss of	SAR SECTION 8.3
Fire	SAR SECTION 9.5.1

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the impact is only to areas of the station not involved with safe shutdown, therefore no new accident can be created.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

A. Specified that the designed max spent fuel storage is 7554 assemblies but to date racks have only been installed for 6801 fuel bundles.

B. The fire pump flow rate to fill the spent fuel pool in the event of a leak stated in the rebaselined FSAR will be 2000 gal/min at 125 psig each pump instead of the 3200 gal/min stated in questions and answers.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Cask drop into pool causing leak SAR SECTION 10.1

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because at the time the HDFR were licensed, Quad Cities issued the "Licensing Report on High-Density Spent Fuel Racks", June 1981. This report provided an accident analysis of the HDFR for the following postulated accidents:

   1. Fuel pool - earthquake loading,
   2. Fuel pool - loss of water,
   3. Cask drop,
   4. Reactor building - earthquake loading,
   5. Reactor building - tornado loading & missiles,
   6. Chimney - winding loading,
   7. Refueling accidents - dropped fuel,
   8. Refueling accidents - dropped gates,
   9. Refueling accidents - dropped channel measuring device,
   10. Radwaste leaks and spills, and
   11. Turbine missiles.

This report was reviewed as part of this safety evaluation and it has been concluded that the effect of installing four fewer modules than originally designed has not created any credible new accident types or malfunctions. Similarly, the lower fire pump flow rate does not create the possibility of any additional accidents or malfunctions. For both of these changes, the previously analyzed accidents produce effects which are more significant than the effects postulated as a result of these changes. It is concluded, therefore, that these changes are bounded by the previously analyzed accidents.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

1. Subsection 11.2.2, paragraph 7:
   Delete the following sentence:

   "Water with high conductivity (>1μ mho) or water of excessively high radioactive concentration is returned to the floor drain collector or the floor drain surge tank for additional processing."

2. Subsection 11.2.2, paragraph 10:
   Delete the following sentence:

   "An off-standard recycle routing, returning to the waste collector or floor drain surge tank, provides for return of high conductivity water (>1μ mho) or water of excessively high radioactivity concentration (>10^{-3} μ Ci/ml)."

   The sentences in item 1 and 2 above were replaced in each respective paragraph by the following sentence in updating the information in the UFSAR:

   "Water outside the station criteria for re-use in the plant is returned to the radwaste system for reprocessing or to river discharge."

   This replacement sentence does not change the system operation; it only deletes the value (>1 micro mho) from the UFSAR (Rebaselined FSAR). Also, the radioactivity concentration of ">10^{-3} micro curies/ml" is deleted. In addition, the value of "(10^{-5} micro curies/cc)" is deleted as noted in item 3 below. These values are internal plant process variables to keep operators appraised of system cleanup operations. These variables are not used to determine any safety limits of operation and do not affect the Technical Specifications offsite discharge limits.

3. Section 11.2.2, paragraph 12:
   Delete the numerical value from the first sentence:
   "...(10^{-5} μci/cc)..."

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the numerical values (>1 micro mho and 10^{-3} micro Ci/ml) are internal plant process variables used to keep plant operators appraised of conditions that could affect operations later but the operational (Technical Specification) limits remain unchanged. The limits, as stated in the Technical Specifications, provide the limiting values associated with meeting the safety criteria.

   Removal of the values indicated in the sentences to be deleted and replaced does not impose unnecessary operational constraints in the radwaste system. The reactor operation, its chemistry and the limitation for radioactive liquid waste discharged from the station are maintained.

   Due to numerous circumstances and changes these numbers are no longer appropriate. Operation of the liquid radwaste system has changed over the years such that greater emphasis is put on the treatment of liquid radwaste to minimize the quantity discharged from the station. The liquid radwaste system has been modified for the maximum recycle system to accomplish minimization of the volume discharged to the river.

   The recycled water is pumped to the contaminated condensate storage tank(s) for use as makeup water to the reactor system. The makeup is injected into the condenser hotwell upstream of the condensate demineralizer. Technical Specification limits for the condensate system or the contaminated condensate storage tank(s) are not given. In Technical Specification 3.8/4.8, the only concern addressed is the limitation for discharging radioactive liquid waste to the river. Deleting the values in question in the rebaselined FSAR does not affect the technical specifications limitations for liquid discharge.

In Technical Specification 3.6/4.6, under C, Coolant Chemistry, it is stated in C.2 that "the reactor coolant water shall not exceed a conductivity of 2 micro mhos/cm with steaming rates less than 100,000 lbs/hr". In C.3 it is stated that "for reactor startups the conductivity shall not exceed 10 micro mhos/cm for the first 24 hours after placing the reactor in the power operating condition." Then in C.4 it is stated that, "the reactor coolant shall not exceed a conductivity of 10 micho mhos/cm with a steaming rate greater than or equal to 100,000 lbs/hr".

In the bases, part C, it is stated that, "Conductivity could be high due to the presence of a neutral salt, e.g., sodium sulfate, which would not have an effect on PH or chloride ion concentration. In such a case high conductivities are in fact high due to purposeful addition of additives."

The design basis accidents addressed in the FSAR/UFSAR Chapter 14, Sections 14.2.1, 14.2.2 and 14.2.4 are not affected by deletion of these operational process variables. The liquid radwaste which is transferred to the contaminated condensate storage tank has a radioactivity content less than that which would occur in the case of the accident of either a LOCA, refueling accident/fuel pool accident, or a rod drop accident. The conductivity of the water does not affect the evaluation of those accident conditions. Herein the greatest concern is the gaseous discharge from the chimney and whether the gaseous limits for discharge are exceeded.

The liquid radwaste system still processes liquid radwaste in he same prescribed way and the discharge of liquid is handled in the same manner. Therefore, there is no impact on the design basis accident analyses from deleting these operational process variables. There are no new accident conditions created as a result of deleting these process variables.

The value, >10 micro curies/ml, of activity in the liquid radwaste water should be deleted also as it does not affect any of the design basis accident considerations. This value does not affect any reactor coolant limitations expressed in the Technical Specifications. The only limitation addressed in the Technical Specifications for the reactor coolant is 5 micro curies/gram of water of I-131. The liquid radwaste value to be deleted does not differentiate the isotopes measured.

The laundry waste radioactivity value of 10^{-5} micro curies/cc is also deleted. This number is used as an example of a low activity value. However low activity values could range anywhere from 10^{-2} to 10^{-5} micro curies/cc. Again this liquid waste is treated and analyzed for radioactivity prior to its discharge from the plant to the river. This value of 10^{-5} micro curries/cc was inserted as an example of a low value of activity. Deleting this number does not impact operation of the plant or liquid discharges from the plant to the river.

The original SER addresses only the radioactivity content of the liquid radwaste with respect to the quantity discharged from the station to the Mississippi River. Deletion of these values does not affect the quantity discharged from the station. The discharge point radionuclide activity still is sampled prior to discharge and is monitored during discharge to other established limits per the Technical Specifications.

It is concluded that there is no effect created by deleting any of these values discussed in this safety evaluation.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

There are several changes to be considered in this safety evaluation. These changes are Tables 11.2-1, 11.2-2, 11.2-4 and 11.2-5 of the Rebaselined FSAR.

Tables 9.3-1 and 9.3-2 of the original FSAR. Table 9.2-1 of Amendment 13, question and answer 9.2. Table 9.3.1 of Amendment 13, question and answer 9.3 and Tables I and II of Amendment 17 page 22-24b, were based on values calculated from empirical information. The revised data in the Section 11.2 tables of the rebaselined FSAR are based on operational data, either noted or assumed as 1980 Quad Cities radioactive waste system values. The number changes are shown in the appended tables. Some of the numbers reported either in the FSAR or in the amendments are shown in parentheses where corresponding operational values are given in the appended Tables 11.2-1, 11.2-2, 11.2-4 and 11.2-5. The tables from the FSAR and its amendments are also appended.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the initial statements in the text of the original FSAR indicate that the tabulated values are only estimated values use to predict the estimated quantities of radioactive waste for processing by the station.

These estimated values were used to determine the quantity of filter media that would be used in the system. These values were also used to size ion exchange vessels and to determine the required volume of ion exchange resin, when applying a decontamination factor of 10, for clean up of the liquid radioactive waste stream.

Changes have occurred in the methodology used to estimate the numbers tabulated in Tables 11.2-1 and 11.2-2. The new methodology was developed and applied to nuclear plants which were built after the design, construction, and licensing of the Quad Cities Station. There have also been plant modifications such as the addition of the Maximum Recycle portion of the liquid radwaste system. This change resulted in the addition of some tanks for liquid and spent resin storage.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

The number of Table II from Amendment 17 pages 33 through 35 were changed in the UFSAR Submittal. The Table was included in the UFSAR as Table 9.3.4. The Table was reformatted as Table 11.2-6 and retained as Table 11.2-6 in the rebaselined UFSAR. The data which changed are the numbers 10E-7, 26. 4.0, 0.7, 0.018, 0.003 and 0.0013. The new values based on station operating data are 10E-8, 24, 2.9 and no values for the last four entries on the Table line II.B. The corresponding numbers are as follows:

10×10^{-7} µCi/ml changed to 10×10^{-8} µCi/ml
26 Ci/yr changed to 24 Ci/yr
4.0 mrem/yr changed to 2.9 mrem/yr
0.7 mrem/yr changed to an insignificant value
0.018 mrem/yr changed to an insignificant value
0.003 fraction changed to an insignificant value
0.0013 fraction changed to an insignificant value

All of the above listed changes relate the actual reductions in the initial expected potential effect upon the environment. These values signify that there is less radiological effect on the environment around the station than was originally predicted at the initial licensing review.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because in Technical Specification 3.8/4.8, the concern addressed in the liquid radwaste system is the discharge of radioactivity from the station to unrestricted areas such as the Mississippi River. The Technical Specification limits are not changed by making the tabular data changes in Table 11.2-6 as presented in the Rebaselined FSAR, Section 11.2

   It is concluded that no new accidents or malfunctions are created by this change in the data presented in Table 11.2-6. It is also concluded that the probability for an accident or a malfunction is not increased. It is further concluded that the tabular data change addressed in this safety evaluation does not increase the potential affect upon the environment surrounding the Quad Cities Station.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

(A) Paragraph 8, Subsection 11.2.2.2, page 11.2-6 (stripped text): The phrase "with the exception of the chemical waste sample tank" was added to the sentence so that the sentence reads. "These tanks contain filtered or otherwise treated water with the exception of the chemical waste sample tank."

(B) Paragraph 11, Subsection 11.2.2. page 11.2-4 (stripped text): The word "filtered" was replaced by the words "transferred to" in discussing the chemical waste processing between the chemical waste tank and the chemical waste sample tank. The statements "The contents are then transferred to the maximum recycle spent resin tank for further treatment to lower its conductivity. The treated liquid is then siphoned off to the floor drain system for treatment in the floor drain demineralizers." were added to describe the present existing and practiced flow path in treating these chemical wastes.

(C) Paragraph 11, Subsection 11.2.2 page 11.2-4 (stripped text): The following statement from the UFSAR Rev. 11, Section 9 page 18. "If the chemical waste sample tank wastes are within the limits for discharge, they are sent to the River Discharge tank for batch sampling and discharge to the river." was deleted because it no longer represents the chemical waste flow path for radioactive waste treatment.

All of the above listed changes for internal station waste processing do not affect the controlling Technical Specification limits for liquid waste discharged from the station.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the original SER addressed only the radioactivity content of the liquid waste with respect to the quantity discharged from the station to the Mississippi River. Deletion of this internal process filtration step does not affect the quantity discharged from the station. The discharge point radionuclide activity still is sampled prior to discharge and is monitored during discharge to other established limits per the Technical Specifications. The limits of the NPDES discharge permit for chemical waste is also a controlling limitation with respect to non-radioactive chemical waste.

   It is concluded that there is no effect created by deleting this filtration step from the chemical waste processing scheme as addressed in this Safety Evaluation.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Modification M04-1(2)-89-117

Drywell Floor Drain and Equipment Drain Sump Pumps

DESCRIPTION:

This modification replaces the existing drywell floor drain and equipment drain sump pumps with new submersible sump pumps. The function of the sump pumps will remain the same.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because this modification replaces existing sump pumps with a new pump design, however, all functions of the pumps will remain the same.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the possibility for an accident or malfunction of a different type than previously evaluated in the FSAR is not created because the function of the pumps remain the same.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the margin of safety as defined in the basis of Technical Specifications is not reduced since the function of the new sump pumps remains the same as the old sump pumps.

SE-91-124

Modification Test for M4-1-89-167

DESCRIPTION

Perform the modification test on the test tap penetrations that were installed as part of M4-1-89-167.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the visual examinations and the soap bubble test do not affect the plant operation what-so-ever. The valves will be stroked in such a manner as to not affect the systems they are part of or any related system interactions.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-561

Modification M04-0-90-003

DESCRIPTION:

Provide cooling for the CRD Repair Room. Modification will install an air cooled condenser located outside the room and an air handling unit located inside the room. Electrical power will be supplied from a GE MCC which will replace the existing Westinghouse MCC 42R-2-1.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the electrical requirements for this modification include the installation of properly sized breakers in non-safety related MCC 42R-2-1 to protect existing plant electrical equipment from any faults which may occur in the new HVAC equipment. MCC 42R-2-1 receives electrical power from non-safety related transformer T42R-2. The only loads on MCC 42R-2-1 will be the CRD Repair Room HVAC System. Therefore, a fault in the new electrical equipment will result in the tripping of breakers in MCC 42R-2-1 which will have no impact on any other plant equipment.

   A leak in the refrigerant lines installed by this modification would result in the release of refrigerant-22 into the Unit 1 Reactor Building. The Reactor Building Ventilation System, designed to produce a negative differential pressure, evacuates the Reactor Building at a rate of approximately 1 free volume/hour. Therefore, leakage of refrigerant into the Reactor Building free volume would have no credible impact from a human safety standpoint and have no impact on equipment operation.

The structural requirements for this modification include design changes to the west (blocking-in an existing louver opening) and north (installation of electrical supply and refrigerant supply and return lines) block walls. As part of the designer's walkdown, it was identified that no safety related equipment was attached to these two block walls. The actual design will require structural changes meet the seismic 2-over-1 criteria but, if a failure of the wall were to occur, no safety related equipment would be affected.

Increased local air flow from the air handling unit could result in unacceptable spread of contamination. The location of the air handling unit inside the ante room instead of the CRD Repair Room provides the highest air flow in the area of least contamination to prevent an unacceptable airborne contamination problem. Blocking-in the louver opening seals the ante room to prevent the spread of contamination to an uncontrolled area.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

The proposed change provides for the replacement of the existing Henry Pratt six, eighteen, and twenty inch butterfly valves 1-1601-20A, 22, 23, and 63. The change is being made to meet the NRC Commitment of replacing the valves. The commitment was made due to the poor performance history experienced during Local Leak Rate Testing (LLRT) and frequent maintenance required. The valves are designed with seats that can only be replaced by the manufacturer. This has proven to be very costly. Also, there have been significant problems associated with the Safety-Related portion of the instrument air system required to fail safe the valve in the proper position. Pressure decay testing of the accumulator and actuator require increased maintenance to pass the test.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Large/small break LOCA	SAR SECTION	5.2/7.2.2
Loss of instrument air	SAR SECTION	5.2/7.2.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification will not create a malfunction different from those evaluated in the SAR. The existing Henry Pratt valves will be replaced with Neles-Jamesbury high performance butterfly valves with a Bettis spring return actuator. The valves will maintain the same designed safety function of the current Drywell and Torus Ventilation valves. The

Neles-Jamesbury valves will provide a positive means of fail safe positioning with the spring return actuator without depending on instrument air, pressure switches or accumulators that create potential leak paths on Safety-Releated equipment. The SAR will require a revision to Table 5.2.5 "Principle Penetrations of Primary Containment and Associated Isolation Valves". This table must be updated to show that the replacement Neles-Jamesbury valves are spring-actuated during fail safe operation.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Local Leak Rate Limit (LLRT) of <=0.6 La will still be satisified. The valves will be LLRT tested prior to the Unit startup. The valves will also have an Integrated Leak Rate Test (ILRT) performed prior to Unit startup. The requirements for testing per 10CFR50 Appendix J are still in effect as it is part of the licensing basis.

   The Pressure Suppression Chamber-Reactor Building Vacuum Breakers will still be required to be tested per the Technical Specification requirements. The setpoint of the differential pressure instrumentation shall not exceed the 0.5 psid setpoint. The valve shall also be tested every three months for proper operation.

   The pressure suppression valves will be timed for proper fail safe positioning per the requirements of Technical Specification Table 3.7-1. The valves shall be required to meet the fail safe closure timing requirements of <= 10 seconds. The new Neles-Jamesbury valves will exceed the valve closure requirements. The spring return actuator will close the valves in approximately 5 seconds or less from an isolation signal.

DESCRIPTION:

The proposed change provides for the replacement of the existing Henry Pratt eighteen inch butterfly valve 2-1601-21. The change is being made to meet the NRC Commitment of replacing the valves. The commitment was made due to the poor performance history experienced during Local Leak Rate Testing (LLRT) and frequent maintenance required. The valve is designed with a seat that can only be replaced by the manufacturer. This has proven to be very costly. Also, there have been significant problems associated with the Safety-Related portion of the instrument air system required to fail safe the valve in the proper position. Pressure decay testing of the accumulator and actuator require increased maintenance to pass the test.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Large/small break LOCA	SAR SECTION	5.2/7.2.2
Loss of instrument air	SAR SECTION	5.2/7.2.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification will not create a malfunction different from those evaluated in the SAR. The existing Henry Pratt valve will be replaced with a Neles-Jamesbury high performance butterfly valve with a Bettis spring return actuator. The valve will maintain the same designed safety function of the current Drywell and Torus Ventilation valve. The Neles-Jamesbury valve will provide a positive means of fail safe positioning with the spring return actuator without depending on instrument air, pressure switches or accumulators that create potential

leak paths on Safety-Related equipment. The SAR will require a revision to Table 5.2.5 "Principle Penetrations of Primary Containment and Associated Isolation Valves." This table must be updated to show that the replacement Neles-Jamesbury valve is spring-actuated during fail safe operation.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Local Leak Rate Limit (LLRT) of <= 0.6 La will still be satisfied. The valve will be LLRT tested prior to the Unit startup. The valve will also have an Integrated Leak Rate Test (ILRT) performed prior to Unit startup. The requirements for testing per 10CFR50 Appendix J are still in effect as it is part of the licensing basis.

   The pressure suppression valves will be timed for proper fail safe positioning per the requirements of Technical Specification Table 3.7-1. The valve shall be required to meet the fail safe closure timing requirements of <= 10 seconds. The new Neles-Jamesbury valves will exceed the valve closure requirements. The spring return actuator will close the valves in approximately 5 seconds or less from an isolation signal.

Modification M04-2-92-009

DESCRIPTION:

This modification consists of removal of snubber M-1026D-310 from RHR Loop-A, Line #2-1012-16".

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Loss of Coolant Accident UFSAR SECTION 14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification removes one support from the RHR system piping. The piping were reanalyzed to assure that they remain within allowable limits. There is no change to the operation of the RHR system during normal operation or accident conditions.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Minor Design Change P04-0-90-122

System Frequency Recorder and Transducer

Description:

Replace equipment with new equipment. Provide appropriate seismic mounting.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the new equipment performs the same non-safety related function as the existing obsoleted equipment.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because current seismic considerations are more detailed and any accident possibilities are reduced.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because equipment is non-tech spec postulated seismic, margin, is increased.

SE-91-526 Rev. 2

Minor Design Change P04-0-91-101

DESCRIPTION:

Install permanent wall-mounted freon monitors in the 3rd floor Service Building, Gatehouse, and Mezz Level Turbine Building 'B' Train HVAC equipment rooms.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change installs freon monitors to detect freon leaks in the HVAC equipment rooms. This change will alert personnel to the freon leaks in the equipment rooms, allowing them to take proper precautions to prevent overexposure, and to repair the damaged equipment. The failure of the monitors will not affect other plant equipment, because they will be wired independently of other plant systems.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-385

P04-1-91-073

DESCRIPTION:

Modify condensate booster pumps seal cooling piping to provide a 5 GPM flow rate to the seals.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change pertains strictly to the condensate booster pump and does not interact with any other system. Therefore no new failure mode is introduced.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Minor Design Change P04-2-90-054

DESCRIPTION:

MO2-2301-10 Valve is being replaced due to erosion/corrosion concerns. Piping Line 2-2342-12"-C is being rerouted so that the valve will not interfere with existing junction boxes on west wall of Unit 2 HPCI Room. Line 2-2340-4"-B is being rerouted to allow the 2301-10 valve to be raised ≈ 2' higher to clear other equipment/components. A new junction box and conduit runs are being added.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Small break LOCA SAR SECTION 6.2.5/14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this minor design change does not change the function of the system and more specifically does not change the function or purpose of the test return valve/line or the minimum flow line. The replacement of the valve increases system reliability by eliminating a potential for failure of the 2301-10 valve due to erosion/corrosion damage of the valve body. The longer stroke time of the valve from full open to full closed has been analyzed for the condition requiring HPCI injection while in the test mode. Analysis shows that more water is injected during initial initiation than if HPCI was initiated from a cold condition. The valve passed full flow when open 1.9". The valve will close within the Table 6.2.6 (UFSAR) requirements for HPCI injection time when full flow is achieved at 1.9" open. Recommended procedure revision limiting full stroke testing to shutdown conditions only with limited stroke testing from full flow position during operating conditions.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the replacement of the 2301-10 valve and minor piping reroute does not change any margin of safety. The valve is being replaced due to erosion/corrosion damage to the valve body. All surveillance requirements remain intact.

DESCRIPTION:

The proposed change will add a new electrical feed through penetration X-105A and two junction boxes. One will be installed in the drywell for connection to the integrated leak rate test multiplexer and the one in the reactor building will facilitate connection to the DAS unit. This change will simplify the integrated leak rate test.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this minor design change does not affect/impact existing systems, structures, or components. The design, function, and method in which the containment system functions as defined in UFSAR Section 5.2 is unaltered. A new electrical feed through existing penetration X-105A is being added. The junction boxes mounted in the drywell and reactor building will be seismically mounted.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the acceptance Limits or Margin of Safety will not be impacted as the Minor Design Change does not alter the design, function, or method in which the containment system or penetration functions as defined in Technical Specifications Section 3.7/4.7 or the UFSAR Section 5.2. The Minor Design Change is installing an additional feedthrough in port #4 of existing penetration X-105A. Failure of a

penetration can be attributed to internal resistance heating due to over loading of electrical circuits. The cable has been sized according to the ILRT Data Acquisition System requirements. The penetration will be local leakrate tested in accordance with station procedure QTS 100-27 per the requirements of 10CFR50 Appendix J requirements. The leakrate testing will verify the integrity of the concentric aperture seals between the weld neck flange and the header plate flange of the penetration, and the integrity of the conductors mechanically swaged in resilient thermoplastic (polysulfone) at both ends of the stainless steel tube.

Minor Design Change P04-2-90-095

DESCRIPTION:

Installation of O-Ring Groove, O-Ring and two additional hold down clamps in the 2-220-59A feedwater check valve.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change is internal to the check valve and does not create any new failure modes. Plant Operation is unchanged. This change is on a non-safety/non regulatory valve. All additional parts are lockwired together to ensure no loose parts are swept into the other feedwater check valves on reactor. The interaction of this valve with other systems (RWCU and RCIC) is unchanged due to the internal nature of the MDC. This type of changed has been implemented on all of the other safety and non-safety related feedwater check valves (including the 1-220-59A) with no adverse impacts. The minimum wall thickness required for this valve body class has been identified and will be maintained. This issue has been addressed on the ECN and an additional safety factor of 1/8 inch has been included . The wall thickness maintains the mechanical requirement and pressure rating of the valve.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-440

Minor Design Change P04-2-90-168

DESCRIPTION:

Upgrade the valve trim inside selected Crane 973 check valves. The existing trim uses set screws to retain the hinge pin. The proposed trim uses a through-type retention pin that is tack welded in place to prevent backout.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the failure modes will not change nor will their impact however the chances that the valve will not fail have been improved.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-446

P04-1(2)-91-037

DESCRIPTION:

Directly replace the current Rod Position indicating lamps with new LED modules. The modules are interchangeable and therefore now structural or wiring changes are needed.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the minor design change has no impact on any accident or malfunction analyzed within the UFSAR, nor does it create a new type that is not analyzed. The change to LED indicators will improve the reliability of the RPIs system.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-536

Minor Design Change P04-2-91-052

DESCRIPTION:

Replace control room chart recorders for main turbine eccentricity and vibration EPN #2-5640-60 and expansion and metal temperatures EPN #2-5640-61 also the new installation will provide seismic mounting. Installation is in Panel 902-7.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the new recorders provide more reliable monitoring and recording. New recorders have same function as the old recorders. The components being installed are classified non safety and have no interaction with any safety related systems. System configuration remains unchanged from the original state. The mounting of the new recorders is being upgraded and certified seismic to ensure structural integrity of the new installation, to prevent any damage to surrounding equipment during a seismic event, or normal operational conditions.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Minor Design Change P04-2-91-105

DESCRIPTION:

The minor plant change (MPC) will replace the second level undervoltage relays that are in the degraded voltage protection scheme for 4.16 kV buses 23-1 and 24-1. The existing relays ITE-27D will be replaced with ITE-27N. The new relays have a lower pickup/dropout voltage ratio, which allows them to reset quicker when the system voltage recovers. This change will avoid potential unnecessary tripping of the offsite power source.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Degraded Voltage SAR SECTION 8.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this minor design change does not alter the function or logic of the second level undervoltage protection system. The trip setting of the new relays will be the same as the old relays. The new relays will recognize an undervoltage condition at the same voltage level as the existing relays but with more accuracy. The new relays will also reset at an acceptable voltage level lower than that of the old relays once the voltage begins to recover from a voltage dip. Therefore, no new accidents or malfunctions are created. System reliability has been improved through this design change.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because no changes to the Technical Specifications or bases to Technical Specifications as a result of this minor plant change. Technical Specification sections 3.2/4.2. 3.9/4.9, and Tables 3.2-2, 4.2-1 are unchanged.

Minor Design Change P04-2-91-116

DESCRIPTION:

This change replaces/relocates RWCU valve M02-1201-80 on line number 2-1205-4"A, reorients an existing Limitorque motor operator on valve M0-2-1201-80, installs a 4" decontamination tap in line number 2-1205-4"A, modifies three variable spring supports and reworks the conduit supports due to relocation of Limitorque operator. Relocation of this valve and the addition of a 4" decontamination tap have been specified to facilitate the future replacement of the adjacent RWCU piping. The additional weight of the new valve and decontamination tap requires the modification of three spring supports.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change involves the replacement of the RWCU outlet isolation valve and removal/reinstallation of the motor actuator and does not functionally change the operation of the valve or the RWCU system. The design of the replacement valve includes anti-cavitation trim, which will improve positive shutoff characteristics and a bolted bonnet to reduce maintenance time. A new junction box and associated conduit and cable will be installed due to the reorientation of the motor actuator and will be seismically qualified. Since the new cables and junction box will be interfaced with the existing Class 1E power/control cables the installation will be consistent with established separation criteria.

No changes have been made which affects any of the boundary conditions of the FSAR accident analysis. No new failure modes have been created by these changes. Therefore, the changes do not adversely impact systems or functions so as to create the possibility of an accident or malfunction of a different type.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the replacement of MO-2-1201-80 valve, installation of a junction box and addition of a decontamination tap does not directly impact the margins of safety used to establish Technical Specifications. The operation of MO-2-1201-80 is required for the RWCU to perform its intended function, but valve performance is not an applicable safety limit or parameter. Therefore, the margin of safety as defined by Technical Specification is not reduced.

Minor Design Change P04-2-92-017

DESCRIPTION:

Stress levels for two of the supports for the Stardby Liquid Control (SBLC) System instrument sensing line 2-1142A-1/2" were determined above design allowable values but not above operability allowable values. This design will adjust the supports and provide bracing for the portal frame such that design allowable values are not exceeded.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Seismic SAR SECTION 12.2.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this design will adjust the SBLC conduit and piping supports such that design allowable values are not exceeded. It does not alter the operation, function or characteristics of the SBLC System There is no new accident or equipment malfunction created by this design. However, the probability of failure of this support is reduced.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this design will adjust supports for the SBLC instrument sensing line and conduit associated with the SBLC pump such that design allowable values are not exceeded. This will increase the present margin of safety to that of design.

SE-92-78

Minor Design Change P04-2-92-027

DESCRIPTION:

On 2-1201-80 operator eliminate TSO and full close limit switch (5-5C) in "open" logic circuit. Readjust limit switch close direction rotor to stop Reactor Water Cleanup (RWCU) Pumps from 25% to 5% full open position.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Loss of Coolant Accident	UFSAR SECTION	14.2.4
Anticipated Transcient Without Scram	UFSAR SECTION	10.5.1
Standby Liquid Control	UFSAR SECTION	6.7

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the 2-1201-80 valve operator logic change eliminated the open direction torque switch (TSO). However, if the valve were to bind in the open direction, the safety related feeder buss would protect itself by virtue of the valve MCC feeder overload heaters or circuit breaker tripping. Overload heater & circuit breaker design criteria are evaluated per ECN-QE-59 & QCEM 200-2 to ensure buss protection. For RWCU system operation, the change will allow better throttling capabilities for the newly installed valve (see MDC#P04-2-91-116) so that system design requirements (See Question #5) will be maintained. Finally, the new valve will provide finer system flow control under the full range of valve operation while maintaining current system characteristics. This is obtained by setting the valve operator close limit switch rotors from 25 to 5% throttle positions.

Additionally, the automatic functions of the valve operator are not altered, and, as previously stated, there is adequate protection of the safety related bus. Therefore, this change does not create the possibility of an accident or malfunction of a different type.

3. The margin of safety, s not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-142

PO4-1(2)-91-024

DESCRIPTION:

Replace existing reactor feed pump - auxiliary oil pump motor which operates at 3500 rpm with a motor which operates at 1730 rpm.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Loss of Feedwater UFSAR SECTION: 11.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the worst case scenario that this change could affect would be impacting the ability to prevent a loss of feedwater. A loss of feedwater accident has been analyzed in the FSAR.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

This modification involves the installation of an external vacuum breaker line connecting the turbine exhaust to the torus air volume. Because the vacuum breaker line is now external to the torus (previously vacuum breakers were located inside the torus), primary containment isolation valves, and modified primary containment isolation (PCI) logic are included in the design.

The reason for this modification reduces the implications for primary containment integrity if the turbine exhaust check valve should fail (by installing motor operated PCI valves for the connection of the turbine exhaust to the containment air volume).

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

HELB Outside Containment	UFSAR SECTION: 14.2.3
LOCA	UFSAR SECTION: 14.2.4
Inadvertent HPCI Inj.	UFSAR SECTION: 4.3.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification does not contain any system interfaces or failure modes that have not been evaluated. Therefore, the modification does not create or increase the probability of failure of other systems or equipment. There are no accidents caused (directly) by a failure of the added or modified equipment.

   This modification alters equipment used for protection to mitigate the consequences of DBA and SFE accidents described in the FSAR and SER. The modification enhances the performance of HPCI by eliminating the conditions causing HPCI turbine exhaust valve "chugging". The modification improves primary containment by 1) eliminating the direct connection of the torus air space to the turbine exhaust line (by providing isolation valves in the vacuum breaker line, 2) providing redundant MOV's in the above connection instead of relying on check valves for containment isolation, and 3) improving the Group 4 containment circuitry (e.g., additional seal-ins, improved reset controls, indication of circuit power, increased circuit separation between trip channels, etc.). A failure of these protective systems is not made more likely.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

To repair the Quad Cities Unit Two shroud access hole covers with a toggle clamp.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA UFSAR SECTION: 14.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the toggle clamp will not create an adverse impact on systems or functions to create an accident or malfunction different than evaluated in the UFSAR. ASME Section was used as guidance in the design of the toggle assembly. The materials are compatible with the vessel internals. There has been no new malfunction that has been associated with this repair, nor does this introduce a new method of impacting other RPV internals.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Circuit breaker control logic is being revised to automatically shed non-safety related loads from 480 V ESS Division I load center 28 and 480 V Division II load center 29. The loads will be shed on a high drywell pressure (2.5 psi) or low-low reactor water level (-59") which actuates an auto-start of the emergency diesel generator with off-site power available.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because changing the load shed logic does not change the normal function of any system or component, but changes the operation during the following plant conditions:

   High drywell pressure (2.5 psig) OR
   Low-low reactor water level (-59" and «325 psig reactor pressure) OR
   Low-low reactor water level (-59" for 8.5 minutes)

The above conditions coupled with an auto-start of the emergency diesel generator and off-site power availability will cause a trip of the turbine building supply and exhaust fans; M-G set ventilation fans; the fuel pool cooling fans; and the RBCCW pumps.

The purpose of the load shedding is to improve voltage regulation on the ESS buses. By improving the voltage regulation, the reliability of the ESS loads is increased which provides a higher assurance that the safety related loads will function as expected. A trip bypass switch is being installed on the 912-5 panel located in the main control room to provide operators a means of restarting the RBCCW pumps and fuel pool cooling pumps if required.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because during normal plant operation and following a normal shutdown, the drywell coolers are still available for temperature and pressure control of the drywell. Under abnormal accident conditions (LOCA) the MSIV's will immediately go closed and the solenoids no longer are a concern.

DESCRIPTION:

Circuit breaker control logic is being revised to automatically shed eight non-safety related loads from 480 V ESS Division I load center 28, 480 V Division II load center 29, and non-safety related 480 V load center 27 on a high drywell pressure (2.5 psi) or low-low reactor water level (-59") which actuates an auto-start of the emergency diesel generator with off-site power available. The loads which are shed are drywell cooler blowers 2A(B,C,D,E,F,G) and the drywell 2 vent booster fan. Bypass switches will be installed in the 912-5 panel to allow operator bypass of the trip signal to allow a restart of the tripped equipment. The load shedding is being done to improve voltage regulation on 480 V ESS buses 28 and 29 during an off-site power degraded voltage condition coupled with an auto-start of the diesel generator.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the drywell coolers are designed to maintain drywell temperature at about 135 degrees F during normal operation, and reduce drywell temperature to about 105 degrees F within 8 hours of shutdown.

   Changing the load shed logic does not change the normal function of the coolers, but changes the operation during the following plant conditions:

   High drywell pressure (2.5 psig) OR
   Low-low reactor water level (-59" and ≤325 psig reactor pressure) OR
   Low-low reactor water level (-59" for 8.5 minutes)

   The above conditions coupled with an auto-start of the emergency diesel generator and off-site power availability will cause a trip of the drywell cooler blowers and vent booster fan.

   The purpose of the load shedding is to improve voltage regulation on the ESS buses. By improving the voltage regulation, the reliability of the ESS loads is increased which provides a higher assurance that the safety related loads will function as expected. A trip bypass switch is being installed on the 912-5 panel located in the main control room to provide operators a means of restarting the blowers and booster fan if required.

3. The margin of safety,as defined in the basis for Technical Specification, is not reduced because during normal plant operation and following a normal shutdown, the drywell coolers are still available for temperature and pressure control of the drywell. Under abnormal conditions (LOCA) the MSIV's will immediately go closed and the solenoids no longer are a concern.

MINOR DESIGN CHANGE 4-0-077

System 0220 3200

DESCRIPTION:

Incorporate vendor recommended upgrade of pivot pin retention. This new method of retention incorporates a retaining pin which extends through the entire diameter of the pivot pin. The recommended method replaces the method previously used which was similar to a set screw arrangement.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the function of the valve is unchanged with this minor change.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because this minor design change will not affect the valves seating capabilities. The valves integrity is being increased through this minor design change.

M4-1(2)-88-101A&B

SIGNAL ISOLATORS

DESCRIPTION.

1) Add isolators to existing instrument loops, 2) Establish new computer inputs from existing loops, using isolators, and 3) Power existing isolators from Division II.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because all new components will be seismically qualified and mounted to mitigate component failures. Failure of any isolator is still bounded by the FSAR parameters for that system, nor does such failure create a new accident or malfunction not previously analyzed in the UFSAR.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

This change upgrades the existing control circuits for the Residual Heat Removal (RHR) System LPCI injection valves 2-1001-29A, 29B, and RHR shutdown cooling valve 2-1001-50. The same changes are also being made for the Reactor Water Recirculation Pump discharge valves 2-202-5A and 5B. This is being done to assure that the contactors associated with these five valves will have sufficient terminal voltage to pick up and actuate the valves. These changes help resolve degraded voltage concerns.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION: 14.2.4
Fire	UFSAR SECTION: 10.7
Power bus loss of voltage	UFSAR SECTION: 8.2.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification has no effect on operating modes or equipment functions. The installation of the control circuit upgrade, enhances the reliability of safety equipment because it increases the voltage level at the contactor coils under degraded voltage conditions.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

The changes made by this modification provide a redundant power feed to the 1/2 Diesel Generator Cooling Water Pump (DGCWP) Room Cooler Fan Motors A and B. The existing power feed will be changed in order to be consistent with the new redundant configuration. Both of the DGCWP room cooler fan motors are currently supplied from 480V Motor Control Center (MCC) 18-2. The change in power feed for the DGCWP room cooler fan motors will be accomplished by utilizing the same power feed supplies (both normal and alternate) that provide power for the 1/2 DGCWP Motor. Isolation fuses will be installed between local panel 2251-100 and the 1/2 DGCWP room cooler fan motors.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION: 14.2.4
Fire	UFSAR SECTION: 10.7
Power bus loss of voltage	UFSAR SECTION: 8.2.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification has no effect on operating modes or equipment functions. The installation of the power feed upgrade, enhances the reliability of safety equipment because it improves the redundancy and the voltage at the load under degraded voltage conditions. Isolation fuses are installed in local panel 2251-100 to ensure that if a fault condition would occur at the cooler fan it would have no affect on the operation of the EDG CWP Motor. In the event that a fault would occur on the EDG CWP Motor, the feed breaker would trip, and cooling fans are not required.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

This modification will enhance the control circuit logic associated with the transfer of power fees for the swing (1/2) Diesel Generator Auxiliaries. The 1/2 Diesel Generator Cooling Water Pump, 1/2 Diesel Generator Vent Fan and 1/2 Diesel Generator Fuel Oil Transfer Pump are the pieces of equipment impacted by these changes. The control logic change will initiate a transfer from the normal power feeds to the alternate power feeds when either a Unit 2 Loss of Coolant Accident (LOCA) signal is received or the 1/2 Diesel Generator output breaker to Unit 2 closes. The design change will allow the transfer of the auxiliaries back to the normal feeds during a Unit 2 LOCA only when the 1/2 Diesel Generator output breaker to Unit 1 closes. This modification is being performed to ensure the swing (1/2) Diesel Generator Auxiliaries are receiving power from an adequate power supply. This logic change is being implemented to address a concern resulting from degraded voltage issues at the 480 Vac level.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION: 14.2.4
Fire	UFSAR SECTION: 10.7
Power bus loss of voltage	UFSAR SECTION: 8.2.2

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification has no effect on operating modes or equipment functions. The installation of the new control circuit logic configuration, enhances the reliability of the 1/2 Diesel Generator Auxiliary equipment under degraded

voltage conditions by forcing this equipment to be fed by emergency power rather than off-site power. Therefore, the modification would not create the possibility of an accident or malfunction of a type different from those evaluated in the FSAR/UFSAR. Upon failure of this new logic, the new control circuit logic configuration can be electrically isolated by opening a test switch (or a blown fuse in the circuit) which returns the circuitry of the 1/2 Diesel Generator auxiliaries to their original configuration.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-74

MDC #P04-2-92-026, NWR #Q98956

DESCRIPTION:

The gear ratio for MO 2-220-3 will be altered (including new spring pack installation, revised torque switch settings, etc.) to accommodate the newly installed crane valve 1 1/4" stem.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the changes to the valve and associated motor operator will be within the design specifications for the components involved, resulting in unchanged valve operation, therefore, the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR is not an issue.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

MC4-2-90-113

SYSTEM 0020, 8900, 4700

DESCRIPTION:

This minor design change involves the reinforcement of a gallery structural steel beam located in the "B" RHR corner room. The reinforcement is required because of additional loads applied to the beam by pipe supports. Sargent and Lundy has determined that the revised pipe loads cause the beam stresses to exceed UFSAR allowables. The beam reinforcement requires a reroute of an instrument air line passing over the top of the beam.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because loss of equipment in this "2B" RHR room would be bounded by previously analyzed accidents (e.g., Failure of an EDG to start would cause a loss of an entire ECCS division; Loss of Instrument Air has been previously analyzed; flooding of the room has been evaluated). The activity described in this MDC is limited to an instrument air line reroute and beam reinforcement and imposes now new, significant hazards or impacts on plant safety.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the margin of safety has been increased by strengthening the structural beam to UFSAR requirements. The change to the instrument air tubing has no functional change to the Instrument Air or HRSS system. There are no Technical Specification systems adversely affected by this change.

DESCRIPTION:

This minor plant change (MPC) replaces the existing torus water temperature recorder on the 902-36 back panel in the Control Room (TR2-1640-200A). This MPC also replaces the torus water temperature recorder on the 902-4 front panel of the Control Room (TR2-1640-9). In addition to replacing the recorders, the signal conversion equipment located in panel 2202-70A of the Auxiliary Electric Room are being replaced.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA UFSAR SECTION; 14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the installation, if performed at power, shall be in accordance with the post accident monitoring requirements of Regulatory Guide 1.97, Rev. 2 and the unit Technical Specifications. Table 3.2-4 requires that 1 division of torus temperature monitoring shall be operable during power operation. The 1 (modified) division may be out of service mo more than 7 days (LCO).

The installation activity has been reviewed by the designer. The installation of the signal conditioning equipment in the Auxiliary Electric Room is in close proximity to ATWS equipment. Because of the redundancy in the ATWS logic, there is not undue risk of tripping the unit due to inadvertent installer actions. The ECN provides guidance on performing the work in the ATWS and Control Room panel without adverse impact on the unit or Safety Related equipment.

All new Safety Related components have been procured Class 1E from 10CFR50, Appendix B suppliers. The new non-Safety Related components have been procured from Appendix B suppliers with seismic qualification documentation. The mounting details used for the installation have been qualified and verified to be consistent with the seismic qualification of the components.

The MPC is essentially several component replacements and does not change the function of the subsystem. There are no new interfaces or failure modes created. Therefore, the possibility of an accident not analyzed in the FSAR/UFSAR has not been increased.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the new equipment is fully qualified and more accurate than the replaced equipment. The installation, if installed at power, requires the voluntary entry into an LCO. The installation period requiring the out-of-service shall be minimized. Since the equipment out-of-service is bounded by the LCO terms, this is considered a reviewed safety question.

DESCRIPTION:

This minor plant change (MPC) replaces the existing chart recorders in the control room. The replaced recorders are:

2-0750-10A IRM/APRM Recorder
2-0750-10B IRM/RBM Recorder
2-0750-10C IRM/RBM Recorder
2-0750-10D IRM/APRM Recorder
2-0640-27 Turbine Steam Flow/Reactor Level/Reactor Pressure

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION: 14.2.4
Feedwater Flow Control	UFSAR SECTION: 4.3.3., 11.3.3
MSL Break	UFSAR SECTION: 14.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the new recorders have no new failure modes or system interactions that would cause accidents that have not been previously analyzed.

   The installation of the new recorders must be performed with the unit in the Shutdown or Refuel modes. Under these circumstances, the installation does not result in any Technical Specification LCO's.

Since the MPC does not in any way reduce the quantity or quality of control room indications (as described in the UFSAR and Technical Specifications), the ability of the operator to respond to accidents or off normal conditions is not reduced. Human Factors Engineering has been performed.

All new components (i.e., the chart recorders) have been procured Class 1E from 10CFR50, Appendix B suppliers. This has upgraded or maintained the quality of instrumentation used in the modified systems.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

The purpose of this Minor Plant Change is to fabricate an opening in the 902-4 panel for the new Reactor Water Cleanup (RWCU) filter demineralizer inlet dissolved oxygen chart recorder, 2-1241-29. The installation of the new recorder will be performed under the BWR Chemistry Improvement Project modification, MO4-2-87-003. Other instrumentation and control switches are presently located at the planned location for the new recorder and is not well grouped by system function. This Minor Plant Change relocates the existing equipment, cuts an opening for the new recorder, and installs a blank plate in the panel until the new recorder can be installed.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA UFSAR SECTION: 14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the function of equipment is not changed by the relocation of the equipment. All interactions with other equipment, including Class 1E equipment and structures, has been evaluated in the design (e.g., seismic qualification of relocated components, impact of Safety Related control room panel). Similarly, there are no new failure modes created by the relocation of equipment.

   The relocation has been evaluated from a Human Factors standpoint and found acceptable.

   Any potential of this equipment to cause an accident not analyzed in the FSAR is, therefore, unchanged.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

This Minor Plant Change (MPC) replaces the existing torus water temperature recorder on the 902-36 back panel in the Control Room (TR2-1640-200B). This MPC also provides the Division II inputs to the torus water temperature recorder on the 902-4 front panel of the Control Room (TR2-1640-9). In addition to replacing the recorder, the signal conversion equipment located in panel 2202-70B of the Auxiliary Electric Room are being replaced.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA UFSAR SECTION: 14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this minor plant change is essentially several component replacements and does not change the function of the subsystem. There are no new interfaces or failure modes created.

   The installation, if performed at power, shall be in accordance with the post accident monitoring requirements of Regulatory Guide 1.97, Rev. 2 and the unit Technical Specifications. Table 3.2-4 requires that 1 division of torus temperature monitoring shall be operable during power operation. The 1 (modified) division may be out of service no more than 7 days (LCO).

The installation activity has been reviewed by the designer. The installation of the signal conditioning equipment in the Auxiliary Electric Room is in close proximity to ATWS equipment. Because of the redundancy in the ATWS logic, there is not undue risk of tripping the unit due to inadvertent installer actions. The ECN provides guidance on performing the work in the ATWS and Control Room panel without adverse impact on the unit or Safety Related equipment.

All new Safety Related components have been procured Class 1E from 10CFR50, Appendix B suppliers. The new non-Safety Related components have been procured from Appendix B suppliers with seismic qualification documentation. The mounting details used for the installation have been qualified and verified to be consistent with the seismic qualification of the components.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the minor plant change replaces existing equipment with new equipment which is fully qualified and more accurate than the replaced equipment. The installation, if installed at power, requires the voluntary entry into a LCO. The installation period requiring the out-of-service shall be minimized. Since the equipment out-of-service is bounded by the LCO terms, this is considered a reviewed safety question.

DESCRIPTION:

This Minor Plant Change (MPC) replaces the existing chart recorders in the control room. The replaced recorders are:

2-0263-110 Recirculation Flow and Core D/P
2-0640-26 Reactor Water Level/Total Feedwater Flow/(Turbine Steam Flow)
2-0640-28 Reactor Pressure
2-0941-7A Computer Trend Recording
2-0941-7B Computer Trend Recording

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	UFSAR SECTION: 14.2.4
MSL Break	UFSAR SECTION: 14.2.3
Recirc. Loop Transients	UFSAR SECTION: 4.3.3
Flow Control Transients	UFSAR SECTION: 4.3.3, 11.3.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the new recorders have no new failure modes or system interactions that would cause accidents and have not been previously analyzed. The installation of the new recorders must be performed with the unit in the Shutdown or Refuel modes. Under these circumstances, the installation does not result in any Technical Specification LCO's.

Since the MPC does not in any way reduce the quantity of quality of control room indications (as described in the UFSAR and in Regulatory Guide 1.97), the ability of the operator to respond to accidents or off normal conditions is not reduced. Human Factors Engineering has been performed.

All new components (i.e., the chart recorders) have been procured Class 1E from 10CFR50, Appendix B suppliers. This has maintained (or upgraded) the quality of instrumentation used in the modified systems.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the new equipment is fully qualified and is a suitable replacement for the original equipment. There is no (specific) discussion of post accident monitoring requirements contained in the Technical Specification bases. The MPC replaces existing equipment. The designer has verified recorder and instrument loop accuracy is not compromised. The use of Class 1E (seismically qualified) recorders should enhance the reliability of the instruments.

DESCRIPTION:

This minor plant Change involves the installation of corrosion coupon holders in the residual heat removal service water and the diesel generator cooling water systems for unit 2. The corrosion monitoring equipment is being installed as part of the station response to NRC Generic Letter 89-13.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because in response to NRC generic Letter 89-13, corrosion coupon holders are being installed to monitor corrosion rates in the Residual Heat Removal Service Water (RHRSW) and Diesel Generator Cooling Water (DGCW) systems. The system is passive and a failure discharges the broken pieces to the river. By monitoring the internal pipe corrosion rates, the probability of a pipe failure is reduced.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the corrosion coupon holders are being added in response to NRC Generic Letter 89-13 to monitor internal pipe corrosion rates. The possibility of a pipe failure due to corrosion would be reduced, therefore, the margin of safety from pipe failure will improve.

Modification M4-2-84-017

Dual Underexcitation Limiter Indication

DESCRIPTION:

Add indicating lights in the control room to indicate high and low minimum exciter limit.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the exciter has no safety consequences.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because since the system has no safety consequences, it's components can't have any either.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because no safety considerations to this system.

SE-92-30

QCOP 1200-5

DESCRIPTION:

Procedure format was changed per QCNPS Writers Guide. Also additional information was added for operator usage.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this procedure describes the necessary steps to perform a manual backwash and precoat of a RWCU Filter Demin. The F/D is taken off line and isolated (manual isol. valves) per procedure so that no adverse affects will occur to the primary system (Rx Coolant). The change to this procedure changes the format per the QCNPS Writers Guide and adds addition information (NOTES, valve locations, etc.) that aids the operator to correctly perform the backwash and precoat. Therefore, this change does not create an accident or malfunction not previously evaluated in the UFSAR.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-104

1/2 DG Room CO_2 Concentration Test

DESCRIPTION:

Install a jumper to bypass the ventilation trip which isolates the ventilation during CO_2 injection, install alternate CO_2 discharge nozzles to increase the flow rate of CO_2 and perform a manual injection of CO_2. Install a jumper to manually start the 1/2 DG ventilation remotely to purge the CO_2.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.
   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Loss of Offsite Power	UFSAR SECTION	8.2.3.1/10.10.6
Fire In Diesel Generator or Day Tank Rooms	UFSAR SECTION	10.6.2.6.e
Loss of Coolant Accident	UFSAR SECTION	14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the performance of the CO_2 concentration test has no impact on the availability of offsite power or the integrity of the primary coolant system. Also, the 1/2 Diesel Generator will be operable throughout the test to provide emergency power in the event that off site power is lost.

   The CO_2 flooding system will have an improved flow rate of CO_2 as compared to the existing system performance through the temporary installation of larger CO_2 discharge nozzles. However, since the ventilation trip upon CO_2 actuation will be bypassed and the ventilation will be manually operated prior to and following the test, the effectiveness of the CO_2 in

the event of a fire will be limited during the test. The CO2 system will be declared inoperable during the test, and the LCO requirements for having an inoperable CO2 system will be met which includes back up fire suppression equipment at the affected area and twice per shift fire watches. The backup fire suppression used will be dry chemical cart extinguishers which are not dependent on isolation of the room as with the CO2 flooding system. Also, the station fire brigade will be in attendance throughout the test, which will ensure timely response to fighting a fire in the event of an equipment failure.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the diesel generator will not be made inoperable during this test. In the event that the diesel generator was inoperable, the Tech Spec LCO would be entered which allows continued operation for 7 days provided the operability requirements of the other diesels and associated loops of RHR and Core Spray can be met.

SE-92-105

EGC Procedures (QCOP 5670-2, QCOP 5670-2, QCOS 5670-1)

DESCRIPTION:

These procedures have been reformatted into the new procedure formats and also more clearly specify the Technical Specification Limits and system limits that are required to be fulfilled during EGC operation.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because these procedure changes reformatted the current EGC procedures and provided more descriptive information to the NSO. They do not change or alter the method of EGC operation allowed in Technical Specification or the FSAR. These procedure more clearly specify the required Technical Specification requirements prior to and during EGC operation. Therefore, these changes will not alter plant operation. Therefore, no new plant failure modes or malfunctions are introduced by these procedure changes.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because these procedures verify the EGC limits and if conditions change while in EGC these limit are re-evaluated or the limits are re-evaluated and the unit is removed from EGC operation. Therefore, the unit will always be operated in the previously analyzed EGC band which will not reduce the margin of safety required for EGC operation.

SE-92-106

EGC Procedures (QCOP 5670-1, QCOP 5670-2, QCOS 5670-1)

DESCRIPTION:

Those procedures have been reformatted into the new procedure formats and also more clearly specify the Technical Specification Limits and system limits that are required to be fulfilled during EGC operation.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because these procedure changes reformatted the current EGC procedures and provided more descriptive information to the NCO. They do not change or alter the method of EGC operation allowed in Technical Specification or the FSAR. These procedures more clearly specify the required Technical Specification requirements prior to and during EGC operation. Therefore, these changes will not alter plant operation. Therefore, no new plant failure modes or malfunctions are introduced by these procedure changes.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because these procedures verify the EGC limits and if conditions change while in EGC these limits are re-evaluated or the limits are re-evaluated and the unit is removed from EGC operation. Therefore, the unit will always be operated in the previously analyzed EGC band which will not reduce the margin of safety required for EGC operation.

SE-92-107

EGC Procedures (QCOP 5670-1, QCOP 5670-2, QCOS 56701)

DESCRIPTION:

These procedures have been reformatted into the new procedure formats and also more clearly specify the Technical Specification Limits and system limits that are required to be fulfilled during EGC operation.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because these procedure changes reformatted the current EGC procedures and provided more descriptive information to the NSO. They do not change or alter the method of EGC operation allowed in Technical Specification or the FSAR. These procedures more clearly specify the required Technical Specification requirements prior to and during EGC operation. Therefore, these changes will not alter plant operation. Therefore, no new plant failure modes or malfunctions are introduced by these procedure changes.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because these procedures verify the EGC limits and if conditions change while in EGC these limits are re-evaluated or the limits are re-evaluated and the unit is removed from EGC operation. Therefore, the unit will always be operated in the previously analyzed EGC band which will not reduce the margin of safety required for EGC operation.

SE-92-109

Temporary Procedure #7848

DESCRIPTION:

Add steps to procedure to allow running emergency filtration system for the Control Room with the "A" train of Control Room Ventilation.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   LOCA UFSAR SECTION 15.6

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change procedurally allows the "A" train of Control Room ventilation to operate as originally designed and analyzed in the UFSAR. The procedure does not allow the system to operate in a manner inconsistent with this design. Therefore, there is no possibility of an accident or malfunction different from those evaluated in the UFSAR to occur.

3. The margin of safety is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-115

Handling, Loading and Shipping preparation of the TN-8L Shipping Cask

DESCRIPTION:

Implement the procedure for using the TN-8L Shipping Cask for the disposal of irradiated hardware from the spent fuel pools.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   Load Drop Accident UFSAR SECTION 10.1

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the TN-8L Shipping Cask is an NRC approved cask. This procedure provides administrative controls and directions in the use of the TN-8L cask. Shipping casks are routinely used in the transfer of new fuel to the refuel floor and the use of this cask will not present any new situation that are unfamiliar.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-92-117

QCP 1300-25 Service Water/RHR Service Water Vault Capacitor Sampling

DESCRIPTION:

Add section to procedure outlining the actions to take when sampling the service water system during loss flow conditions. The change requires the Technician to monitor change in the service water liquid rad monitor receiving tank level to verify flow into the sample skid, and in the event of no noticeable flow into the sample skid, outlines the steps requiring to obtain samples from the Discharge Bay, Reactor Building Closed Cooling Water (RBCCW) service water outlets and initiate a DVR.

SAFETY EVALUATION SUMMARY.

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change does not change equipment status or operating conditions. It gives guidance under a given set of preexisting conditions.

   In addition, Technical Specification Section 3.0/4.2.G, provides for the following: In regard to the service water rad monitor.

   In the event a limiting condition for operation and associated action requirements cannot be satisfied because of circumstances in excess of those addressed in the specifications, provides a 30-day written report to the NRC, and no changes are required in the operational condition of the plant, and this does not prevent the plant from entry into a operational mode."

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Technical Specification allows for operation as follows: In the event a limiting condition for operation and associated action requirements cannot be satisfied because of circumstances in excess of those addressed in the specifications, provide a 30 day written report to the NRC, and no changes are required in the operational condition of the plant, and this does not prevent the plant from entry into an operation mode.

SE-92-118

Temporary Alteration

DESCRIPTION:

Remove internals from Valve #2-5299-155.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Loss of Off-Site Power/Failure of EDG to Start/Power by Loss of Voltage	UFSAR SECTION	8.3.1
Decrease in Reactor Coolant Inventory (LOCA on Main Steamline Break)	UFSAR SECTION	15.6

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the normal function of this valve is to allow fuel oil flow to the DG. Installing this Temporary Alteration will not alter its' normal function. No additional failure modes are created by this Temporary Alteration.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-383

Modification M04-2-88-018

DESCRIPTION:

Install a time delay relay in the first floor turbine building to reactor building interlock doors circuitry and the 1/2 Diesel Generator Room.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

Instrument Line Break	UFSAR SECTION	5.3.4.1
Refueling	UFSAR SECTION	14.2.2
Loss of Coolant	UFSAR SECTION	14.2.4

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the new relay is replacing the existing one with no change in function except the addition of a time delay to prevent two doors opening simultaneously. No new accidents or malfunctions exist.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Modification No. M04-2-87-051C

Panel Ringback Installation

DESCRIPTION:

This partial modification added visual and audible ringback to the annunciator systems of the control room service panels 902-53, 54, 55 and 56. The existing annunciator systems at the panels will be replaced or upgraded.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the annunciator system is not discussed in the accident analysis section of the FSAR. This system is not required for accident mitigation. Since the annunciator system is electrically isolated from the safety related systems, the failure of the non-safety related annunciator system will not affect the operation of any of the plant's safety-related systems.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because no change has been made which affects any of the bounding conditions of the FSAR accident analysis. All bounding conditions remain the same, no new accidents are introduced by this modification.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because when applicable, the Limiting Conditions for Operation (LCO) 3.12.F and the Surveillance Requirements (SR) 4.12.F for the Fire Protection System's fire barriers will be adhered to for the installation of cables. No other LCOs, SRs or their basis will be affected by the installation, operation or failure of the modified annunciator system.

SE-91-230

Minor Design Change P04-2-90-024

DESCRIPTION:

Installed drain and fill valve on the 2A and 2B moisture separator drain tank high and low level switches.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

   None

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the addition of these valves will not serve any purpose or have any function during startup/hot standby or run. During refuel or shutdown when the MSDTs are drained the valves will be used to test the level switches. If a valve fails or leaks by during plant operation the pipe will be capped off. Therefore, the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR is not created.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

The change made by this modification involve upgrading the power feed to various electrical loads in the plant. The existing cables was abandoned in place and new larger cables was installed following the routing points of the old cables, where feasible. New tray routing was used in certain areas to facilitate installation. These changes are being made to increase the voltage levels at the loads under degraded voltage conditions.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:

   - The change alters the initial conditions used in the UFSAR analysis.

   - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.

   - Operation or failure of the changed structure, system, or component could lead to the accident.

   The accidents which meet these criteria are listed below:

LOCA	SAR SECTION	14.2.4
Fire	SAR SECTION	10.7
Power bus loss of voltage	SAR SECTION	8.2.2
Failure of one DG to start	SAR SECTION	8.2.3

   For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because as discussed in the responses to questions 5 and 6, the modification has no effect on operating modes or equipment functions. The installation of new cable, enhances the reliability of safety equipment powered through the cable, because it improves the voltage at the load under degraded voltage conditions. Therefore, the modification would not create the possibility of an accident or malfunction of a type different from those evaluated in the FSAR/UFSAR.

3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Modification M04-2-85-002

Main Generator Synchronizing Relay

DESCRIPTION:

The Modification replaced existing Main Generator synchronizing relay and its auxiliary relay with a CECo HACR-1V relay. The HACR-1V relay is highly accurate and will provide superior protection against closing of the Main Generator to the system out of phase.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the replacement of the relay does not create a new failure mode. Additionally no equipment used to mitigate the consequences of an accident is affected.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the new relay performs the same function as the relay it is replacing. No new failure modes are introduced by this modification.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the relay and the relay being replaced serve no safety function and do not interface with any Safety-Related equipment.

Modification M04-2-84-031

Generator Anti Motoring Relays

DESCRIPTION:

Add GGP Anti Motoring Relays to ascertain that the Generator is not tripped as long as steam is delivered to the turbine. Also add MEL (Maximum Excitation Limiter) Relays to limit the overexcitation time for the generator.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because malfunction of these relays would at worst case initiate a Generator/Turbine Trip, an incident which has been evaluated in the FSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because malfunction of these relays would at worst case initiate a Generator/Turbine Trip, an incident which has been evaluated in the FSAR.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the equipment has no bearing on the margin of safety, generator availability is not defined in the basis for any Technical Specification.

Modification M04-1-84-015

Main Generator

DESCRIPTION:

Install Load Rejection Scheme that trips the generator in the event that the path for electrical power has been interrupted.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the new rejection scheme is increasing the reliability of our present scheme for detecting those occurrences where the path for electrical power has been interrupted. Malfunction or failure of the new level rejection will only revert the stations to utilize what is presently installed.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the new load rejection scheme increases reliability and enhances safety. Malfunction of equipment does not effect plant systems important to safety.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the new load rejection scheme will provide more reliable means for detecting current, voltage and frequency in the event of the loss which could subsequently cause unit overspeed.

Modification M04-1-88-027C

CRD Return Line

DESCRIPTION:

The CRD return line was removed to mitigate IGSCC. This partial modification involved removal of the CRD return piping and supports outside the drywell. This section of piping was already cut and isolated.

EVALUATION:

1. The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because this partial modification only involves removal of a nonsafety-related and nonfunctioning pipe. Therefore, operation will not be affected.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because this partial modification only involves removal of a nonsafety-related pipe line.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because this partial modification only involves removal of a nonsafety-related pipe line. The technical specifications do not address this portion of the CRD system; therefore, the margin of safety is not reduced.