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RJW-93-16

July 2, 1993

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 month of April & May 1993, 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

R Bucknell 7-7-93
Robert J. Walsh
Tech Staff Supervisor

RJW/dak

Enclosure

cc: A. B. Davis, Regional Administrator
T. Taylor, Senior Resident Inspector

SAFETY/NRC.LTR

130056

IE47
1/1

SE-93-54
Drawing Change Request

**DESCRIPTION:**

M-drawings M-994D-316, M-994D-317, M-994D-318, M-994D-319, M-994D-568, M-994D-569, M-994D-570, M-994D-571, M-1026D-311, M-1026D-312, M-1026D-319, M-1026D-591, M-1026D-592, M-1026D-593 and M-1026D-594 were revised to incorporate new global movement. Spring can load settings, as-built information verified by field walkdowns and bill of materials parts information. This information was either verified by a field walkdown or derived from a revised analysis performed on the RHR lines.

**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 3.6.2
   Piping failure in fluid systems
   inside the drywell.

   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 drawing change is being performed to reflect the as-built status of hanger and piping associated with the shutdown cooling line within the drywell. Analysis of the data resulted in changes to load setting allowances, and verified that the present design meets UFSAR allowances. The piping and hangers are not being modified by this changes. No alterations are being made to the accident analysis or system operation/function.

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

SE-92-156
Differential Pressure Test of MO 1(2)-1402-4A

**DESCRIPTION:**

Provided the steps necessary to perform a differential pressure test on MO 1(2)-1402-4A.

**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 6.2, 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 test procedure does not adversely impact the Core Spray loop in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the loop within its normal design parameters. Stroking MO 1(2)-1402-4A open and closed with the Loop A CS pump operating places the system in a condition similar to that in which the CS subsystem must re-position from its normal monthly surveillance lineup to the reactor vessel injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as define in the basis Technical Specification, is not reduced because the requirements for performance of this test are consistent with the Limiting Conditions for Operation set forth in the Technical Specifications. Prior to performance of this test, an LCO will be declared for the A Loop of Core Spray. The other loop of core spray, and both RHR Subsystems will be demonstrated to be operable prior to testing. If the A Loop of Core Spray cannot be declared operable within 7 days, an orderly shutdown will begin. Since the requirements of Technical Specifications are met prior to performance of this test, no margin of safety is reduced.

SE-92-157
Differential Pressure Test of MO 1(2)-1402-4B

**DESCRIPTION:**

Provided the steps necessary to perform a differential pressure test on MO 1(2)-1402-4B.

**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 6.2, 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 test procedure does not adversely impact the Core Spray loop in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the loop within its normal design parameters. Stroking MO 1(2)-1402-4B open and closed with the Loop B CS pump operating places the system in a condition similar to that in which the CS subsystem must re-position from its normal monthly surveillance lineup to the reactor vessel injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because the requirements for performance of this test are consistent with the Limiting Conditions for Operation set forth in the Technical Specifications. Prior to performance of this test, an LCO will be declared for the B Loop of Core Spray. The other loop of Core Spray, and both RHR Subsystems will be demonstrated to be operable prior to testing. If the B Loop of Core Spray cannot be declared operable within 7 days, an orderly shutdown will begin. Since the requirements of Technical Specifications are met prior to performance of this test, no margin of safety is reduced.

SE-92-158
Differential Pressure Test of MO 1(2)-1402-38B

**DESCRIPTION:**

Provided the necessary steps to perform a differential pressure test on MO 1(2)-1402-38B in accordance with Generic Letter 89-10.

**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 6.2, 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 test procedure does not adversely impact the Core Spray loop in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the loop within its normal design parameters. MO 1(2)-1402-38B and B Core Spray will be made inoperable by opening the limit switch cover on the valve, but the other Core Spray loop and both RHR loops will be operable as required by Tech Specs. Stroking MO 1(2)-1402-38B open and closed with the Loop B CS pump operating places the system in a condition similar to that in which the CS subsystem must re-position from its normal monthly surveillance lineup to the reactor vessel injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because the Core Spray Loop that is being tested is declared inoperable. The Limiting Conditions for Operation will be met, or else an orderly shutdown will begin. Performance of this test is consistent with the requirements of Technical Specifications, therefore no margin of safety is affected.

SE-92-159
Differential Pressure Test of MO 1(2)-1402-34A

**DESCRIPTION:**

Provided the necessary steps to perform a differential pressure test on MO 1(2)-1001-34A to comply with the requirements of NRC Generic Letter 89-10.

**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 6.5.2 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 test procedure does not adversely impact the RHR or RHRSW systems or their associated functions in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the RHR and RHRSW systems in the suppression pool cooling mode within their normal design parameters. Stroking MO 1(2)-1001-34A open and closed with the Loop A RHR pumps operating and cross-tied to the B RHR loop places the system in a condition similar to that in which the RHR loop must re-position from ithe suppression pool cooling lineup to ECCS injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because in order to perform this test, the conditions provided in Technical Specifications must be met. Performance of the test will be during the 7 days allotted by the Limiting Condition for operation. If the A Loop of RHR cannot be demonstrated to be operable after 7 days, then an orderly shutdown will commence. This is consistent with the requirement set forth by the Technical Specifications. Therefore performing the test with the unit in operation does not exceed any acceptance limits in Technical Specifications nor does it reduce the margin of safety for providing coolant to the reactor in the event of an accident. If the test is performed with the unit in a shutdown condition, then no Technical Specifications are affected.

SE-92-160
Differential Pressure Test of MO 1(2)-1001-34B

**DESCRIPTION:**

Provided the necessary steps to perform a differential pressure test on MO 1(2)-1001-34B to comply with the requirements of NRC Generic Letter 89-10.

**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 6.2.4.7, 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 test procedure does not adversely impact the RHR or RHRSW systems or their associated functions in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the RHR and RHRSW systems in the suppression pool cooling mode within their normal design parameters. Stroking MO 1(2)-1001-34B open and closed with the Loop B RHR pumps operating and cross-tied to the A RHR loop places the system in a condition similar to that in which the RHR loop must re-position from the suppression pool cooling lineup to ECCS injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because in order to perform this test, the conditions provided in Technical Specifications must be met. Performance of the test will be during the 7 days allotted by the Limiting Condition for operation. If the B Loop of RHR cannot be demonstrated to be operable after 7 days, then an orderly shutdown will commence. This is consistent with the requirement set forth by the Technical Specifications. Therefore performing the test with the unit in operation does not exceed any acceptance limits in Technical Specifications nor does it reduce the margin of safety for providing coolant to the reactor in the event of an accident. If the test is performed with the unit in a shutdown condition, then no Technical Specifications are affected.

SE-92-163
Differential Pressure Test of MO 1(2)-1001-16A(B)

**DESCRIPTION:**

Providesd the steps necessary to perform a differential pressure test on MO 1(2)-1001-16A(B) in accordance with NRC Generic Letter 89-10.

**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 6.2.1, 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 test procedure does not adversely impact the RHR or RHRSW systems or their associated functions in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. If both RHR cross-tie valves are open, then the test operates the RHR and RHRSW systems in the suppression pool cooling mode with their normal design parameters. The LPCI mode of RHR and one containment cooling loop will be administratively inoperable due to environmental qualification concerns, however both loops of core spray and one loop of containment cooling will be operable prior to the test. Performance of

this test is consistent with the requirements of Technical Specifications and does not create the possibility of an accident or malfunction different from those evaluated in the UFSAR.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because this test is consistent with the requirements set forth by the Technical Specifications. Conditions provided in Technical Specifications will be met prior to performance of the test. If both containment cooling loops and the LPCI mode of RHR cannot be demonstrated to be operable after 7 days, then an orderly shutdown will commence. Therefore performing the test with the unit in operation does not exceed any acceptance limits in Technical Specifications nor does it reduce the margin of safety for providing coolant to the reactor in the event of an accident. If the test is performed with the unit in a shutdown condition, then no Technical Specifications are affected.

SE-92-165
Differential Pressure Test of MO 1(2)-1001-36A

**DESCRIPTION:**

Provided the necessary steps to perform a differential pressure test on MO 1(2)-1001-36A in accordance with NRC Generic Letter 89-10.

**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 6.5.2 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 test procedure does not adversely impact the RHR or RHRSW systems or their associated functions in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the RHR and RHRSW systems in the suppression pool cooling mode within their normal design parameters. Stroking MO 1(2)-1001-36A open and closed with the Loop A RHR pumps operating and cross-tied to the B RHR loop places the system in a condition similar to that in which the RHR loop must re-position from the suppression pool cooling lineup to ECCS injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because in order to perform this test, the conditions provided in Technical Specifications must be met. Performance of the test will be during the 7 days allotted by the Limiting Condition for operation. If the A Loop of RHR cannot be demonstrated to be operable after 7 days, the an orderly shutdown will commence. This is consistent with the requirement set forth by the Technical Specifications. Therefore performing the test with the unit in operation does not exceed any acceptance limits in Technical Specifications nor does it reduce the margin of safety for providing coolant to the reactor in the event of an accident. If the test is performed with the unit in a shutdown condition, then no Technical Specifications are affected.

SE-92-166
Differential Pressure Test of MO 1(2)-1001-36B

**DESCRIPTION:**

Provided the necessary steps to perform a differential pressure test on MO 1(2)-1001-36B in accordance with NRC Generic Letter 89-10.

**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 6.5.2 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 test procedure does not adversely impact the RHR or RHRSW systems or their associated functions in a manner that would create the possibility of an accident or malfunction of a type different from those in the UFSAR. The test operates the RHR and RHRSW systems in the suppression pool cooling mode within their normal design parameters. Stroking MO 1(2)-1001-36B open and closed with the Loop B RHR pumps operating and cross-tied to the A RHR loop places the system in a condition similar to that in which the RHR loop must re-position from the suppression pool cooling lineup to ECCS injection lineup following an ECCS automatic initiation signal.

3. The margin of safety, as defined in the basis Technical Specification, is not reduced because in order to perform this test, the conditions provided in Technical Specifications must be met. Performance of the test will be during the 7 days allotted by the Limiting Condition for operation. If the B Loop of RHR cannot be demonstrated to be operable after 7 days, the an orderly shutdown will commence. This is consistent with the requirement set forth by the Technical Specifications. Therefore performing the test with the unit in operation does not exceed any acceptance limits in Technical Specifications nor does it reduce the margin of safety for providing coolant to the reactor in the event of an accident. If the test is performed with the unit in a shutdown condition, then no Technical Specifications are affected.

SE-93-49
FSAR Submittal to Sections 6.4, 9.4, and 15.6

**DESCRIPTION:**

Updated FSAR sections for Control Room HVAC system to reflect existing configuration of system. This included eliminating references to the chlorine and sulfur dioxide analyzer, providing a complete listing of all isolation signals, and eliminating statements about maintaining positive pressure in the Control Room during normal 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:

   | | |
   |---|---|
   | LOCA | UFSAR SECTION 15.6 |
   | Toxic Gas Release | UFSAR SECTION 6.4 |

   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 change serves only to provide more accurate information on the operational characteristics of the Control Room HVAC system. The system itself is not being modified, nor is the manner in which it is currently operated.

The Control Room Habitability Study that was completed to facilitate installation of the redundant Control Room HVAC train and filter unit, specified that the "A" train of Control Room HVAC was to remain operating during an accident situation unless it was unavailable. This mode of operation does not cause a problem because the Air Filtration Unit was designed to be utilized with either the "A" or "B" train to provide filtering of the Control Room air. The filter train with its associated booster fans will provide the positive pressure in the Control Room required during accident conditions. Modification M4-0-82-002, which installed the redundant HVAC train, also considered utilizing the "A" train in the design and this use was evaluated and approved by a SER from the NRC dated May 17, 1983.

Exempt Change E04-0-92-002 evaluated and tested the removal of the chlorine and sulfur dioxide monitor. All testing revealed that no ill effects or changes in the operation of the ammonia analyzer occurred as a result of their removal. Additionally, their removal was evaluated and approved by a SER from the NRC dated November 12, 1992. This SER did not reveal any negative impacts on the ammonia analyzer that could cause a malfunction of a type not already evaluated.

Therefore, there is no chance of creating a new accident or malfunction not already 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 93-50
DCR 4-92-247

**DESCRIPTION:**

DCR has been initiated to reflect new cut and weld at inlet piping to HPCI stop valve. The 10" steam supply piping was cut in order to provide access for ISI inspection.

**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 DCR change incorporates a new location of a weld on the HPCI 10" steam supply line. This will not affect or impact any system such that a new accident is created. The actual work itself was evaluated to ensure the reweld work complies to all applicable codes and standards. The 10" steam supply line work completely returns the piping to original configuration as before, therefore, the UFSAR is not impacted.

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

SE-93-51
Setpoint Change #542

**DESCRIPTION:**

The original Design Specs setpoints for the steam leak detection system temperature switches for HPCI/RCIC were at 175° Fahrenheit. This setpoint was changed to reflect the new Technical Specification isolation trip setpoint change of 155° Fahrenheit.

**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 HPCI/RCIC Steam Leak Detection temperature switches do not perform any function required to mitigate the consequences of a DBA. They are not part of the UFSAR or Technical Specifications. The steam leak detection switch setpoint was chosen through engineering judgement to provide warning before reaching the isolation trip setpoint for each system. The isolation trip setpoints for high area temperature is 170°F per Technical Specification. Therefore, changing the Steam Leak Detection setpoints from 175°to 140°F will be in a conservative direction and chosen by engineering judgement. The new setpoint will not affect any Environmental Qualification analysis or impact any other systems other than HPCI/RCIC.

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

SE-93-55
UFSAR Section 6.2.5.2

**DESCRIPTION:**

The pressure bleed substem of the Atmospheric Containment Atmosphere Dilution (ACAD) system initial containment atmosphere release rate should be 35, not 25 standard cubic feet per minute (Scfm). The dilution air injection subsystem of ACAD should be initiated at 3.56% by volume hydrogen concentration in the drywell, not 3.50%. Dilution should then continue until the hydrogen concentration has been lowered to 3.20%, not 3.30%.

**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 15.6.5
   Resulting from Piping Breaks
   Inside Containment.

   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 ACAD system is designed to Control the hydrogen concentration, following a Loss of Coolant Accident, to below the explosive limit of 4% by volume. The increased bleed flow rate of 35 scfm is within the system design specifications. The initiation of the dilution subsystem at 3.56% by volume of hydrogen and termination at 3.2% is also within the system design specifications.

Operation of the ACAD system will not be altered by this change. An impact will be made on SBGTS, as now a flow rate of 35 scfm will be input as opposed to the previous 25 scfm. But SBGTS system flow is 4000 scfm. This change will result in less flow being drawn off the inlet bell (≈ 10 scfm) which is very minuscule. The containment will be sampled prior to employing SBGTS to vent. This will ensure that the release does not exceed 10CFR100 guidelines. The added flow will include added radioactive effluent to be adsorbed by the SBGTS charcoal & iodine filters. But the small increased actively can easily be handled by these filters.

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

SE-93-57
Work Request Q06528

**DESCRIPTION:**

This work request removed the existing high voltage and signal cables from the 2-1705-2C main steam line radiation monitor (MSLRM) to the 2-1734C main steam line radiation monitor detector. Two new cables were pulled for the monitor. The cables, while not like for like, are the system designer's recommended replacement. Both cables are routed from the control room together in a 1" conduit. The rigid conduit run was cut in places and flex conduit installed. This allowed the cable to be pulled without major modification of conduit pull points.

**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 UFSAR SECTION 15.4.10

   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 2C main steam line radiation monitoring channel will be inoperable throughout this installation. However, primary containment integrity is not required. The installation will be completed prior to placing the mode switch in STARTUP/HOT STANDBY or in RUN. This evaluation only allows for installation in the SHUTDOWN or REFUEL modes.

Therefore, in accordance with Technical Specification Table 3.2-1. the 2C channel is not required to be operable during installation. The flex conduit installations are to be installed in accordance with Electrical Installation Work Specification T-3382. They will have no impact on the function of the cables, nor will they degrade the integrity of the cable separations with other MSLRMs. This work will not interface with any other structure, system, or component. No new equipment failures will be created by this work. Existing equipment failures (cable short, degraded cable, degraded conduit) will remain the same with no increased impact on acceptable operating modes. For the modes this evaluation covers, this monitoring channel is not required to be operable. Also, during installation the cables will be disconnected and taken OOS to minimize possible failure modes. This change cannot impact the function of this or any other system so as to create a transient or accident different from those already 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.

DCR 4-92-013

**DESCRIPTION:**

Provided new and revised P&IDs for the Unit 1 Reactor Building Closed Cooling Water piping system based on the "as-built" configuration per system walkdown. Vendor equipment, instrumentation and piping has been added to provide greater detail for maintenance and repair activities. System function and operation remains unchanged.

**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 RBCCW piping system and its ability to operate are unchanged due to documenting the "as-built" piping and instrumentation configuration on revised and new P&IDs. The possibility of an accident malfunction that is different from those previously evaluated in the SAR will not be created. The isolation of RBCCW from the Reactor Building Sample Panel, as identified in the revised P&IDs, will not result in an accident or in equipment malfunction important to safety.

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

SE-92-188
C04-1-92-039

**DESCRIPTION:**

Replaced actuator gearing on MO 1-1001-29A and MO 1-1001-29B.

**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 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 design functions of MO 1-1001-29A, 29B, and RHR subsystem remain the same as described in the UFSAR> The probability of equipment failure is reduced due to the additional thrust margin provided by this component replacement. Since the limiting component stresses are not exceeded by this change, and all functions of MO 1-1001-29A, 29B and the RHR system remain as originally specified, this component replacement 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, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-91-575
P04-2-91-049

**DESCRIPTION:**

This Minor Design Change added isolation valves to the instrument air lines supplying Off-Gas system valves, AO-2-5401 A/B and AO-2-5402 A/B which are steam jet air ejector suction isolation valves.

**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 | UFSAR SECTION 10.7 |
   | LOCA | UFSAR SECTION 14 |

   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 normal operation the manual isolation valves installed by this change will not affect operation of the instrument air system or the air operated off-gas steam jet air ejector suction isolation valves, failure of the manual isolation valves would cause loss of air to the off-gas air operated valve's, but would not affect their emergency operation. This failure is not as severe as loss of instrument air which is analyzed in the FSAR and has been determined to not inhibit safe shutdown of the plant or lead

to fuel damage. The manual isolation valves would only be used during testing of the accumulator check valves which would occur only during refuel or shutdown. Therefore, the possibility of an unreviewed accident or malfunction will not be 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.

M04-1-88-052B
RCIC Pump Discharge Check Valve

**DESCRIPTION:**

Install new RCIC pump discharge check valve, 1-1301-50, and remove the air operator, control switch, indicating lights and associated conduit.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because operation of the new check valve is identical to that of the existing check valve, therefore, the probability of an occurrence or consequence of an accident is not increased.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because no new possibility for an accident or malfunction is created. The air operator for the valve is to be removed, however, testing of the valve will still be accomplished by manual initiation and injection of RCIC which is currently performed once per cycle. There are no other testing requirements for this valve.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this modification will not affect RCIC system operation, therefore, the margin of safety is not reduced.

SE-93-49
Modification Test for MC-4-1-89-003

**DESCRIPTION:**

The modification test was performed was a visual inspection of extraction steam drain lines 1-3118-1½" and 1-3134-1½".

**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 modification test will be a visual inspection only. The test will not change the system configuration such that an unreviewed safety concern will 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:**

This Minor Plant Change replaced the dupex spin-on filters with a new manifold assembly provided by Morrison-Knudsen. Tubing and piping changes are made to install the new assembly as recommended by vendor.

**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:

   Failure of EDG to start FSAR 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 failure of one Emergency Diesel Generator (EDG) to start is still the bounding event. There are no new failure modes or interactions identified that would cause an accident more severe than the original analysis for the SFE.

   The EDG has the following performance requirements described in the FSAR/UFSAR that will be verified by testing:

   1. Ability to start in less than 10 seconds and reach full speed in less than 30 seconds;
   2. Maximum (100% capacity of 2.5 MWe.

   The Change to the fuel filters shall be verified to not adversely affect the above EDG performance parameters.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the modifications to the fuel oil fitlers do not make any functional changes ot the EDG. EDG performance will be verified following the modification.

SE-91-388, 389, 390
MDC 4-2-90-003
WR 58032, Q58033, Q58034

**DESCRIPTION:**

Visually verified proper orientation of new check valve and verified construction test (in-service leak test) was completed.

**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 only visual verifications are completed under the scope of this test.

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

SE-91-391, 392
MDC 4-1-90-003
WR Q58035 & Q58036

**DESCRIPTION:**

Visually verified proper orientation of new check valves and verified construction test (in-service leak test) was performed.

**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 only visual verifications are completed under the scope of this test.

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

MDC4-1-90-004
New Fuel Oil Filter Subsystem

**DESCRIPTION:**

This Minor Design Change replaced the twin fuel oil filter assembly, crossover manifold, and miscellaneous tubing, pipe, and supports on the U-1 Emergency Diesel Generator. The changes to the fuel oil system were necessary due to obsolescence of current equipment. The replaced equipment is supplied Safety Related and fully qualified. The new tubing, pipe, and supports have been qualified Seismic Category 1.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because the new equipment is capable of performing the same function as the replaced equipment. Because the new equipment is supplied by an approved 10CFR50, Appendix B vendor, it is fully qualified for the Safety Related application. Failure of the EDG has not been made more likely.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the change to the EDG does not make the failure of other equipment (besides the EDG) more likely. The risk of fuel oil spills or a fire have not been increased.

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 for Technical Specification 3.9/4.9 is not reduced. The fully qualified, seismically mounted equipment should offer a high degree of reliability.

SE-91-350
Modification Test for MDC4-0-90-006

**DESCRIPTION:**

Performed the modification test on the new Sodium Bromide Tank Level indicator.

**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 modification test consist of a verification that construction test are complete and a visual verification of the installation. This test is a passive test and does not affect any system or accident that is 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.

MC-4-0-90-050
Security Multiplexers Nos. 2, 3, 4, 6 & 7

**DESCRIPTION:**

Security System Multiplexer Air Conditioners were powered from wall outlets. This change installed duplex receptacles inside the cabinets to power the air conditioners. These receptacles are hardwired to nearby regular lighting cabinets.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because moving the outlet to the inside of the cabinet increases the reliability of the air conditioner from inadvertent disconnection.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the location of the outlet is the only change in this Minor Design Change and not its configuration. Therefore new risks are not created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because relocating the outlets to inside the multiplexer cabinets does not reduce the margin of safety as defined in the Technical Specification.

SE-91-451
MCR4-0-90-056

DESCRIPTION:

This is to evaluate the design of the new jib crane. The existing jib crane was removed and replaced by a new jib crane.

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 jib crane will have the same function as previously intended.

   The change will not affect or impact other systems or there functions as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR.

   Should the crane fail, a mobile crane would be temporary used in its place.

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 replaced the Fast Acting Solenoid Valves (FASV's) in accordance with General Electric Company TIL No. 848. The original FASV had a limit switch internal to the valve that provided an RPS input. The modified configuration includes a new FASV that has a pressure port for connection to a new pressure switch. The replacement is made due to reliability problems associated with the older configuration valves due to internal wear and inadequate pickup voltage at the coil.

**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 Reject Causing TCV Fast Closure | FSAR SECTION | 7, 11, 3.2.5.4.1 |

   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 there are no new interfaces created by this Minor Plant Change.

   The existing interfaces have been verified by General Electric Company, the designer of the change (Sargent and Lundy), and/or the testing specified in the Approval Letter for the Minor Plant Change. The interface between the Instrument Bus and the FASV coil will be verified by testing the minimum pickup voltage. This interface was verified and

found acceptable on Unit One. The existing interface between RPS and EHC will be tested by the calibration and response time testing of the pressure switch and the TCV.

The failure modes for the modified equipment have changed with the equipment.

The failure of the tubing and pressure switch are not new types of failures, as other RPS sensors utilize this same type of equipment. Operating experience in the industry actually shows the new equipment to be more reliable and less prone to failure than the existing equipment.

The other accidents, not analyzed in the UFSAR, is the failure of the equipment to function in the event of a fast closure of the TCV and failure of the TCV's to close following a load reject event. The design of the Minor Plant Change is designed to make the potential of these accidents very unlikely (i.e., no higher probability than currently exists). Redundant RPS trips (e.g., High Reactor Pressure and High Reactor Flux) act to mitigate the consequences of RPS failure to detect the fast closure of the TCV. The turbine trip logic would mitigate turbine/generator damage, if TCV's failed to close during a Load Reject.

The UFSAR should be revised to include a description of the modified configuration.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because instrument response time will be verified by the testing required in the Approval Letter for this Minor Plant Change.

While BWRSD does not believe that the Margin of Safety would be reduced by the installation, the change invalidates the Technical Specification bases statements and, therefore, the changes must be reviewed by the NRC. An Unreviewed Safety Question (but no Significant Hazards) exists with the installation of this modification. Tech Spec Amendments No. 129 was issued on February 21, 1991 for Unit 1 and Amendment No. 125 on July 23, 1991 for Unit 2 were issued.

MC-4-0-90-080
Lift Pump Station MCC Bus 2, Circuit K2

**DESCRIPTION:**

Performed tie-in of electrical service to the new temporary mechanical maintenance building from the reserve feed to the Lift Pump Station at MCC Bus 2, Circuit K2. Tie-in was performed in accordance with ECN#04-00182E.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because this minor design change affects non-safety related components and will not prevent any safety related components from performing their design functions.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because switchgear 16, the power supply for the reserve feed circuit in the Lift Pump Station, is non-safety related and is protected from affecting safety related systems by safety related breakers.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the electrical supply to the reserve feed circuit is not discussed in the basis for any technical specification, so safety is not affected.

**DESCRIPTION:**

The modification consisted of adding tap lines to existing lines 1(2)-1106A(B)-1½". Each tap line has a 0-1500 psig pressure indicator mounted locally on existing tube steel SBLC line supports. These pressure indicators are needed to test check valves 1(2)-1101-43A(B) closed function.

**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:

   Anticipated Transient Without Scram (ATWS) SAR SECTION 10.5.1

   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 operation of the SBLC system is not affected by this change because the test tap and pressure indicators, located on the SBLC pump discharge line, will be isolated during standard line-up or operation. The pressure indicators will be used to verify proper seating of check valves when flow testing the opposite train SBLC pump. The tap, lines for the pressure indicators will be seismically qualified up to and including the isolation valves.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the current condition of the SBLC system is operable. The new piping and supports for the pressure indicators are designed to withstand the design conditions described in the FSAR.

SE-92-50
P04-1(2)-90-081

**DESCRIPTION:**

Two (2) pressure indicators have been added on SBLC lines 1(2)-1106A-1½" and 1(2)-1106B-1½". These pressure indicators will be used to verify proper seating of check valves 1(2)-1001-43A and 1(2)-1101-43B when the opposite SBLC pump is flow tested.

**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:

   ATWS UFSAR SECTION 15.8

   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 test taps and pressure indicator installed will be isolated except during periods of testing. Therefore, the SBLC system will continue to function as when expected by the UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the new piping and supports are designed in accordance with the design conditions required and as described in the UFSAR.

P04-0-90-086
Service Water Line to Canal Lift Pump Bearings

**DESCRIPTION:**

Reroute service water line entering machine shop to remove interferences for construction of new service building.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because this change only changes the routing of the existing piping. The function of the bearing water system will not be changed.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because during the time the service water piping is out-of-service, an alternate source of cooling water will be provided to the bearings.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the service water piping involved and its function are not discussed in the basis for any Technical Specification, so safety is not affected.

MC4-1-90-097
Pressure Indicator (PI) Tubing on EDG Fuel Oil

**DESCRIPTION:**

These minor design changes involved rerouting two copper tubing lines for the Emergency Diesel Generators (EDG). Both tubing lines connect the fuel oil supply line on each EDG to Pressure Indicators (PI) on the local control panels. The tubing routing for the U1 EDG removed a "pigtail" bend in the tubing. The tubing routing for the 1/2 EDG removed a flexible hose.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because the change to the tubing routing will reduce pipe stresses. The revised configurations meet the UFSAR allowable stresses as documented in S&L calc. EMC-066454. The probability of failure of an EDG to start has been reduced.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the change, while improving EDG reliability, does not adversely impact any other systems. Therefore, the possibility of any other type of accident or malfunction is not increased.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the basis for Technical Specification 3.9 and the margin of safety is not reduced. The reliability of the EDG's is increased by reducing pipe stresses to code and UFSAR allowables.

SE-91-369
P04-2-90-104

**DESCRIPTION:**

Replaced 3-way solenoid valve in the condensate demin control panel with a two-way manual ball 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 has no impact which will create a malfunction of any type different than previously evaluated in the UFSAR. This change provides greater system reliability because the potential for a solenoid failure to cause all condensate demin flow control valves to close has been eliminated.

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

MC4-1-90-111
Air Start Piping Support for Unit 1 EDG

**DESCRIPTION:**

A new pipe support was provided for the air start piping on the Unit 1 Emergency Diesel Generator. The new support reduces analyzed stresses in the pipe to UFSAR allowables. The support will be added while the EDG is operable.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because the probability of a failure of the Unit 1 EDG is reduced by the installation of the new support with its improved design. The risk of damage to the Unit 1 EDG during the installation is minimal due to the detailed instructions provided.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the affected and interfacing equipment is limited to the Unit 1 EDG and its auxiliary equipment. The redundancy of the two EDG's available to each unit and the potential loss of one EDG is evaluated in the FSAR and Technical Specifications. No new failure modes are identified.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Unit 1 EDG system is not rendered inoperable by the installation of the new pipe support. Technical Specification 3.9/4.9 and its bases are not adversely impacted by performing this work with the EDG operable. The reliability of the EDG and consequently the margin of safety is improved by the additional support of the air start line.

P04-1-90-121

**DESCRIPTION:**

This Minor Design Change replaced eight chart recorders from the 901-54 panel in the Main Control Room. The MDC replaced obsolete and ONI problem recorders with standard models. The capability for improved maintenance improved spare parts availability and standardization to allow simulator fidelity are the primary reasons for this change.

**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 (bounding) | FSAR SECTION | 14.2.4 (Also see section 9.2) |

   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 new recorders are of high quality design; same models as Class 1E recorders installed in the Control Room. The A/E has evaluated all impacts to other equipment affected by the modification (e.g., instrument loop compatibility, accuracy, circuit load, etc.).

The installation design features are similar to others used in the Control Room (e.g., HFE, flush mounting, seismic mountings, etc.). The installation shall be performed with the unit in Cold Shutdown when the Offgas System is not needed.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the new recorders have been evaluated as suitable component replacements. The A/E has evaluated all circuit changes. No adverse circuit or instrumentation interactions are created.

SE-92-112
P04-1-90-128

**DESCRIPTION:**

This Minor Design Change replaced the following control room strip chart recorders on the 901-3 panel 1-1602-7 (Torus Pressure (Diff) and Level) 1-263-113 (Reactor Lower (400") Level) 1-8740-8 (Drywell $N_2$ makeup 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:

   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 system configuration and functions of the recorders remains the same. New recorders are more reliable. New recorders are seismic mounted to protect any safety related equipment in the proximity in case of a seismic event.

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

P04-1-90-133

**DESCRIPTION:**

This Minor Design Change replaced 10 and added 1 new chart recorder in the 901-2 panel. Various models are replaced with Yokogawa uR100T and HR2400 recorders. The power supply for 1-1801-6A,B recorders is taken from a lighting circuit and rewired to the Instrument Bus. The offgas timer reset switch is relocated to the 901-10 panel. These changes are made to replace absolute recorders and standardize models to allow simulator fidelity to the plant design.

**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:

   | | | |
   |---|---|---|
   | MSL Break | SAR SECTION | 14.2.3 |
   | 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 as described in Exhibit C, the design of the MPC insures that all technical issues associated with the design, procurement, and installation of the recorders have been addressed by the designer and CECo.

   The new recorders have been procured with seismic qualification, which insures that "2 over 1" issues, RG 1.97, and RG 1.100 commitments are met. The A/E has qualified all equipment mountings for a design basis seismic event.

The designer has evaluated the impact of the recorders on the modified instrument loops and prepared calculations for the necessary calibration of the instrument loops.

The new system interactions (a. 1-1705-11A, B replacing the 1-1705-11 recorder; b. power change to Instrument Bus for the 1-1801-6A,B recorders) have been evaluated by the designer and pose no new type of failure mode that could cause an accident different than described in the FSAR/UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because no Tech Specs are affected by this Minor Design Change.

The replacement recorders are suitable for the applications, meet all requirements for Quality, and have been qualified by the manufacturer/designer.

**DESCRIPTION:**

The following recorders were replaced by this MPC: 2-1640-13A, 2-1640-13B, 2-1705-11A (replaces 2-1705-11), 2-1705-11B (new), 2-1705-12, 2-1705-13, 2-1705-14, 2-1705-21, 2-1705-81, 2-1801-06A, and 2-1801-6B. By adding 1 new chart recorder to the panel, the MSL Rad Monitors are displayed for all 4 steamlines and selector switches 2-1701-300A, B are eliminated. To make room for the recorders, the Offgas Timer Reset pushbutton switch is relocated from the 902-2 (front) panel to the 902-10 (back) panel. The power for 2-1801-6A, B is rewired to be supplied from the instrument Bus.

**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 (Bounding) 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 replacement (and 1 new) chart recorders do not adversely affect any systems.

Class 1E recorders are supplied in accordance with IEEE 323 requirements and installed in accordance with IEEE 344 guidelines. All non-Safety Related (NSR) recorders are procured with seismic qualification, which is an enhancement over the previous recorders. The new recorders are all seismically mounted to avoid 2-over-1 concerns, which is another enhancement over the original recorders.

The new recorders have been evaluated for adverse affects to interfacing electrical systems, other instrument loop components, and the control panel structure. No inadvertent, adverse interactions were identified in the design.

The new recorders replace existing recorders of various manufacturers with a standardized design that should allow for increased maintenance efficiency and equipment reliability.

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

MC4-1-90-134
Computer Points Group 1, 2, and 3 Isolation

**DESCRIPTION:**

Rewired the Primary Containment Isolation System (PCIS) Group 1, 2, and 3 isolation computer point logic to match the actual group isolation trip logic of "one out-of-two-taken-twice." This change allowes the computer to accurately log Group 1, 2, or 3 isolation trips.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because computer point circuitry is not mentioned in the FSAR.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because failure of the computer system will not affect the PCIS system since isolation between the systems are provided by the relays. Also, computer point circuitry is not covered in the FSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because isolation between PCIS and Class 1E systems is provided by the relay.

MC 1(2)-90-141
Off-Gas Recombiner Room Vent Exhaust Fan Switch

**DESCRIPTION:**

In the off-gas recombiner room vent, exhaust fan control HS505A and HS505B had a 9/9T contact. This design allowed the alarms FSL 503A & B to work in the manual mode only. This change switched the 9/9T contact to a 6/6T contact to allow the alarms to work in both the manual and auto mode.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because the exhaust fan switch contact change will not effect the use of the exhaust fan.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the contact change will change when the alarm functions not the function of the exhaust fan.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because off-gas recombiner room vent is not addressed in the Technical Specification.

P04-2-90-146

**DESCRIPTION:**

This Minor Plant Change involved the installation of a replacement for an existing spring (Model No. 06-600-0001-1) and motor helical gearing (OAR 54.73) in the Limitorque SMB-4 actuator for valve 2-2301-8 with a new spring pack (Model No. 1301-211) and motor helical gearing (OAR 92.12). These changes were made to standardize valve actuator components between Units One and Two and companion valve 1(2)-2301-9, which have the same service.

**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 this change involves the replacing the existing limitorque actuator spring pack and motor gear set with a different type on valve 2-2301-8. The result will be an increasing the stroke time of the valve from 21 to approximately 36 seconds, which will not adversely affect the ability of HPCI system to inject within 45 seconds after an initiation signal is received. The new spring pack will include provisions for an internal grease relief, thus preventing hydraulic lock. The higher gear ratio of the

new gear set will increase the output torque of the actuator and decrease the probability of binding problems experienced by this type of valve. Valve reliability has been improved and operational performance is comparable with valve 2-2301-9 in the HPCi discharge piping. The function of the valve remains unchanged.

No changes have been made which could adversely affect the boundary conditions of the UFSAR accident analysis for a LOCA. 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 the spring pack and motor gearing in the limitorque actuator on valve 2-2301-8 does not directly impact the margins of safety used to establish Technical Specifications. The operation of the valve will still be within the system response requirements of 45 seconds. The operation of HPCI system and the discharge isolation valve 2-2301-8 is verified to be operational by surveillance testing on a quarterly basis. Therefore, the margin of safety as defined by Technical Specifications is not reduced.

**DESCRIPTION:**

This Minor Plant Change involved the installation of a replacement for an existing spring (Model No. 06-600-0001-1) and motor helical gearing (OAR 54.73) in the Limitorque SMB-4 actuator for valve 1-2301-9 with a new spring pack (Model No. 1301-211) and motor helical gearing (OAR 92.12). These changes were made to standardize valve actuator components between Units One and Two and companion valves 1(2)-2301-8, which have the same service.

**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 this change involves the replacing of the existing limitorque actuator spring pack and motor gear set with a different type on valve 1-2301-9. The result will be an increase in the stroke time of the valve from 21 to approximately 36 seconds, which will not adversely affect the ability of HPCI system to inject within 45 seconds after an initiation signal is received. The new spring pack will include provisions for an internal grease relief, thus preventing hydraulic lock. The higher gear ratio of the new gear set will increase the output torque of the actuator and decrease the probability of binding problems experienced by

this type of valve. Valve reliability has been improved and operational performance is comparable with valve 1-2301-8 in the HPCI discharge piping. The function of the valve remains unchanged.

No changes have been made which could adversely affect the boundary conditions of the UFSAR accident analysis for a LOCA. 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 the spring pack and motor gearing in the limitorque actuator on valve 1-2301-9 does not directly impact the margins of safety used to establish Technical Specifications. The operation of the valve will still be within the system response requirements of 45 seconds. The operation of HPCI system and the discharge isolation valve 1-2301-9 is verified to be operational by surveillance testing on a quarterly basis. Therefore, the margin of safety as defined by Technical Specifications is not reduced.

**DESCRIPTION:**

This Minor Plant Change involved the installation of a replacement for an existing spring (Model No. 06-600-0003-1) and motor helical gearing (OAR 54.73) in Limitorque SMB-4 actuator for valve 2-2301-9 with a new spring pack (Model No. 1301-211) and motor helical gearing (OAR 92.12). These changes were made to standardize valve actuator components between Units One and Two and companion valve 1(2)-2301-8, which have the same service.

**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 this change involves the replacing the existing limitorque actuator spring pack and motor gear set with a different type on valve 2-2301-9. The result will be an increase in the stroke time of the valve from 21 to approximately 36 seconds, which will not adversely affect the ability of HPCI system to inject within 45 seconds after an initiation signal is received. The new spring pack will include provisions for an internal grease relief, thus preventing hydraulic lock. The higher gear ratio of the new gear set will increase the output torque of the actuator and decrease the probability of binding problems experienced by this type of valve. Valve reliability has been improved and

operational performance is comparable with valve 2-2301-8 in the HPCI discharge piping. The function of the valve remains unchanged.

No changes have been made which could adversely affect the boundary conditions of the UFSAR accident analysis for a LOCA. 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 the spring pack and motor gearing in the limitorque actuator on valve 2-2301-9 does not directly impact the margins of safety used to establish Technical Specifications. The operation of the valve will still be within the system response requirement of 45 seconds. The operation of HPCI system and the discharge isolation valve 2-2301-9 is verified to be operational by surveillance testing on a quarterly basis. Therefore, the margin of safety as defined by Technical Specifications is not reduced.

SE-91-488
P04-2-90-158 Mod Test

**DESCRIPTION:**

Ensure that the construction test for minor design change P04-2-90-158 was successfully completed. Construction test was to verify that the cap was tight on the correct line.

**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 mod test does not affect plant equipment or create the possibility of an accidents. Mod test only verifies construction test and does not operate equipment in the plant.

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

SE-91-180
P04-2-90-158

**DESCRIPTION:**

Removed a portion of an existing vent line on 2-4891-8"L and cap the remaining vent stub with a threaded pipe cap.

**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 is a redundant vent and is not required. Eliminating this vent will not affect plant systems.

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

M04-1(2)-90-84-A & B
Pump Discharge Pipe Thermocouple
TE1(2)-1360-33 & TE1(2)-2340-14

**DESCRIPTION:**

Installed an externally mounted thermocouple to the discharge piping to feedwater on the Unit 1 HPCI and Unit 2 RCIC systems. The lead wiring was routed to a convenient location for periodic monitoring of pipe temperatures to detect back leakage of feedwater into the HPCI/RCIC piping.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because no existing piping or wiring will be altered by this minor design change.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the thermocouples installed for this minor design change will not interact with any plant equipment and do not require an external power supply.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the thermocouples installed for this minor design change will not affect the HPCI/RCIC systems performance as described in the FSAR and Technical Specifications.

SE-91-361
P04-0-90-180 Mod Test

**DESCRIPTION:**

Mod test to test the new piping installed on the HVAC Condenser relief valves in the 3rd floor HVAC room of the Service Building.

**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 since the test is only a visual examination of a static system, and no conditions of the system will be altered for the test, this test cannot adversely affect systems or functions which might create an accident or malfunction.

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

MC4-1-90-160 & MC4-2-90-160
Instrument Air (IA) Lines Supports

**DESCRIPTION:**

Design of new supports for the safety and non safety-related IA lines supplying air to valves 1(2)-5741-A & B and 1(2)-5742A & B.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because this minor design change consists of new support designs for the existing IA lines meeting all requirements of FSAR/UFSAR. Additionally, the new supports will not be susceptible to vibration. Hence, the probability of an accident or malfunction, as previously evaluated, will decrease.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the safety-related supports are seismically designed. Any gang support that has both safety and non safety-related lines is also seismically designed. Hence, accidents or malfunctions of a different type are not created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the new supports will support the IA lines independent of the HVAC ductwork in the areas where existing supports have shown degradation earlier due to duct vibration. Thus for the new supports, vibration induced degradation will be eliminated. Hence, the margin of safety will increase.

MC4-0-90-163
IRSF Building Transformer

**DESCRIPTION:**

Permanently connected two fused 3P disconnects switches to the secondary sid of the 1000KVA 30, 13.8KV/480-277V transformer which supplies power to the IRSF building. (REF 4E5340) the XFMR is connected to the 13.8KV yard system. The new switches will be rated 100 amps and 400 amps 480V, 3P fused to 100 amps and 225 amps. this will allow the closing of temp alt 90-1-30 which is a temporary 100 amp feed to trailers off the PPI panel in the IRSR building.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because the IRSF building XFMR is part of the 13.8 KV yard system which is not a safety system.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the additional load to the XFMR is within the XFMR's rated valve.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Tech Specs do not address the IRSF building XFMR nor the 13.8 KV yard system. In addition, the additional load placed on the XFMR is within the XFMR rated value.

P04-2-90-172

**DESCRIPTION:**

This Minor Plant Change involved the installation of additional electrical shielding of the drywell radiation detector (RE-2-2418A) cables to correct a problem with periodic spiking associated with the sensor wiring. A special, magnetically shielded junction box is added outside the drywell penetration. The "extra" cable at this location, which is required to move the detector to the ground floor of the Reactor Building for calibration with a radiation source, will be stored in this junction box. Additionally, the signal and high voltage cables (for the ion changer detector) from pull box (PB) 2SB-9, through the fire stop penetration to the main Control Room, and inside panel 902-55 to radiation monitor 2-2419A will be covered with a braided shielding sleeve.

**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 (Bounding) 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 do not adversely impact the function of the radiation monitor, its detector wiring, or the performance of any other systems indirectly.

The potential failure of the radiation monitor is mitigated by the redundant instrument in the other channel. A trip of the other channel would cause operator action to investigate the discrepancy and take mitigating action manually. it is also unlikely that high radiation levels would exist in the drywell without other conditions that would also cause a Group 2 isolation (e.g., low reactor water level).

Since there are no new failure modes or system interfaces created by this Minor Plant Change, there is no increased probability of accidents, either those analyzed in the FSAR/UFSAR or others not analyzed.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the drywell radiation monitor is not discussed in the Technical Specification bases, even though it provided a primary containment isolation (Group 2) signal. The drywell radiation monitors are also a Category 1 (Safety Related) post accident monitoring instrument, in accordance with CECo commitments to Regulatory Guide 1.97. Since the shielding sleeves and new pull box do not adversely affect the instrument's EQ or seismic qualification, instrument performance, or reliability, the changes are acceptable in accordance with 10CFR50.59.

SE-91-14
MC4-1(2)-91-008

**DESCRIPTION:**

Installed splined adapter retainers on the 1-3905 and 2-3905 Limitorque HBC gear adapter.

**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 10.8

   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 is a reliability related Minor Design Change and this should improve the 3905 valves ability to function.

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

SE-91-21
P04-1(2)-91-014

**DESCRIPTION:**

Replaced existing crane #1 seals on the fuel pool cooling pumps with Chesterton 155 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 the Chesterton 155 seals will have the same function as Crane #1 seals, therefore this 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.

P04-1/2-91-019
P04-1-91-019
P04-2-91-019

**DESCRIPTION:**

Vibration problems and routine maintenance on nearby components have caused leaks at threaded pipe joints and failure due to tubing cracks. Seal-welding several threaded connections will reduce sources of leakage. Replaced existing copper tubing for the DG System with stainless steel to minimize failures. The new tubing has greater resistance to cracking and failure. This design will maintain the mechanical integrity of the DG System without affecting system flow requirements.

**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 with a DBA 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 the stainless steel tubing will maintain the mechanical integrity of the diesel generator without affecting DG flow requirements. Also, seal-welding the threaded connections and installing compression fittings will reduce sources of leakage. This design will improve the operation of the diesel generator. It does not create any new accident or malfunction.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the stainless steel tubing and the seal-welded connections do not affect the DG flow requirements. The DG will perform the same function as before and the margin of safety is not reduced.

SE-91-324
P04-1-91-020

**DESCRIPTION:**

Replaced pressure transducers and the associated power supply in the Unit 1 Reactor Building Ventilation System.

**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 design change is a component upgrade and therefore does not change the function of the circuit, or the function of the reactor building ventilation system.

   Therefore, this design change does not create the possibility of an accident or malfunction of a different type from described 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-91-111
P04-1(2)-91-021

**DESCRIPTION:**

Removal of the installed travel warning device on the refuel platform and its relocation to a position outside the end truck. In addition a new travel warning device will be installed on the outside of the other end truck.

**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 refuel platform travel warning device is not addressed in the FSAR. This change will not effect safe operation of the refuel platform.

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

SE-91-89
P04-02-91-030

**DESCRIPTION:**

Replaced the 2-1279-69A Differential Pressure transmitter, Fischer & Porter Model #13D3496Q with a Fischer & Porter Model #50DP3421XBBXB.

**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 transmitter can fail and have no safety considerations, it failed 1-20-89 and has not been operational since.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the margin of safety must remain the same as the function does not change and there are no safety considerations.

P04-1-91-032

**DESCRIPTION:**

Modified Buses 11 and 12 switchgear to increase momentary short circuit current rating to 80 kA. This is being done by adding extra bracing components to the switchgear.

**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 bracing to Buses 11 and 12 switchgear increases the momentary short circuit rating of the switchgear to 80 kA which is its designed value. The reliability of the switchgear has been increased. Therefore, the equipment normally powered by these buses has a more reliable power source.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the addition of bus bracing increases the reliability of the switchgear and thereby increases the reliability of supplied systems and components. This is in a more conservative direction and therefore no margins of safety are reduced.

SE-92-108
P04-1-91-033

**DESCRIPTION:**

This Minor Plant Change installed ACMC Model LP500 corrosion coupon holders into the Residual Heat Removal Service Water (RHRSW) system, downstream of the RHR Heat Exchanger, and in the Diesel Generator Cooling Water (DGCW) system downstream of the DGCW Heat Exchanger. The corrosion coupons are thin sacrificial strips of metal which are inserted into the pipe flow and are used to monitor the corrosion rate of the piping. The coupon holders are to be hot tapped into a 1" hole and seal welded to prevent leakage. A ball valve and retractable plunger allows coupons to be removed while the system is in 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:

   LOCA UFSAR SECTION Section 14

   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 coupon holders will be installed in non-safety related, non-code piping downstream of RHRSW and DGCW System Heat Exchangers. There will be no effect on the failure modes of the RHR and DG Systems. Coupon holders are passive, self-contained, non-electrical and manually operated. The only added failure mode would be leakage from the 1" threaded hole tapped through the pipe and this will

be seal welded to prevent this. The connection will be checked for leakage after installation and periodically thereafter.

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

P04-1-91-042

**DESCRIPTION:**

This MPC replaced the 1-1201-2 valve with a new valve designed to give improved LLRT results. New SMB-1-25 actuators are installed on the 1-1201-2 and 1-1201-5 valves. A new pipe support is required near the 1-1201-5 valve for the weight added to the line. New power and control cable are added for the 120-5 valve to accommodate the larger motor. The existing 1201-2 valve has required extensive repairs in recent years and chronically failed LLRT's. The new valve and actuators will also improve GL 89-10 VOTEs testing results and are required to meet CECO's commitment to GL 89-10, Supplement 3.

**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 Cont. | SAR SECTION | 14.2.3 |
| LOCA (HELB Inside Cont.) | 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 this MPC is a component replacement of the 1-1201-2 valve and the 1-1201-2, 5 actuators. The new valve has been specified to insure that the new valve will provide reliable operation. The new valve was tested to determine appropriate valve friction factors and insure proper performance of the motor operated valve (MOV) assembly. The increased qualification testing was in response to NRC Generic Letter GL 89-10. The new valve has been installed in accordance with code requirements. Extensive NDE and post modification testing insure a quality installation. There have been no functional changes to the RWCU or PCI system that would create new system interfaces. Piping and valve configuration is not significantly changed. Piping supports are adjusted and added, as required by the revised piping analysis.

   The Safety Evaluation concludes that there is no increase in the potential for a high energy line break (HELB) or reduced capability to mitigate the consequences of the HELB. The new 120-2 valve is essentially identical to the 1201-5 valve (currently installed). The new actuators are specified in the ECN to insure that the valve stroke time is within the Technical Specification limits and provides for increased thrust to insure valve closure during blowdown conditions.

   The current ability of the RWCU isolation valves to isolate the RWCU system under blowdown conditions (i.e., worst case HELB) has been evaluated by a Safety Assessment Report (SAR) associated with CECO's 120 Day Response to Generic Letter 89-10, Supplement 3 dated March 11, 1991 {reference NRC Docket Nos. 50-237/249}. This Minor Plant Change implements part of the corrective action previously identified in the SAR.

   The Safety Evaluation for this MPC does not include a review of the thrust values to be supplied by NED and their impact on HELB analysis. Since the thrust capability of the valve is being increased and the stroke time is reduced by this MPC, BWRSD concludes that this MPC does not reduce the margin of safety.

   The valve has been selected based on design features of the valve that could cause less wear to the seating surfaces of the valve and result in reduced valve leakage as detected by Local Leak Rate Tests (LLRTs). The valve design should, therefore, be an enhancement to containment design and performance as indicated by 10CFR50, Appendix J testing.

The Safety Evaluation concludes that there is no significant increase in the potential to uncover irradiated fuel. BWRSD is requiring in the MPC approved Letter that portions of the installation (i.e., welding new valve into the line) be performed when fuel has been removed from the core (and with no fuel movement above the core). The valve and piping pressure boundary, including valve packing (but not necessarily the valve operator), should be installed prior to reloading the fuel into the core. It is not necessary that hydrostatic testing be complete prior to reloading the core. It is recommended that all NDE examination of pipe-to-valve welds be complete prior to fuel reload in case there is the need for weld repairs.

The Safety Evaluation concludes that there is not a significant increase in the risk of localized flooding inside the plant. Reference the Installation Sequence section of the MPC Approved Letter for recommendations to minimize this risk.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the new valve and Limitorque operators slightly reduce the valve stroke time and increase valve thrust during closure. Valve performance has been predicted by calculation and will be verified after installation by testing.

SE-91-146
P04-2-91-047

**DESCRIPTION:**

Replaced obsolete Barton Model 296 pressure transmitter with a Rosemount Model 1151DP7B22M2.

**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 replacement transmitter is the functional equivalent of the existing transmitter.

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

SE-92-103
P04-1-91-049

**DESCRIPTION:**

This minor design change added isolation valves to the instrument air lines supplying off-gas system valves, AO-1-5401 A/B and AO-1-5402A/B, which are steam jet air ejector suction isolation valves.

**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 | UFSAR SECTION 10.7 |
   | LOCA | UFSAR SECTION 14 |

   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 normal operation the manual isolation valves installed by this change will not affect operation of the instrument air system or the air operated off-gas steam jet air ejector suction isolation valves. Failure of the manual isolation valves would cause loss of air to the off-gas air operated valves, but would not affect their emergency operation. This failure is not as severe as loss of instrument air, which is analyzed in the FSAR and has been determined to not inhibit safe shutdown of the plant or lead to fuel damage. The manual isolation valves would only be used during testing of the accumulator check valves, which would occur only during refuel or shutdown. Therefore the possibility of an unreviewed accident or malfunction will not be 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.

SE-91-242
P04-2-91-056

**DESCRIPTION:**

Used a "Hydro-Stop Inc." Line Stop Plug to isolate the 2B and 2D Recirc MG set oil coolers, then replaced the inlet isolation valves.

**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 just leaves a stub and blind flange on the pipe no impact or functional changes will occur.

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

SE-91-243
P04-2-91-057

**DESCRIPTION:**

Used a "Hydro-Stop Inc" Line Stop Plug to isolate the 2A and 2C MG Set HX, then replaced the inlet isolating valves.

**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 just leaves a stub and a blind flange on the pipe. Therefore no impact or change in function will occur.

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

P04-2-91-058

**DESCRIPTION:**

Quad Cities 79-14, RR piping model was developed treating recirculation pump as an anchor. At the time, the methodology used was acceptable. Based on actual configuration of pump snubbers, the anchor point assumption is not appropriate. To correct this deficiency, four sway brace supports near the pump were replaced with four mechanical snubbers and deleted six snubbers as mentioned in ECN No. 04-00459M.

**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 support modification must be installed during the outage. When completed, this modification will not affect existing system operations. Also, this modification will not add any new failure mode.

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

SE-91-251
MC4-0-91-059

**DESCRIPTION:**

Welded a cap over the inlet to the spray canal blow down pipe.

**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 spray canal blowdown pipe is no longer used. Capping it will not affect the plant operation in any manner, nor will it affect any accident or malfunction.

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

SE-91-351
Mod Test for P04-0-91-059

**DESCRIPTION:**

Performed the modification test on the pipe caps and seal welds that were installed by P04-0-91-059.

**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 modification test involves a visual inspection of the new pipe caps and seal welds that were installed under P04-0-91-059. This visual inspection does not impact any systems or functions that are evaluated by the UFSAR. This test will not introduce any new modes of failure that are 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-91-341
P04-0-91-063

**DESCRIPTION:**

Added a strainer to the service water inlet line to the safe shutdown pump rom cooler.

**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 a service water strainer to the inlet of the safe shutdown pump room cooler will improve the reliability of the room cooler and therefore will improve the availability of the safe shutdown pump.

   This minor change in no way creates the possibility of an accident or malfunction.

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

SE-91-487
P04-2-91-064

**DESCRIPTION:**

Attached a carbon steel overlay pad with stainless liner to areas of feedwater heater shells that have been degraded as a result of erosion/corrosion.

**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 attachment of extra metal to shell will decrease possibility of accidents or malfunction of extraction steam system. Change will not impact systems or functions in a way that will create the possibility of malfunction.

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

SE-91-486
P04-2-91-065

**DESCRIPTION:**

Attached a carbon steel clamshell with a stainless liner to existing extraction steam nozzle on feedwater heater.

**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 cr 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 attachment of extra metal to the nozzle wall will increase its strength and life. System operation and performance is intended to remain identical to the original condition. Change will reduce possibility of an accident or malfunction of system.

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

SE-91-468
P04-1(2)-91-071, W.R. Q92507-92518

**DESCRIPTION:**

New design replaced nuclear bonnets with standard bonnets on valves 3508A, B & C and 3509 A, B & C. These vavles are the normal drain valves from the moisture separators to the D Feedwater heaters. These valves are not safety related.

**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 valves and system will operate and function as previously intended. This design is currently used on other feedwater heater level control valves. The change will not create a malfunction 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.

P04-1-91-084
Addendum No. 1

**DESCRIPTION:**

This MPC installed flanges on the inside of the torus penetrations X-203A and X-205 and the drywell penetrations X-25 and X-26. Local Leak Rate Test apparatus are provided to temporarily install on each penetration and allow pressurizing each test volume from inside the containment.

**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 (Bounding) FSAR 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 there are no new system interfaces created by this Minor Plant Change. The flanges added by this Minor Plant Change are additions to the pressure suppression system and used for containment testing. There are no other systems affected indirectly.

There is a new failure mode created by the change. A personnel error could cause a test apparatus to be left in place blocking a pressure suppression line. This error would adversely affect the safety of the plant. Personnel errors are not a new type of failure mode. The redundancy built into the pressure suppression system and the administrative procedure changes recommended by this letter is intended to make this failure very unlikely.

The qualification of the new and modified components is intended to make the installation fully qualified for all potential accident loads and Code requirements.

A loss of primary containment is not an accident evaluated in the FSAR/UFSAR. For the reasons identified above, the Minor Plant Change does not create any additional risk of losing primary containment.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the new equipment added by this Minor Plant Change is intended to improve the Type B and C testing program required by 10CFR50, Appendix J. The benefits to the testing program changes are described in the Description and Codes and Standards section of the approval letter.

   The configuration is as described in the ECN. The test methodology should be similar to the description in the Procedure Changes section of the approval letter. Since the configuration chosen is fully qualified by the designer and the methodology is as described in the regulations, the margin of safety has not been reduced.

SE-91-496
P04-2-91-092

**DESCRIPTION:**

Whiting Co furnished motor, brakes, controls, gearing and mechanical structural components to reduce the speed of the aux hook to 46 ft/min. The control package changed to a GE DC3#00 series motor control. The changes allowed for better control moves of the hook.

**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 motor and control system will reduce the possibility of failure by replacing original equipment. The slower speed of the crane will provide more accurate control of movement, thereby reducing the possibility of an accident caused by the crane operator.

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

SE-91-345
P04-2-91-088

**DESCRIPTION:**

Installed constant bleed drains on 2-2701A and 2-2702A coalescing filters for the Hydrogen Addition System. Made Temporary Alteration 91-105 a permanent installation and removed Temporary Alteration.

**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 will not create the possibility of an accident or malfunction of any type. This minor design change provides an alternative path to the condenser for moisture removal. The system will continue to function in the same manner as originally designed. This minor design change is an improvement to the system reliability and availability.

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

SE-91-437
P04-2-91-088 Test

**DESCRIPTION:**

Hydrogen Addition System Off-Gas Monitoring System coalescing filters 2-2701A, 2-2702A, 2-2701B, 2-2702B constant bleed drain installation.

**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 any systems other than the Hydrogen Addition System. (FSAR Section 10). This minor design change will increase the reliability of the off-gas monitoring of the Hydrogen Addition System, and will increase the availability of the Hydrogen Addition System, from not tripping on moisture in the oxygen analyzers.

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

SE-91-347
P04-2-91-089

**DESCRIPTION:**

Installed two coalescing filters with constant bleed drains on 2-2741-33A offgas oxygen analyzer for the Hydrogen Addition System. Made Temporary Alteration 91-106A permanent installation and removed Temporary Alteration.

**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 will not create the possibility of an accident or malfunction of any type. This minor design change installs two filters and provides an alternative path to the condenser for moisture removal. The system will continue to function in the same manner as originally designed. This minor design change is an improvement to the system reliability and availability.

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

SE-91-438
Minor Design Change Test P04-2-91-089

**DESCRIPTION:**

Hydrogen Addition System Off-Gas Oxygen Analyzers Coalescing Filters with constant bleed drain installation (2-2741-33A, 2-2741-33B).

**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 any systems other than the Hydrogen Addition System (FSAR Section 10). This minor design change will increase the reliability of the Off-Gas monitoring of the Hydrogen Addition System, and will increase the availability of the Hydrogen Addition System from not tripping on moisture in the oxygen analyzer.

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

P04-2-91-091

**DESCRIPTION:**

Two snubbers were removed because piping displacements at these locations are negligible and one rigid support is was removed because of the restriction on thermal displacements. Another support was modified to carry additional loads by increasing the weld size and adding a baseplate stiffener. These changes were implemented as a result of re-analysis of the piping system, which was required for replacing five valves in the Vacuum Relief System with heavier valves.

**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 valves on the Vacuum Relief System are being replaced with heavier Pratt valves (M04-2-91-029) Re-analysis was necessary and has facilitated the removal of two mechanical snubbers and one rigid support and stiffening another support. Modifving the pipe support system does not alter the operation, function or characteristics of the Vacuum Relief System. The structural integrity of the system will remain the same. No process parameters are affected. This Minor Plant Change does not create the possibility of any new accident or malfunction.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because modifying the pipe support system has no affect on the margin of safety. There is no increase for the potential for failure. The margin of safety could increase by eliminating the thermal resistance associated with rigid support NM-RS-01 and by increasing the load capacity for rigid support NA-RS-15.

SE-91-535
P04-1(2)-91-096

**DESCRIPTION:**

Replaced existing Vickers slow-acting and Fast-acting solenoid valves on turbine steam valves, front standard, and EHC skid with Parker-Hannifin solenoid valves. Installed a 0.109" orifice in the 'P' - Port of the Fast-acting solenoid valves on the stop valves and CIV's.

**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 solenoid valves being replaced serve no safety related function. These solenoid valves are strictly used for testing purposes. They allow each steam valve to be cycled from the full open to full closed positions from control room switches. These solenoid valves are assumed to be operable or operated during any accident conditions. The replacement Parker-Hannifin solenoid valves operate identically to the Vickers solenoid valves.

   The addition of the 0.109" orifices in the 'P' - port of the FASVs may slow down the reopening rate of the MSVs and CIVs after each valve is tested. This is not of concern because it will actually lessen the potential transients on the feedwater heaters during CIV testing.

Since replacement of the Vickers solenoid valves with Parker-Hannifin solenoid valves is essentially like-for-like and creates no new failure modes, it is not possible for an accident or malfunction of a type different from those evaluated in the UFSAR.

The operating history of the orifices in the slow-acting solenoids indicates that plugging or breaking apart of the 0.109" orifice is of no safety concern. Even if one orifice in one the MSVs or CIVs would become plugged and prevent a valve from closing, the remaining valves along with the control valves would close to prevent any turbine overspeed damage. In the case of the MSVs, the remaining three stop valves would close and provide a scram from the 10% limit switches. This scram is anticipatory for the reactor high pressure scram.

Based on the above discussions, this change 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.

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

SE-91-462
P04-0-91-100

**DESCRIPTION:**

Reconfigured Toxic Gas Analyzer to allow for proper setting and calibration of the flow switches on the $NH_3$, $SO_2$ and $Cl_2$ monitors. This included adding inline flow switches in place of the current dP 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:

   Toxic Gas Release UFSAR SECTION 10.10.4.2.3

   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 since this change is only being implemented to improve upon a current design, it will not adversely impact other systems. With the new configuration, loss of flow to the Analyzers should be easier to detect and more reliable. The design intent of the Toxic Gas Analyzer will not be changed, and so it will continue to function in a manner that is comparable to the existing setup. Upon loss or failure of the changed structure, no conditions or consequences different from a failure of the current configuration would occur.

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

P04-1-91-107

**DESCRIPTION:**

Installation of banana jack adapters in various control panel terminal points and relay terminals in place of the existing screws. This is being done to facilitate testing of the circuits by eliminating the need to de-terminate wires and then re-terminate them to simulate certain accident conditions. This is also being done to facilitate jumpering of circuits as required by certain QGA procedures. Currently, the station uses alligator clips and "C" connectors which is time consuming, cumbersome, and could lead to unintentional changes in equipment status.

**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:

   Each of the accidents listed may be applicable in that the changed SSC is explicitly or implicitly assumed to function.

   SAR SECTION 14.0

   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 banana jack adapters essentially perform the same function as the screws they replace. The adapters have been qualified through calculation for this application. The function of all systems, structures, and components has not been changed in any manner. All safety response to accident conditions remain as previously analyzed in the FSAR/UFSAR.

The banana jack adapters are being installed to facilitate testing as required by certain QTS procedures. They also facilitate circuit jumpering during certain accident conditions as required by various QGA procedures.

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

P04-1-91-111

**DESCRIPTION:**

This Minor Plant Change replaced existing ARM Stations 6, 8, 9, 11, 12, and 13 with General Electric Nuclear Measurement Analysis and Control (NUMAC) equipment. These ARM Stations are among those used during reactor building radiation events where the Emergency Operating Procedures (EOP) flowchart QGA-300 is followed. Currently, the existing ARM Stations are unable to detect the "max safe" radiation levels specified on QGA-300 detail QGA-D12. The current "max safe" data is obtained by local survey. This change will eliminate the need for local surveys under potentially dangerous 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:

   All accidents where there is a possibility of an increase in radiation dose rates throughout the plant.

   SAR SECTION 14

   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 installs a General Electric Nuclear Measurement Analysis and Control (NUMAC) Log Rad Monitor and new sensor/converts compatible with the new monitor. The basic function of the ARM system is to continuously monitor selected plant locations and to

provide an alarm indication of abnormal radiation conditions based on alarm setpoints. Installing a new monitor and sensor/converters does not change the intended function of the system. The changes made by this Minor Plant Change are enhancements of the ARM system. The enhancements are required in order for the instruments to have sufficient range as required by QGA-300. The enhancements are direct replacements of existing equipment and do not affect the operation of any system required for safe operation or shutdown of the plant.

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

P04-1-91-116

**DESCRIPTION:**

This change replaced/relocated RWCU valve MO-2-1201-80 on line number 2-1205-4"A, installed a 4" decontamination tap in line number 2-1205-4"A, and modified three variable spring supports. The reason for the Minor Plant Change is that deep steam cuts were discovered in the pressure seal ring area of valve MO-2-1201-80 during a maintenance inspection. 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.

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 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.

SE-91-534
Minor Design Change P04-1-91-120

**DESCRIPTION:**

Removed the speed error input signal to the Automatic Load Following card from the control valve amplifier card. This input will then be grounded to eliminate stray voltage interference.

**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, cr 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 there are no new failure modes being introduced to the EHC or Recirc Flow Control systems by implementing this Minor Design Change. In fact, the possibility of a high power reactor scram is actually being reduced by implementation of this Minor Design Change. This in turn reduces the changes for equipment failures. Every conceivable failure mode for this change is already bound by an existing single failure analysis in the UFSAR, and thus would be mitigated prior to reaching an accident condition. Therefore, this change does not impact systems or functions so as to create the possibility of an accident or malfunction of a type different from those already 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-91-517
P04-0-91-125

**DESCRIPTION:**

Removed the Acid Injection Facility (AIF). The AIF was used for Ph control of the spray canal. This was a closed loop system. PH is no longer a factor due to the once through (to/from river) we now use for condenser cooling.

**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 removal of the AIF does not interact with another system. Therefore it would not create the possibility of an accident or malfunction. As this system is not required for operation.

   The AIF was used for PH control due to the spray canal that was a closed loop system. Now that Quad Cities employes a open loop system, once through (from river to river). The AIF is no longer required to be operational at Quad Cities. Therefore, the AIF is not required for operation.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the margin of safety is not reduced by removing the AIF.

P04-2-91-127

**DESCRIPTION:**

Installed clamps consisting of two plates and two threaded rods to replace rods anchoring the T-Quencher supports located in the torus. A sample of rods are being removed for examination to confirm the absence of stress corrosion cracking.

**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 affect equipment operations or functions.

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

P04-2-91-141

**DESCRIPTION:**

This change removed the stem leak off line 2-3050D-3/4" for inboard main steam isolation valve (MSIV) 2-203-1D. The changes included the main steam isolation valve (MSIV) 2-203-1D. The change included the removal of valve 2-220-7D, Temperature Element TE-2-261-24D, and Flow Glass 2-220-97D which are currently in the leak off line. Pipe caps will be welded on the pipe stubs which are left in place.

Line 2-3050D-3/4" never met the original design intent and is being removed to eliminate the possibility of reactor steam leaking through valve 2-220-7D to the Drywell equipment drain sump.

**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 change does not impact plant operation because the scope of this Minor Plant Change is limited to the removal of the inboard MSIV 2-203-1D stem leak off line 2-3050D-3/4" which is no longer used. The line did not meet the design intent and is being removed to eliminate this leakage path.

Removal of a stem leak off line which isn't used will not affect equipment failures or create new failure modes. The functions of inboard MSIV 2-203-1D and the drain header for the Drywell equipment drain sump are not changed by the removal of stem leak off line 2-3050-3/4".

These changes do not adversely impact any system of function such that the possibility of an accident or malfunction of a type different from those evaluated in the FSAR/UFSAR would be created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because limits are not affected. This Minor Plant Change does not alter the technical requirements for the main steam system as identified in Technical Specification Section 3.7/4.7, "Containment Systems". The corresponding bases for this section is not affected. There are no technical specification changes required due to the removal of stem leak off line 2-3050D-3/4".

SE-92-85
P04-1-91-144

**DESCRIPTION:**

Replaced the existing Worthington 1A Service Water pump with an equivalent Johnston pump. A Rains-Flo packing configuration with an external reservoir will be added to prevent external packing leaks.

**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 8.2/10.8 |
   | 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 Johnston pump will be equivalent or better then the Worthington pump. Each pump is rated for 13,800 GPM and a total bowl discharge head of 225 feet. There are no piping changes involved. The Johnston pump weighs slightly more than the Worthington pump but has a larger base which maintains the floor loading practically equivalent. The motor will be modified to accept a third set of bearings to ensure its reliability. The downthrust of the new Johnston pump is 9,526 pounds at the rated flow of 13,800 GPM and 16,043 pounds at shutoff. Each motor bearing is rated for a thrust of 7,280 pounds, two bearings are rated for 14,560 pounds. Therefore to avoid premature bearing failures a third set of bearings is

necessary. The third bearing set will be of the same type as the other sets and does not introduce a new failure method. The running motor current is expected to increase slightly but the motor full load current is not changed. Thus, an ELMS study or load ticket is not required for this change. The addition of Rains-Flo packing will prevent a packing leak from being external to the system but does not change the method of packing.

The loss of one Service water pump does not impact any system because adequate cooling can be maintained with four Service Water pumps. Both units are designed to be safely shut down on a total loss of Service Water. A Service Water pump can be picked up by the emergency busses at the discretion of Operations per applicable station procedures. The availability of Service Water to provide Standby Coolant is maintained since the flow and head characteristics are met by the new pump. This change does not create a malfunction that is not bound by 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.

SE-92-110
P04-1-92-001

**DESCRIPTION:**

The Minor Design Change replaced the existing HU-1 Single Output Differential Current Relays and diode circuitry for the Unit 1 Main Power Transformer with HU-1 Dual Output Differential Current Relays. The design of the relays are exactly the same with the exception of the dual output. The dual output relays are the same physical size and weight as the existing single output relays.

**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 relay replacement has no adverse affect on plant operating modes or equipment functions. The replacement of the differential current relays enhances the reliability of the main power transformer protective relay scheme by eliminating the existing diode circuitry. The relays are exactly the same with the exception of the dual output. The new relays will be mounted in the 901-29 panel exactly the same as the existing relays. Therefore, the relay 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 maryin is not reduced.

SE-92-130
P04-1(2)-92-010

**DESCRIPTION:**

Changed the "A" feedwater drain cooler normal level control valve internals (Valve trim). Level control valves 1(2)-3501A, B, & C. Changed the "B" feedwater heater normal level control valve internals (Valve trim). Level control valves 1(2)-3502A, B, & C.

**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:

   Feedwater heater transient UFSAR SECTION 15.1.1

   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 a loss of feedwater heating caused by this change is bounded by and is no more severe than a UFSAR analyzed feedwater heater transient. Based on the failure modes of the valve and its affects on plant operation no new failure modes are 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.

SE-92-25
P04-2-92-016

**DESCRIPTION:**

Replaced "No lost motion worm gear" with "Hammer Blow worm gear" on LP Feedwater Heater Start Up Vent Valves limitorque motor operator.

**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 replacement of one type of worm gear for another will have no effect on the operation of the valves as designed. The designed function of the valves, associated systems or the operation of the plant will not be affected during any mode of operation. No new failure modes will be introduced.

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

P04-1-92-022

**DESCRIPTION:**

This design modified existing pipe support M-984D-251 for High Pressure Coolant Injection (HPCI) pump suction line 1-2325-6"-LX. A new lug and attachment plate will be added such that the clevis pin and spring can rod are centered between the support channels. This will eliminate possible contact between the spring can rod and support channels.

**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 this design will center the spring can rod between the support channels. Modifying HPCI support M-984D-251 will eliminate possible contact between the spring can rod and support channels during seismic for Mark I pipe displacements. Process pipes are not changed. This design does not create any new accident or malfunction.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the HPCI support is being modified to eliminate possible contact between the spring can rod and support channel. The margin of safety is not reduced.

SE-92-91
P04-2-92-028

**DESCRIPTION:**

Replaced line 2-3942-2½-0, Non-Safety related service water dilution flow to the Circ Water Biocide injection. Added a 125 lb gate valve just outside the L.P. Heater Bay.

**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 this valve will not create any new accidents or increase the probability of any accident listed in the UFSAR. The valve will remain in the normally open position and will not adversely affect he flow to the Circ Water biocide system. The total loss of Circ Water biocide would result in a change to the UFSAR but there are no limits as to the amount of time the biocide system can be inoperable.

   The only system affected by this change is the Non-Safety related Service Water and the Circ Water biocide system. Neither system is required to function in any accidents and this 2½" line could not cause any new accidents.

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

SE-92-125
P04-1-92-036

**DESCRIPTION:**

Removed existing CO2 discharge nozzles and replaced with new nozzles. Installed four reducer bushings on the nozzles in the Diesel Generator room. In the Day Tank room, removed a 3/4" pipe nipple, a 3/4" female to 1" female reducer bushing, and a 1" pipe nipple and replaced with an equivalent length of 1" pipe.

**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:

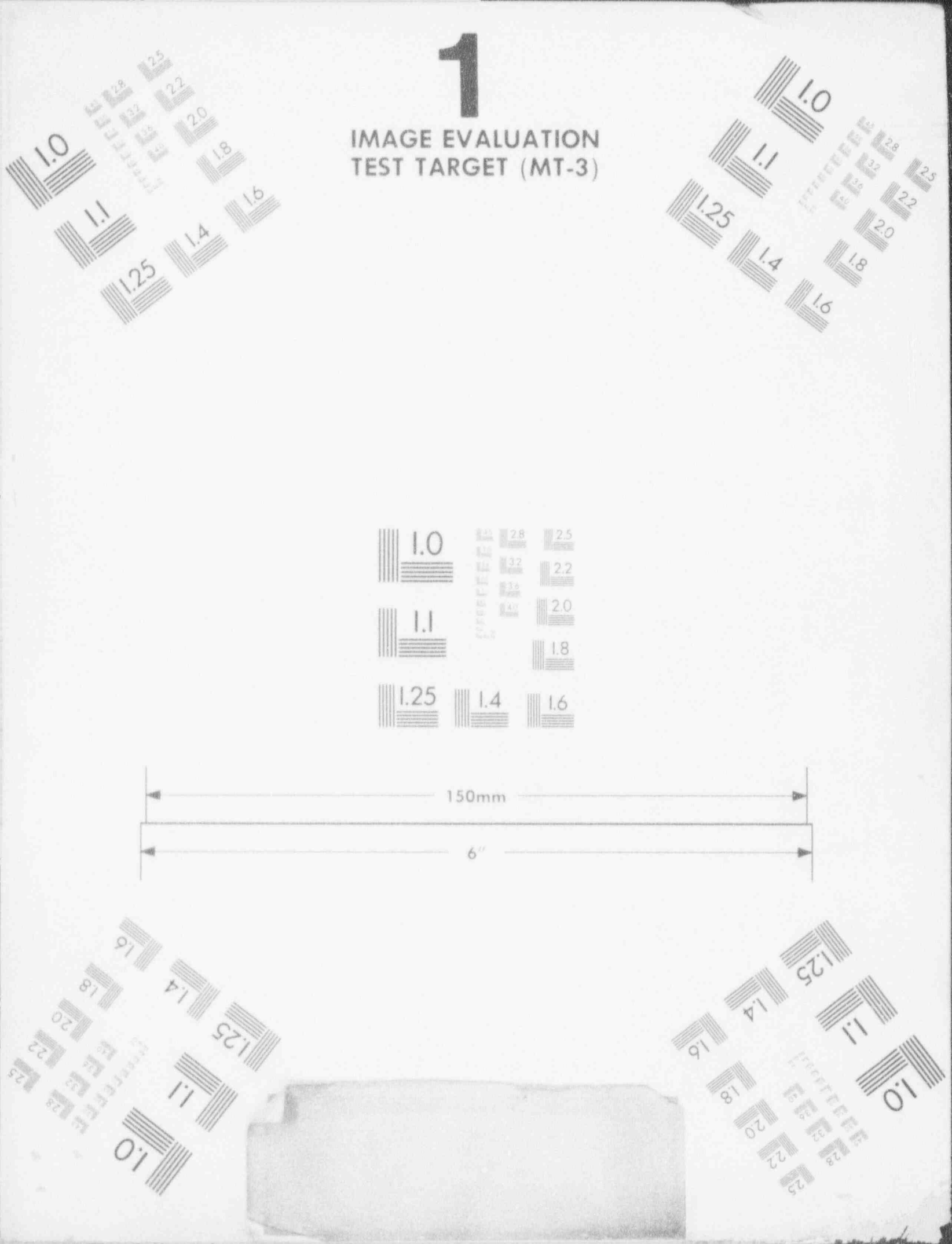
   | | |
   |---|---|
   | Fire in Diesel Generator or Day Tank Rooms | UFSAR SECTION 9.5.1 |

   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 change will permanently install new CO2 nozzles which will result in an increased flow rate of the system relative to the existing nozzles. A concentration test was performed using the existing nozzles which yielded an insufficient concentration. A subsequent test was performed with the new nozzles in place, and the resulting concentration was acceptable. The operation of the system with the new nozzles installed was the same as with the existing nozzles with the exception of an increased maximum CO2 concentration.

During operation of the system with the new nozzles, there were no changes in the interaction between systems and no equipment failures occurred. Therefore, the change does not create the possibility of equipment malfunctions or accidents different from those previously evaluated in the UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because backup fire suppression equipment and twice per shift fire watches will be established during the installation of this change. Therefore, the margin of safety will not be reduced.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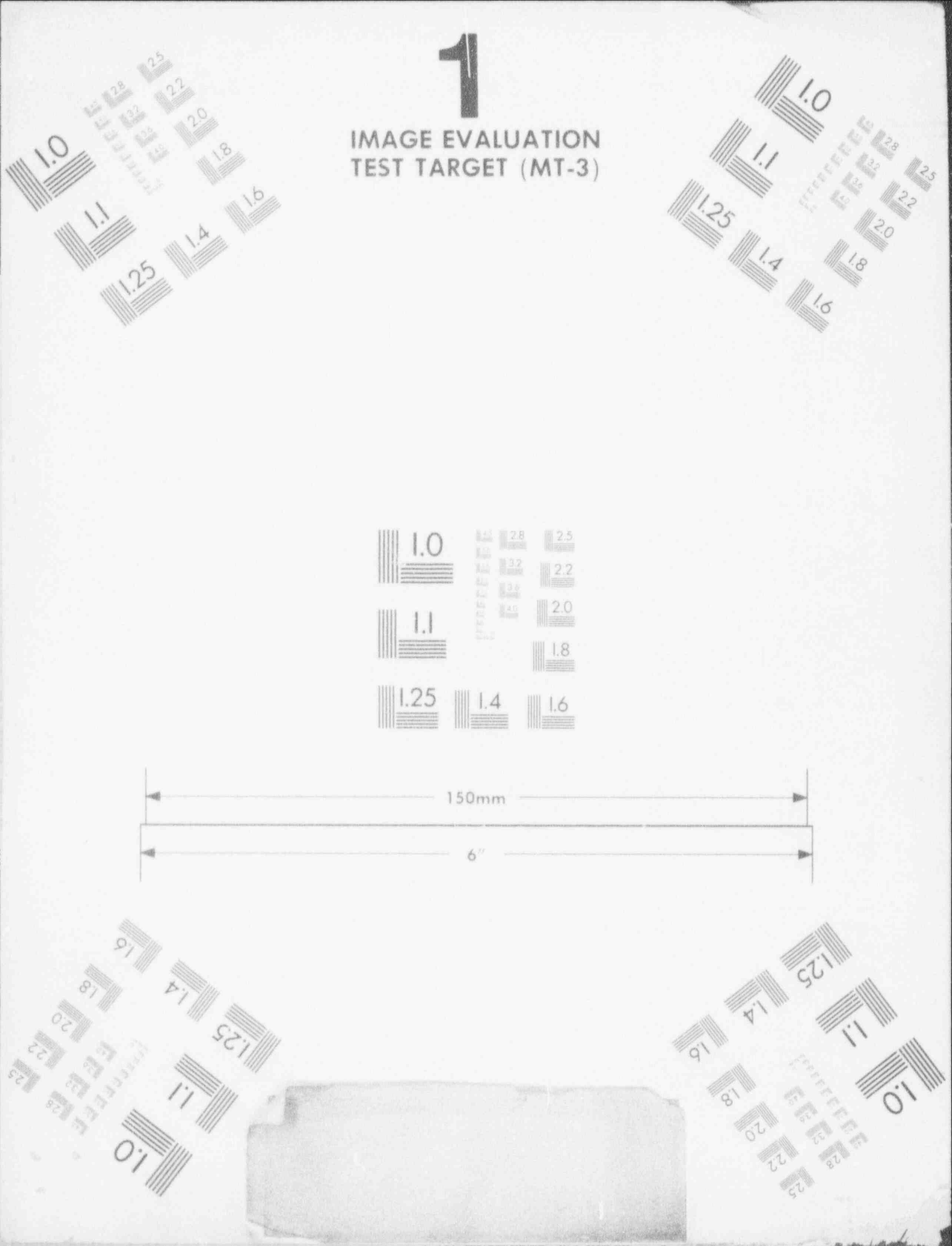
TEST TARGET (MT-3)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
150mm
6"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TEST TARGET (MT-3)
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3.6
4.0
150mm
6"

# 1

## IMAGE EVALUATION
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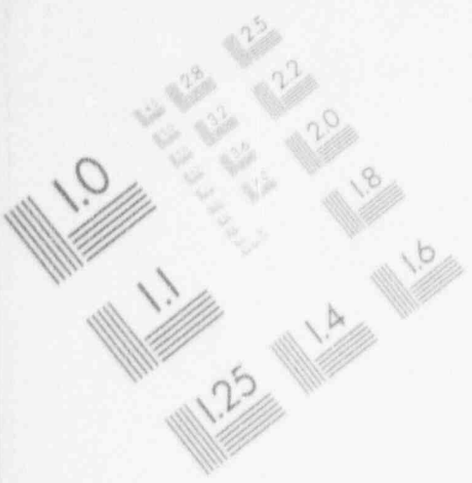
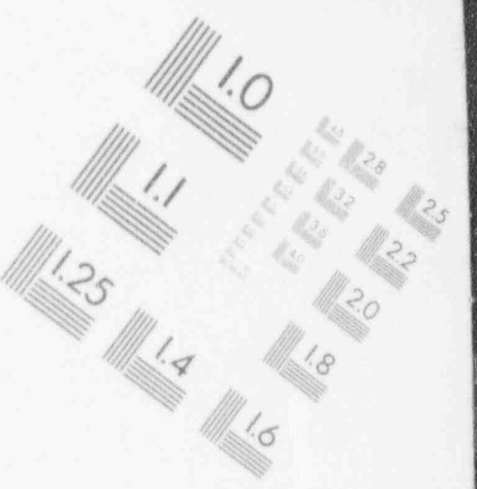
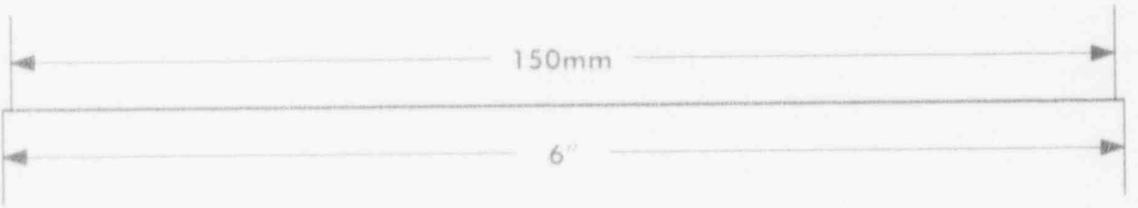
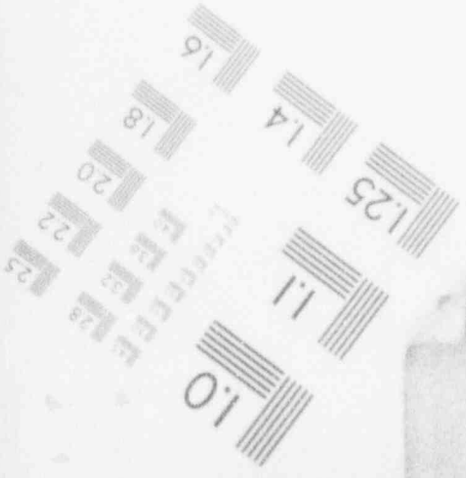
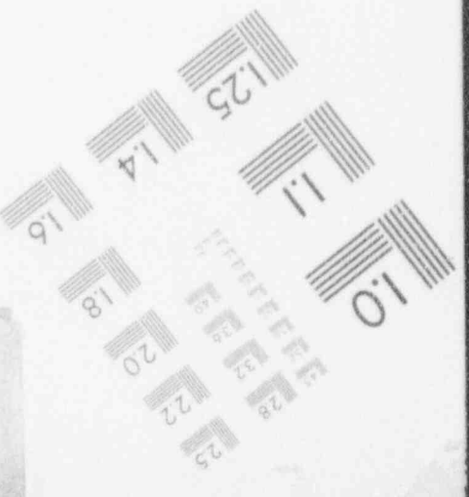




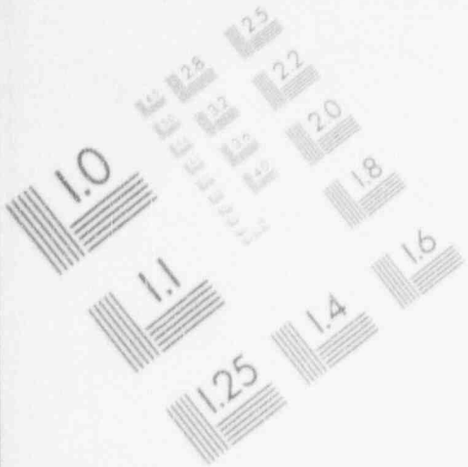


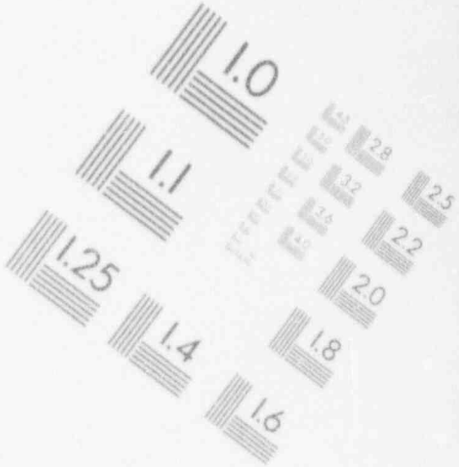



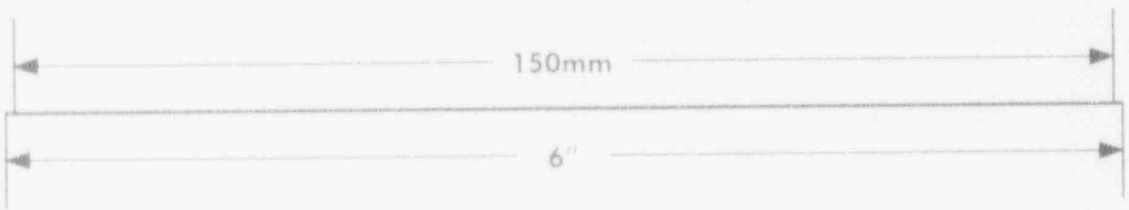

# 1

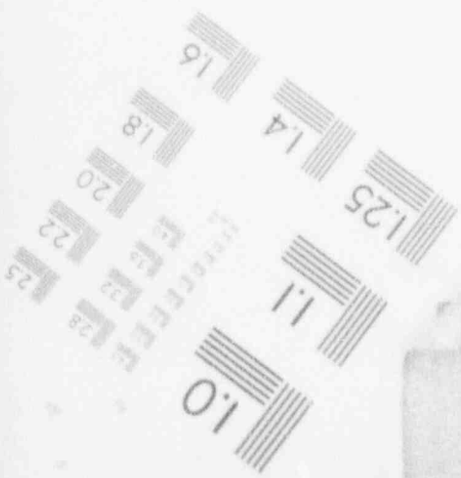
IMAGE EVALUATION
TEST TARGET (MT-3)

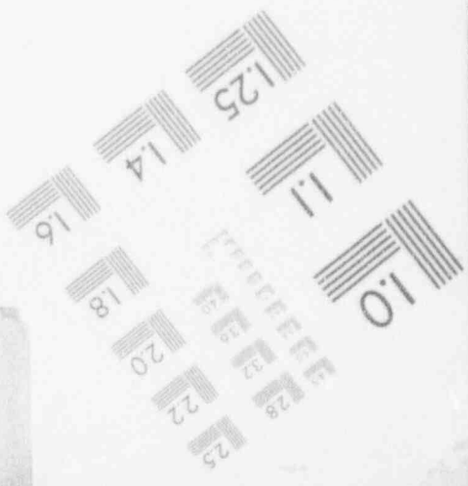







SE-92-126
P04-0-92-037

**DESCRIPTION:**

Removed existing CO2 discharge nozzles and replaced with new nozzles. Installed four reducer bushings on the nozzles in the Diesel Generator room. In the Day Tank room, removed a 3/4" pipe nipple, a 3/4" female to 1" female reducer bushing, and installed the new nozzle directly onto the existing 1" pipe.

**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:

   | Fire In Diesel Generator or Day Tank Rooms | UFSAR 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 change will permanently install new CO2 nozzles which will result in an increased flow rate of the system relative to the existing nozzles. A concentration test was performed using the existing nozzles which yielded an insufficient concentration. A subsequent test was performed with the new nozzles in place, and the resulting concentration was acceptable. The operation of the system with the new nozzles installed was the same as with the existing nozzles with the exception of an increased maximum CO2 concentration.

During operation of the system with the new nozzles, there were no changes in the interaction between systems and no equipment failures occurred. Therefore, the change does not create the possibility of equipment malfunctions or accidents different from those previously evaluated in the UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because backup fire suppression equipment and twice per shift fire watches will be established during the installation of this change. Therefore, the margin of safety will not be reduced.

P04-1-92-039

**DESCRIPTION:**

The TR 1-0263-105 chart recorder was replaced as part of the Control Room Chart Recorder Replacement Project. This project replaced (nearly) all Control Room recorders with standardized models. This was to replace obsolete equipment and standardize the Control Room installations to allow simulator fidelity with Unit One.

**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 Inside Containment | FSAR | 14.2.4 |
| (Bounding) | UFSAR | 15.6.5 |

   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 recorder has been evaluated by BWRSD (and S&L). The proposed replacement has been found to be suitable for the application. A commercial grade recorder is purchased with all of the applicable features (except for QA paperwork) of Class 1E recorders used at QCNPS. It is anticipated that these recorders will continue to provide good, reliable service. The recorder model was selected for use by IMD, OP Dept, NED, and Human Factors Engineering for use at QCNPS.

Since the recorder is suitable for the application and of a quality at least as high as the original recorder, it is unlikely that the installation of the recorder could cause an accident of any kind. Testing and Quality Control specified by BWRSD in the approval letter should insure that no inadvertent changes could cause an accident.

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

SE-92-190
P04-1-92-052

**DESCRIPTION:**

The purpose of the minor design change was to electrically remove (jumper) the open torque switch (TSO) on valves 1-1201-80 and 1-302-8. This allowed readjustment of the #2 limit switch rotor in order to better portray actual valve 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:

   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 reconfiguration of RWCU outlet isolation valve and control rod drive hydraulic pressure control valve limit switches. The change does not functionally change the operation of the valves.

   No changes have been made which affects any of the boundary conditions of the FSAR accident analysis. No new failure models 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, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-93-75
Modification/Operability Tests for M04-0-91-020A,B

**DESCRIPTION:**

This modification test tested the Div. I, 4kV Safety Related Cross-Tie by testing the interlocks between the Bus 13-1 and 23-1 Cross-Tie Breakers, the 1/2 Diesel Output Breakers, and various interties with the Unit 1 and 2 RHR and Core Spray systems. Also tested are the annunciators and SER points connected in this mod, and the re-wiring of the 1/2 DG Auxiliary Switches, which were replaced for this mod.

**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 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 testing scope will not create a condition which is different from those already evaluated in the UFSAR. The ability of the DIV I ECCS pumps is not hindered during the performance of this test procedure. During portions of this test procedure, the DIV I Core Spray and RHR pumps will receive signals indicating that the 1/2 DG is feeding Bus 13-1. In this case, the pumps would sequence onto off-site power. This is no more severe than the LOCA/LOOP scenario, in which the 1/2 DG requires a certain time delay, to attain operating speed, prior to synchronizing to Bus 13-1, at which time sequencing of pumps begins. During this testing scenario, the ECCS pumps

would begin sequencing immediately to off-site power (their preferred power source). Therefore, the conditions created by this test are bounded by the scenario in which the ECCS pumps sequentially load to the 1/2 DG.

If during performance of this testing, Bus 13-1 were inadvertently de-energized, despite the precautions taken during this procedure, Bus 14-1, the Unit 1 DG, and the Div II ECCS pumps would be available to effectively mitigate the consequences of an accident, were one to occur simultaneously. The loss of one ECCS Bus (13-1 or 14-1) has already been evaluated in the UFSAR.

The portions of the testing which 1) simulate the 1/2 DG feeding Bus 13-1 to the Div I ECCS pumps, and 2) create the possibility to trip Bus 13-1, will not be tested simultaneously. This will ensure that the Div I ECCS pumps will be available as Bus 13-1 is energized.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the margin of safety is not reduced during the scope of this testing, as the Unit One DG and the Division II ECCS pumps will be OPERABLE.

SE-93-52
E04-0-93-027

**DESCRIPTION:**

Temporary valve downstream of the 1/2-2901-26 valve was made permanent. The 26 valve is the service water supply valve to the Safe Shutdown Makeup Pump Room Cooler.

**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:

   Safe Shutdown Analysis UFSAR SECTION 9.5.1.3.4

   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 failure of the new permanent valve 1/2-2999-6, will not be a new failure. The failure of the 1/2-2901-26 valve was evaluated as part of the SSMP System design and would be the same as the failure of the new permanent 1/2-2999-6 valve. Therefore, the addition of the new permanent valve would not create the possibility of a different type of accident not previously evaluated.

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

P04-1(2)-90-081

**DESCRIPTION:**

This modification consisted of adding tap lines to existing lines 1(2)-1106A(B)-1½". Each tap line will have a 0-1500 psig pressure indicator mounted locally on existing tube steel SBLC line supports. These pressure indicators are needed to test check valves 1(2)-1101-43A(B) closed function.

**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:

   Anticipated Transient Without Scram (ATWS) SAR SECTION 10.5.1

   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 operation of the SBLC system is not affected by this change because the test tap and pressure indicators, located on the SBLC pump discharge line, will be isolated during standard line-up or operation. The pressure indicators will be used to verify proper seating of check valves when flow testing the opposite train SBLC pump. The tap lines for the pressure indicators will be seismically qualified up to and including the isolation valves.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the current condition of the SBLC system is operable. The new piping and supports for the pressure indicators are designed to withstand the design conditions described in the FSAR.

P04-2-90-128

**DESCRIPTION:**

Replaced 5 NSR chart recorders in the 902-3 panel and provided separate power feeds to 7 instruments in the 902-3 panel.

**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:

   | | | |
   |---|---|---|
   | All SFA's and DBA's | SAR SECTION | 3.2.5.4, 4.3.2, 8, 10, 11, 14.2.1 - 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 basically just replaces existing chart recorders with new ones. The new recorders are high quality recorders that have been procured to be similar to the Class 1E recorders. All recorders have been procured with a seismic mounting option and mounted with a seismically qualified mounting detail.

   The changes to the instrument bus power circuit to eliminate the "daisy chain" will make an instrument failure due to a blown fuse more likely, but will reduce the extent of a single failure by providing fuse-to-breaker coordination.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because since RHR flow indication will only be taken OOS when the Unit is in Cold Shutdown and alternative indications for Shutdown Cooling, if required, will be provided, no LCO's are entered. There is no functional changes to the ability to monitor RHR flow.

   Instrument loop accuracy has not been degraded by recorder replacement. All RG 1.97 requirements have been satisfied. The work shall be performed when the Unit is in Cold Shutdown and post accident monitoring is not required to be operable.

   Since the work shall be performed when containment is not required (see MPC approval letter), no LCO is entered. There is no functional changes to ability to monitor containment conditions.

**DESCRIPTION:**

The purpose of the Control Room Chart Recorder Replacement Project was to replace the recorders with standard models to improve maintenance (by improving the availability of spare parts and eliminating obsolete equipment).

The recorders replaced are listed below:

FR-2-0260-007 TR 2-0260-011 TR 2-0263-105 FR 2-2003-003

The following recorders are remounted (not replaced) with a flush, seismic design:

TRS 2-0262-019A TRS 2-0262-019B

The following signal conditioning equipment replaced existing equipment to provide a linear input to the TR 2-0260-011 recorder:

TT 2-0260-013A TT 2-0260-013B

**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 | FSAR SECTION | 14.2.4 |
| Inside Containment (Bounding) | UFSAR | 15.6.5 |

   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 recorders have been evaluated by BWRSD, HFE, and S&L. The proposed replacements have been found to be suitable for the applications. Commercial grade recorders are purchased with all of the applicable features (except for QA paperwork) of Class 1E recorders used at QCNPS. It is anticipated that these recorders will continue to provide good and reliable service.

   The recorder models were selected for use by IMD, OP Dept, and NED (including BWRSD and Human Factors Engineering) for use at QCNPS.

   Since the recorders are suitable for the application and of a quality at least as high as the original recorders, it is unlikely that the installation or the recorders could cause an accident of any kind. Testing and Quality Control specified by BWRSD in the approval letter should insure that no inadvertent changes could cause an accident.

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

P04-2-90-121

**DESCRIPTION:**

This minor design change replaced the 8 existing chart recorders in the 902-54 panel with new recorders of standardized models and design. This change is part of the Control Room Chart Recorder Replacement Project.

**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 chart recorders have been reviewed by the A/E and found to be suitable for the applications. The new recorders are NSR, commercial grade versions of recorder models used in Class 1E applications.

   The A/E in the DIR and the calculations performed for this MPPC have performed a detailed comparison of the new recorders with the replaced ones. The new recorders do not sacrifice accuracy, response, sensitivity, or any other critical parameters.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because provided the installation is performed during a unit outage when the Offgas System is not required to be operable, the installation of this MPC does not degrade the Offgas System or in any other way reduce the margin of safety.

**DESCRIPTION:**

This modification added an interlock into the closing circuit of the feed to the 1/2 DGCWP from Switchgear 28 to prevent closing the breaker until there is adequate voltage at Bus 28. This was accomplished by adding a "B" contact from relay 227B28X3 into the closing circuit of the breaker. Also, the existing contact (227B/28X2; contact 9-10) may cause a trip of the breaker if it opens slower than the contact from relay 227B28X3 closes. To prevent this possibility the existing trip contact from 227B/28X2 was replaced with another spare contact from 227B28X3. This will ensure that the signal to close the breaker will be received simultaneously with the opening of the trip signal to the breaker. The modification ensures that the 1/2 DGCWP is being fed from an adequate power supply.

**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 15.6.5

   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 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 Cooling Water Pump (DGCWP) by interlocking such that the 1/2 DGCWP feed breaker from 480 Volt Switchgear Bus 28 will not close until there is an adequate power supply at Bus 28. 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.

**DESCRIPTION:**

The battery chargers for the 24 VDC system were being replaced. The existing charger input and output cabling was replaced and new conduit was installed. The output breakers of the chargers were replaced with a larger 70 amp breaker. The chargers and conduit were seismically installed. The chargers were replaced due to obsolescence of the existing chargers which has led to increasing maintenance.

**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 24/48 VDC battery chargers are being replaced to alleviate increasing maintenance and operating concerns with the existing Gould chargers. The replacement will greatly improve the reliability of the 24/48 VDC system. The impacts of a failure of the new charger (Loads will be transferred to the battery) on operation of the plant will be the same as the existing configuration. Therefore, this modification does not adversely impact systems or functions of equipment.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because replacement of the Gould chargers will be done during a refueling outage. Once replaced, the new chargers will provide the same function as the existing chargers. The reliability of the system will be increased due to a decrease in corrective maintenance.

M04-2-89-074E & F
Roll-O-Matic Filters

**DESCRIPTION:**

Removed timer controls from the following units and replaced with photo sensing scheme:

Unit 1 Feedwater Pump AHU
Unit 2 Feedwater Pump AHU
Unit 1 MG Supply AHU - Filter 1B
Unit 2 MG Supply AHU - Filters 2A & 2B
Unit 1 East T.B. Supply AHU
Unit 2 East T.B. Supply AHU
Unit 1 West T.B. Supply AHU
Unit 2 West T.B. Supply AHU
Unit 2 Rx Bldg Supply AHU

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because roll-o-matic filters are not addressed in the FSAR and do not impact accident probabilities.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because roll-o-matic filter failure does not impact accident possibilities with respect to the FSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this is not addressed in Technical Specifications.

SE-91-603
M04-1/2-86-11D

**DESCRIPTION:**

Performed modification and operability testing on valve 1-2799-100.

**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 possibility for an accident or malfunction will not increase because no action items will be taken. The test is an administrative verification of proper completion of construction testing.

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

MC4-1-90-037
Service Air Compressor Intake Piping

**DESCRIPTION:**

Re-Located filter silencer housing west of its present location.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because this change does not directly or indirectly affect any safety related systems.

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 only piping, the integrity of the piping system and effect on the building have been evaluated.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this change does not affect any margin of safety defined in the basis for any Technical Specifications.

**DESCRIPTION:**

This modification replaced the FFCX relay with a Class 1E time delay relay (Time Delay on Drop Out). This ensures that the FFC contractor will de-energize before the FFCX relay. A new Class 1E relay (FSRX) is installed that operates off of the same emergency logic as the DG Auto Start Relay (ASR) to provide circuit separation and allow classification of the PJG relay as non-SR.

**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:

   EDG Failure 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 the modification affects the EDG control circuit, only. The only identified interface with other systems is with the 125 VDC distribution system that supplies power to the EDG control circuit. By evaluating the impact on the EDG control circuit, fault protection for the circuit (i.e., fuse size), and the impacts on DC-ELMS calculations, the designer has evaluated the impact on the interfacing system and shown that the changes are acceptable.

The existing fault protection for the circuit has been evaluated by the designer and found adequate. There are no other failure modes, besides a fault to ground, identified that could impact other systems.

The design, therefore, does not create any conditions that increase the probability of any accident other than the SFE evaluation for an EDG failure to start.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because Technical Specification 3.9/4.9 and its basis were reviewed for the design of this modification. Since the affected EDG must be considered inoperable while the work is being performed, the Limiting Conditions for Operation (LCO's) 3.9.A, 3.9.C, and 3.9.E, as applicable, must be complied with at all times.

   Under no circumstances shall both the unit and 1/2 EDG be out of service or inoperable at the same time. BWRSD recommends that the installation be performed with the unit in cold shutdown.

SE-93-34
Temp Alt

**DESCRIPTION:**

Installed a temporary 1" hypochlorite feed line from the existing pump skid to the 1C circulating water pump intake bay. This temporary feed line bypassed the hard piping that allowed hypochlorite injection into the condenser water boxes. A valve off of the discharge of the hypochlorite pump is used to isolate the hypochlorite from the 1C circulating water pump intake bay when the system is not is use.

**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 use of this temporary hypochlorite feed to the intake bay does not adversely impact any systems or system functions. The use of this system will only enhance the efficiency of the Unit One condenser by allowing the injection of hypochlorite for the maximum time to the whole condenser. A hose failure mode has been introduced, but the hose used for the temporary feed system will be sheathed with plastic, which is resistant to the hypochlorite. This will prevent the hypochlorite from spilling on the floor of the crib house in the event of a hose leak. An isolation valve is also available in the

event of a leak. The hypochlorite will be injected for a controlled amount of time with a very high dilution flow and will be closely monitored by chemistry to minimize the consequences of a leak and amount of residual in the discharge bay.

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

SE-93-78
Interim Procedure #131
Bus 23-1 Functional Undervoltage Test

**DESCRIPTION:**

This interim procedure installed a chart recorder to monitor the 1/2 DG to Bus 23-1 breaker (152-2329) closing circuitry at cubicle 10, Bus 23-1, during this procedure.

**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.

   - Operat[illegible] or failure of the changed structure, system, or comp[illegible]ent could lead to the accident.

   The accidents which meet these criteria are listed below:

   Loss of Offsite Power UFSAR SECTION 8.3.1

   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 installation of this recorder presents no adverse affects on any plant equipment. It is being installed on the 1/2 DG to Bus 23-1 Feed Breaker closing circuit to monitor voltage and current parameters. The leads (for voltage readings) have been fused, which provides adequate protection to prevent any adverse system actuation. The leads monitoring circuit current are connected indirectly via a clamp-on ammeter. These have absolutely no affect on circuit operation.

   The scenarios postulated in step 6, namely:

   - inadvertent (or early) closure of the 1/2 DG to Bus 23-1; and

   - failure of the 1/2 DG to close to Bus 23-1

will be eliminated by the installation of the fuses in the recorder leads.

The 1/2 DG will still be available to Unit One at all times during this test.

Offsite power will still be available to Bus 23-1 and can be closed in again to Bus 23-1, if needed during this test.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the margin of safety is not reduced because the 1/2 DG is not required to be operable for Unit 2. However, the 1/2 DG will be operable to unit two because of the precautions taken (fusing of recorder leads) in this procedure.

SE-93-82
Jumper the Accumulator Low Pressure
Rod Block to Perform ST-41

**DESCRIPTION:**

Installed jumper on the CRD system accumulator low pressure rod block in order to perform QIS 41-1, (prior to startup/shutdown instrument calibration check and functional tests) QIS 41-1 is required every 7 days during refueling, and is required after 5-5-93. The jumper was removed upon completion of QIS 41-1, and SRM testing.

**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 change will not introduce any new failure modes. This change is temporary, only in affect during performance of QIS 41-1 and SRM testing which requires rod blocks cleared. When the jumper is installed and during the surveillance, no fuel moves shall take place and all control rods shall remain inserted at 00. The Rod Motion control switch is out of service and will remain out of service, to ensure that no rod will be moved. The jumper will be removed upon completion of QIS 41-1. QIS 41-1 is required every 7 days during refueling. QIS 41-1 was last performed on 4/28/93. QIS 41-1 is required to be performed on 5/5/93 to satisfy Tech Spec requirements.

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

SE-93-87
Work Request Q06542

**DESCRIPTION:**

Work Request Q06542 cut and capped one tube in the 2C RHRSW Vault Room Cooler, 2-5745C. The cooling coil tube was partially cut-out and the ends capped. This removed the portion of tube that was patched with 'Belzona'. One tube had been previously plugged. Blocking of a second tube constituted a 8.3% decrease in heat transfer. Design margin allows 12 tubes to be plugged (50%), and still meet room heat loads.

**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 - Containment Long Term Response to a Design Base Accident | UFSAR SECTION: 6.2.1.3.3 (15.6.2, 15.6.5) |

   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 2C RHRSW Vault Room Cooler was temporarily plugged and patched under Temp Alt 92-2-61. The patch isolated the leakage, yet did not provide an acceptable code repair.

   The cutting and capping of one tube will ensure that the leakage does not reoccur. Blocking of the tube does not prevent the room cooler from being able to perform its design safety function. The cooler presently has one tube plugged with an expandable plug. Per S&L Calculation VT-16, the cooler has 50% design margin. Blocking a second tube

will result in a total of 8.3% degradation. The is acceptable design.

The removal of the defect from the pressure boundary is required per ASME XI code repair procedures. Cutting and capping the cooling tube will allow the cooler to conform to design requirements. The plugged tube effectively removes the defect from the pressure retaining boundary.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the vault cooler provides required cooling for operability of the RHRSW pump. The cooler has excess design margin and is capable of providing required room cooling. No decrease in margin of safety results from this work.

SE-93-90
QCGP 4-1

**DESCRIPTION:**

Changed QCGP 4-1 to explicitly state how and when to move control rods, including independent verification requirements. In addition, a fifth NSO was required in the control room for rod movement during startups and shutdowns.

**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 adds explicit direction for the verification and movement of control rods. When followed, no mispositioned control rods due to personal error may occur. The rod withdrawal error due to equipment malfunctions is unaffected by these changes.

   The fifth NSO required for control rod movement will allow one NSO to focus on rod movement. The other NSOs will be available to minimize distractions to the person moving rods.

   No new types of accidents or malfunctions are created.

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

SE-93-91
QGA 100

**DESCRIPTION:**

The table for determining conditions under which RPV level instrumentation is available for use has been revised. The Saturation Temperature Graph application has been expanded to include monitoring of Reactor Building temperature in addition to Drywell temperature. The valves for the Minimum Indicated Level table have been recalculated to reflect the increased length of reference leg ran in the Reactor Building.

**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 Safety Evaluation written to support installation of the RVWLIS modification addressed this question for all analyzed accidents and malfunctions. That evaluation concluded that the system would function as designed for each Design Basis Accident. The direction provided in this change looks beyond those events to causalities that include multiple failures which result in Reactor Building and Drywell temperatures beyond those that will occur within the Design Basis. Instrument calculations were performed that used the worst, mechanistically possible, temperature of 350°F in the Reactor Building and 560°F in the Drywell to obtain information on when an RPV

level instrument would cease to provide reliable information. If a Design Basis accident were to occur, this direction would not be restrictive and the operators would continue to relay on their indications as expected. It is only an event beyond those considered in the Design Basis where this information would be applied.

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

SE-93-92
QGA 101

**DESCRIPTION:**

The table for determining conditions under which RPV level instrumentation is available for use has been revised. The Saturation Temperature Graph application has been expanded to include monitoring of Reactor Building temperature in addition to Drywell temperature. The values for the Minimum Indicated Level table have been recalculated to reflect the increased length of reference leg ran in the Reactor Building.

**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 safety evaluation written to support installation of the RVWLIS modification addressed this question for all analyzed accidents and malfunctions. That evaluation concluded that the system would function as designed for each Design Basis Accident. The direction provided in this change looks beyond those events to causalities that include multiple failures which result in Reactor Building and Drywell temperatures beyond those that will occur within the Design Basis. Instrument calculations were performed that used the worst, mechanistically possible, temperature of 350°F in the Reactor Building and 560° in the Drywell to obtain information on when an RPV

level instrument would cease to provide reliable information. If a Design Basis accident were to occur, this direction would not be restrictive and the operators would continue to rely on their indications as expected. It is only an event beyond those considered in the Design Basis where this information would be applied.

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

SE-93-93
QGA 200

DESCRIPTION:

The table for determining conditions under which RPV level instrumentation is available for use has been revised. The Saturation Temperature Graph application has been expanded to include monitoring of Reactor Building temperature in addition to Drywell temperature. The values for the Minimum Indicated Level table has been recalculated to reflect the increased length of reference leg ran in the Reactor Building.

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 safety evaluation written to support installation of the RVWLIS modification addressed this question for all analyzed accidents and malfunctions. That evaluation concluded that the system would function as designed for each Design Basis Accident. The direction provided in this change looks beyond those events to causalities that include multiple failures which result in Reactor Building and Drywell temperatures beyond those that will occur within the Design Basis. Instrument calculations were performed that used the worst, mechanistically possible, temperature of 350°F in the Reactor Building and 560°F in the Drywell to obtain information on when an RPV

level instrument would cease to provide reliable information. If a Design Basis accident were to occur, this direction would not be restrictive and the operators would continue to rely on their indications as expected. It is only an event beyond those considered in the Design Basis where this information would be applied.

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

SE-93-94
QGA 200-5

**DESCRIPTION:**

Change to procedure references and small wording clarifications.

**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 changes to procedure references, when the referenced procedure produces the same results, cannot create the possibility of an accident or malfunction. This is an administrative type of change.

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

SE-93-95
QGA 300

**DESCRIPTION:**

The table for determining conditions under which RPV level instrumentation is available for use has been revised. The Saturation Temperature Graph application has been expanded to include monitoring of Reactor Building temperature in addition to Drywell temperature. The values for the Minimum Indicated Level table have been recalculated to reflect the increased length of reference leg ran in the Reactor Building.

**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 safety evaluation written to support installation of the RVWLIS modification addressed this question for all analyzed accidents and malfunctions. That evaluation concluded that the system would function as designed for each Design Basis Accident. The direction provided in this change looks beyond those events to causalities that include multiple failures which result in Reactor Building and Drywell temperatures beyond those that will occur within the Design Basis. Instrument calculations were performed that used the worst, mechanistically possible, temperature of 350°F in the Reactor Building and 560° in the Drywell to obtain information on when an RPV

level instrument would cease to provide reliable information. If a Design Basis accident were to occur, this direction would not be restrictive and the operators would continue to rely on their indications as expected. It is only an event beyond those considered in the Design Basis where this information would be applied.

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

SE-93-96
QGA 500-1

**DESCRIPTION:**

Change to procedure references and small working clarifications.

**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 changes to procedure references, when the referenced procedure produces the same results, cannot create the possibility of an accident or malfunction. This is an administrative type of change.

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

SE-93-97
QGA 500-2

**DESCRIPTION:**

Change to procedure references and small wording clarifications.

**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 changes to procedure references, when the referenced procedure produces the same results, cannot create the possibility of an accident or malfunction. This is an administrative type of change.

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

SE-93-98
QGA 500-3

**DESCRIPTION:**

Change to procedure references and small wording clarifications.

**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 changes to procedure references, when the referenced procedure produces the same results, cannot create the possibility of an accident or malfunction. This is an administrative type of change.

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

SE-93-99
QGA 500-4

**DESCRIPTION:**

The table for determining conditions under which RPV level instrumentation is available for use has been revised. The Saturation Temperature Graph application has been expanded to include monitoring of Reactor Building temperature in addition to Drywell temperature. The values for the Minimum Indicated Level table have been recalculated to reflect the increased length of reference leg ran in the Reactor Building.

**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 safety evaluation written to support installation of the RVWLIS modification addressed this question for all analyzed accidents and malfunctions. That evaluation concluded that the system would function as designed for each Design Basis Accident. The direction provided in this change looks beyond those events to causalities that include multiple failures which result in Reactor Building and Drywell temperatures beyond those that will occur within the Design Basis. Instrument calculations were performed that used the worst, mechanistically possible, temperature of 350°F in the Reactor Building and 560°F in the Drywell to obtain information on when an RPV

level insltrument would cease to provide reliable information. If a Design Basis accident were to occur, this direction would not be restrictive and the operators would continue to rely on their indications as expected. it is only an event beyond those considered in the Design Basis where this information would be applied.

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

SE-93-100
QTS 110-3, Temporary

**DESCRIPTION:**

1. Incorporated HPCI Sparger modification M04-2-91-013B.

2. Re-installed the HPCI and RCIC low steam pressure and high reactor water level isolations following completion of the test on the first division.

3. Incorporated the 1/2 Diesel Generator Auxiliaries preferred power source modification M04-2-92-006H.

4. Added a step to secure shutdown cooling.

5. Changed the step in the procedure that verifies equipment repositioning following removal of the low-low level signals during the Division II portion of this surveillance.

**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 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 changes made to this procedure do not create the possibility of an accident different from those evaluated in the UFSAR. The simulation of the ECCS signal and verified response of the ECCS systems will remain the same as in the original procedure. The changes made to

the procedure were the result of plant modifications which were previously evaluated and do not affect the intent of this procedure. The remaining changes were to reduce redundant testing and to clarify certain procedure steps. During performance of this test, one division of ECCS equipment still remains available for use, if needed.

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

SE-93-101
Temp Alt

**DESCRIPTION:**

Installed a temporary 1" hypochlorite feed line from the existing pump skid to the 2A circulating water pump intake bay. This temporary feed line bypassed the hard piping that allows hypochlorite injection into the condenser water boxes. A valve off of the discharge of the hypochlorite pump was used to isolate the hypochlorite from the 2A circulating water pump intake bay when the system is not in use.

**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 use of this temporary hypochlorite feed to the intake bay does not adversely impact any systems or system functions. The use of this system will only enhance the effectiveness of the Unit Two condenser by allowing the injection of hypochlorite for the maximum time to the whole condenser. A hose failure mode has been introduced, but the hose used for the temporary feed system will be sheathed with plastic, which is resistant to the hypochlorite. This will prevent the hypochlorite from spilling on the floor of the crib house in the even of a hose leak. An isolation valve is also available in the event of a leak. The hypochlorite will be inject for a

controlled amount of time with a very high dilution flow and will be closely monitored by chemistry to minimize the consequences of a leak and amount of residual in the discharge bay.

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

SE-93-103
Temporary Alteration

**DESCRIPTION:**

Installation of a metal shim (clamp) on 2-220-118A valve to prevent movement of the packing gland. This shim was bolted on both sides of the valve stem, and wedge the packing gland against the valve bonnet. This prevents excess leakage by preventing the packing gland from backing out. This valve is a ATWS header isolation 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 the failure of the valve packing would be less severe than the 1" instrument line break listed in UFSAR section 15.6.2.

   1. This is a 1/2" line.

   2. This valve is downstream of excess flow check valves which would limit vessel coolant loss to the secondary containment. (See M-77 Sht 1). Instrument loop between X-28D and X-28C.

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

SE-93-104
Temporary Alteration #92-2-126; W.R. #Q03263

**DESCRIPTION:**

The Unit Two Oxygen Injection sub-system of the Hydrogen Water Chemistry (HWC) system changed to increase flow rates from 0 - 35 scfm to 0 - 70 scfm. This change was necessary to accommodate 'Stress Corrosion Test Program' scheduled for cycle 13.

The following changes were made to achieve the desired flowrates:

1. Replaced seat ring, and stem/plug assembly on FCV 2-2799-39 (Fisher). All parts degreased for oxygen service.

2. Replaced Thermal Instruments EPROM circuit board (0 - 70 scfm) in local control cabinet.

3. Replaced Moore oxygen controller on 902-53 panel. Software changes were tested before installation.

4. Re-calibrated oxygen flow element to 0 - 70 scfm flow range.

**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 proposed change will not change the operation of the oxygen injection subsystem other than increasing the flow capability up to 70 scfm from 35 scfm. Function of the oxygen system will remain the same. No new failure modes will be created. No new possibilities of an accident or malfunction will be introduced.

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

SE-93-81
Temporary Alteration

**DESCRIPTION:**

This Temp Alt removed the current 1/2" turbocharger air supply line and miscellaneous fittings and replaced them with 5/8" supply line and fittings.

**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 (Loss of Coolant Accident) 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 EDG's are used to mitigate the consequences of an accident, therefore, no new accidents or malfunctions are 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.

SE-93-22
Modification M04-0-91-020B Work Package

**DESCRIPTION:**

This work package completed control tie-ins to the 1/2 Diesel Generator logic at Bus 13-1 per modification M04-0-91-020B. Work in the 1/2 DG cubicle included:

a. Replaced the 6-stage aux switch with a 12-stage aux switch:

b. Installed a new Agastat relay;

c. Connection of ties to and from the Division I crosstie cubicle at Bus 13-1.

**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:

   Loss of Coolant Accident 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 work conditions will not create a condition which is different than those evaluated in the UFSAR. Although the Division I ECCS pumps would sequence onto Bus 13-1 in the event of a LOCA, the resultant transient would be less severe than a LOCA/LOOP scenario. In a LOCA/LOOP scenario, the 1/2 DG would require a certain time delay, to attain operating speed, prior to synchronizing to Bus 13-1. This would result in delayed

ECCS pump injection into the vessel.

In the condition created by this work, even though the ECCS pumps would not instantaneously load to Bus 13-1 (as a result of the availability of Offsite power), the sequencing of the pumps to Bus 13-1 is bounded by the scenario in which the ECCS pumps sequentially load to the 1/2 DG.

Throughout the time in which this work is to take place, both the Unit One DG and the Division II ECCS pumps will be operable to supply water to the core, if they are required.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the margin of safety in this case is not reduced, as the Unit One DG and the Division II ECCS pumps will be OPERABLE during work.

SE-93-18
Functional Test for M04-2-87-051B (WR#Q92342)

**DESCRIPTION:**

Functional tests of Sequence of Events Recorder (SER) messages for inputs associated with cables terminated in beta panel per Work Request No. Q92342.

**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 functional test is being performed concurrently with OAD's construction test. During this test, alarms will be simulated one at a time from the 902-34 panel and the actual initiating devices will be unaffected. Each point will be undergoing testing for less than 1 minute and the operator will know at all times what windows are under test so that he will be able to monitor plant parameters associated with that alarm when necessary.

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

M04-1-88-052B
RCIC Pump Discharge Check Valve

**DESCRIPTION:**

Installed new RCIC pump discharge check valve, 1-1301-50, and removed the air operator, control switch, indicating lights and associated conduit.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because operation of the new check valve is identical to that of the existing check valve, therefore, the probability of an occurrence or consequence of an accident is not increased.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because no new possibility for an accident or malfunction is created. The air operator for the valve is to be removed, however, testing of the valve will still be accomplished by manual initiation and injection of RCIC which is currently performed once per cycle. There are no other testing requirements for this valve.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this modification will not affect RCIC system operation, therefore, the margin of safety is not reduced.

**DESCRIPTION:**

Valves 2-1402-7 and 2-1402-10 were removed from lines 2-1418A-4"-LX and 2-1418B-4"LX and the remaining pipe was capped. These lines are clean out lines for the 18" Core Spray Pump suction lines. The valves were removed as a result of the reanalysis and qualification of small-bore Mark I piping.

In addition, HPCI line 2-2315-4"-LX was rerouted to bring this sub-system within design margins specified for Torus attached piping.

**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 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 this change is required to qualify the lines to the Mark I hydrodynamic loads of Torus Attached Piping. The failure of these lines and the consequences of their failure are the same as they were prior to the mod. The subject lines do not affect the operation nor are they required for the operation of the CSS, HPCI, Torus, or other interfacing system except for maintaining pressure boundary integrity. Based on this, this change does not adversely

impact systems or functions so as to create the possibility of an accident or malfunction of a different type from those evaluated in the SAR.

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

**DESCRIPTION:**

RHRS large bore piping was evaluated for a 340°F shutdown cooling mode temperature. The following modifications brought the piping system within code design margins. Two existing supports were removed. One piping tee reinforcement pad was added. Structural components on seven existing supports were modified. Hanger preloads were reset on three supports. One wall penetration water seal was changed to a flexible seal.

**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 15.6.5.2 (UFSAR)

   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 of these lines and the consequences of their failure are the same as they were prior to the mod. Based on this, this change does not adversely impact systems or functions so as to create the possibility of an accident or malfunction of a different type from those evaluated in the SAR.

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

M04-2-89-016
Primary Containmennt Water Level Indication

**DESCRIPTION:**

This modification included the addition of pressure transmitters (0 to 100 psig) at the bottom of the torus (X-213A or B) and the drywell vent (X-25), converting the signals for processing and subtracting the higher elevation signal from the lower to determine level (0 to 100 feet). Indicators were provided on panels 901-3 and 902-3 for containment pressure, torus bottom pressure, and containment level. Signals were also provided to the plant computer.

**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 new instrument is provided for operator information. Proper maintenance of the instrument circuit and training of the operator will help ensure that the drywell will be flooded to the proper level.

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

SE-92-162
UFSAR Revision for M4-(1)2-91-032

**DESCRIPTION:**

Revised Figure 8.3-6 (4E-2317 Sh 2) for Unit 2, and 8.3-3 (4E-1317 Sh 2) for Unit 1, in the UFSAR.

**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 change is only to drawings that are included in the UFSAR. The change will be made to the UFSAR via QTP 200-1.

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

SE-93-01
M04-2-91-032 Work Package

**DESCRIPTION:**

Transfered the feed for the 2-1001-47 valve from 250 VDC MCC 2B to MCC 2A in order to provide adequate capacity margin for the 250 VDC batteries.

**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:

   Work will be done while the unit is shutdown and in the Refuel mode with no fuel in the vessel.

   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 scope of work will be performed in the Refuel mode with no fuel in the RPV. Shutdown cooling will not be required therefore the 1001-47 valve will not be required for operation. No accidents or malfunctions are evaluated for this case.

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 installed a non-safety related 250 vdc battery system. The new system consists of a battery, battery chargers, and motor control center. The non-safety related loads were powered from the safety related 250 vdc battery were relocated to the new system. The main turbine emergency bearing oil pump was relocated to the new system by partial modification M04-1-91-037A. The remaining non-safety related loads were relocated by partial modification M04-1-91-037B.

All of the relocated loads have continued to function in their respective systems as originally designed. All control room actuations/alarms have remained unchanged. All functions performed by the existing MCC have been duplicated at the new non-divisional MCC. Local controls at the loads have remained unchanged.

Indication and annunciation for the new 250 VDC system have been provided locally at the new motor control center. Remote annunciation have been provided in the control room through the use of a summary annunciator window which indicate that there are potential troubles associated with the new battery system.

This modification was installed to improve reliability and increase the reserve capacity of the existing 250 VDC system. By removing non-safety related loads on the safety related 250 VDC system, the margin of safety of the safety related 250 VDC loads will increase.

**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 auxiliary power. SAR SECTION 8.3.1

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 this modification installs a non-safety related 250 VDC system so that non-safety related loads can be removed from the safety related 250 VDC system. This is being done to improve the reserve capacity of the safety related system and thereby increase the margin of safety for the safety related 250 VDC loads. The removal of the non-safety related loads from the safety related system will be done in stages with the main turbine emergency bearing oil pump being relocated by this partial modification.

   The installation of a non-safety related 250 VDC system does not change the operation of any equipment. Only the power source will be changed for the non-safety related loads. The power source, while not being Class 1E will be very reliable. AC power will be the input source for the chargers. The chargers will supply power to the loads under normal conditions. Under a loss of AC power, the loads will be supplied by the battery. As a source of DC power, a battery has proven to be a very reliable source of power under emergency conditions.

   The system is configured such that there are two battery chargers. Each of these chargers is capable of providing ample power for the loads. The power source of these chargers is from Bus 13 (via Bus 15) and Bus 14 (via Bus 16). Both of these sources provide very reliable sources of AC power.

   Therefore, the installation of this system does not have any adverse effects on equipment or systems which have a safety related function and does not create any accident conditions not previously analyzed in the SAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because Technical Specification Section 3.9.C.3 states:

   From and after the date that one of the two 125/250 volt battery systems is found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 3 days unless such battery system is sooner made operable.

This is interpreted to mean only the safety related 250 VDC battery and not the new non-safety related battery installed by this modification. As a result, the margin of safety for this Technical Specification has not been reduced. This is due to the fact that the new system will not provide power for any systems or components which are important to the safe shutdown of the plant.

Technical Specification Section 3.9.B states:

The unit 24/48 volt batteries, two station 125-volt batteries, the two station 250-volt batteries, and a battery charger for each required battery shall be operable before the reactor can be made critical.

The reference to the 250 volt batteries and charger is interpreted to mean the safety related batteries and charger. As a result, this installation does not reduce the margin of safety as established by this Technical Specification. The new battery system does not provide power for any systems or components required for safe shutdown of the plant.

P04-2-91-041

**DESCRIPTION:**

MO 2-1201-2 Valve

1) Replaced SMB-00-15 actuator with a SMB-1-25
2) Replaced heater in overload relay (new size)

MO 2-1201-5 Valve

1) Replaced SMB-00-15 actuator with a SMB-1-25
2) Replaced heater in overload relay (new size)
3) Minor rewiring in MCC cubicle to have only 1 overload relay in the power circuit
4) Replaced power cable from MCC to MOV actuator (new size)
5) Replaced 2-1201-5 valve yoke to accept larger actuator.

**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:

   RWCU Line Break UFSAR 3.6.1

   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 new equipment merely replaces currently existing equipment with new components and parts with a different size or capacity. The location of the equipment has not been significantly changed. There are no identified changes that reduce equipment reliability or redundancy. The new equipment does not create any new system interfaces or failure modes that could cause a new type of accident not previously considered.

   The Anchor Darling (A/D) valves were blowdown and thermal binding tested by A/D. These tests show that the valves can perform there design functions under the worst accident conditions. Rising Stem Datasheets have been issued by NED to insure that the new valve actuators are properly setup and tested prior to operation.

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

**DESCRIPTION:**

This partial modification involved the replacement of the existing filter/dryer skid for Instrument Air Compressor 2-4709 with a larger capacity filter/dryer skid. The existing equipment was removed and the new equipment installed near the existing 2-4709 Instrument Air Compressor on the ground floor (elevation 595') of the Turbine Building. A Coalescing filter was installed on the service air tie-in to the new filter/dryer system. These changes were made to increase the air capacity of the instrument air system.

**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 | UFSAR SECTION | 10.7 |
| Main Steamline Isolation Valve Closure | UFSAR SECTION | 11.2.3 |
| Design Evaluation | UFSAR SECTION | 4.4.3 |

   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 partial modification replaces the existing filter/dryer skid for Instrument Air Compressor 2-4709 with a larger capacity filter/dryer skid. In addition, a coalescing filter will be installed on the service air tie-in to the instrument air system. The purpose of this coalescing filter is to remove oil from the service air just prior to entering the instrument air filter/dryer skid.

These changes do not adversely impact the instrument air/system/service air system or functions of any system so as to create the possibility of an accident or malfunction of a type different from those evaluated in the FSAR/UFSAR.

The non safety-related instrument air system directly affects the operation of safety-related systems and is vital to plant operation. The plant cannot be operated without the instrument air system but failure of the system will not jeopardize the safe shutdown of the plant. Loss of instrument air will cause the main steamline isolation valve to close and scram the reactor. This event has been evaluated in the UFSAR Section 4.4.3.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this partial modification to the non safety-related instrument air system does not impact the margin of safety.

The Unit 1 Technical Specifications were reviewed for this partial modification. There are no requirements or references for instrument air quality and no changes are required as a result of this installation. There are no limiting conditions of operation or surveillance requirements to be observed during the installation of this partial modification. The new filter/dryer skid will be functionally identical to the existing equipment.

M04-2-91-021B

**DESCRIPTION:**

This partial modification involved the replacement of the existing Instrument Air Compressor 2-4709 with a larger capacity rotary screw air compressor. The existing equipment was removed and the new equipment installed near the existing 2-4709 Instrument Air Compressor on the ground floor (elevation 595') of the Turbine Building. These changes were made to increase the air capacity of the instrument air system.

**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 | UFSAR SECTION | 10.7 |
| Main Steamline Isolation Valve Closure | UFSAR SECTION | 11.2.3 |
| Design Evaluation | UFSAR SECTION | 4.4.3 |

   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 partial modification replaces the existing Instrument Air Compressor 2-4709 with a larger capacity Rotary Screw Air Compressor. These changes do not adversely impact the instrument air system/service water system or functions of any system so as to create the possibility of an accident or malfunction of a type different from those evaluated in the FSAR/UFSAR.

The non Safety-Related instrument air system directly affects the operation of Safety-Related systems and is vital to plant operation. The plant cannot be operated without the instrument air system but failure of the system will not jeopardize the safe shutdown of the plant. Loss of instrument air will cause the main steamline isolation valves to close and scram the reactor. This event has been evaluated in the UFSAR Section 4.4.3.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this partial modification to the non safety-related instrument air system does not impact the margin of safety.

   The Unit 1 Technical Specifications were reviewed for this partial modification. There are no requirements or references for instrument air quality and no changes are required as a result of this installation. There are no limiting conditions of operation or surveillance requirements to be observed during the installation of this partial modification. The new rotary screw air compressor will be functionally identical to the existing equipment.

**DESCRIPTION:**

This partial modification involved the replacement of the existing Instrument Air Compressor 2-4709 with a larger capacity rotary screw air compressor. The existing equipment was removed and the new equipment installed near the existing 2-4709 Instrument Air compressor on the ground floor (elevation 595') of the Turbine Building. These changes were made to increase the air capacity of the instrument air system.

**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 | UFSAR SECTION 9.3.1.1 |
   | Inadvertent closure of main Steamline isolation valves | UFSAR SECTION 15.2.4 |

   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 partial modification replaces the existing Instrument Air Compressor 2-4709 with a larger capacity Rotary Screw Air Compressor. These changes do not adversely impact the instrument air system, service water system, TBCCW System of functions of any system so as to create the possibility of an accident or malfunction of a type different from those evaluated in the FSAR/UFSAR.

The non Safety-Related instrument air system directly affects the operation of Safety-Related systems and is vital to plant operation. The plant cannot be operated without the instrument air system but failure of the system will not jeopardize the safe shutdown of the plant. Loss of instrument air will cause the main steamline isolation valves to close and scram the reactor. This event has been evaluated in the UFSAR Section 15.2.4.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this Unit 2 Technical Specifications were reviewed for this partial modification. There are no requirements or references for instrument air quality and no changes are required as a result of this installation. There are no limiting conditions of operation or surveillance requirements to be observed during the installation of this partial modification. The new rotary screw air compressor will be functionally identical to the existing equipment.

**DESCRIPTION:**

The Minor Design Change installed varistors across the motor shunt field windings of the Motor Operated Valves (MOV) 2-2301-3, 5, and 14. The varistors will reduce spurious 250 VDC ground alarms as a result of transient voltages, on the shunt field winding, that occur when the MOV is cycled.

**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 | 6.2.5 High Pressure Coolant Injection Sub System |

   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 does not alter the design, function, or method in which the High Pressure Coolant Injection System functions as defined in Technical Specifications Section 3.5/4.5-5 or the UFSAR Section 6.2.5. This also, has no impact or adverse change on the existing systems, structures, or components. The Minor Design Change is installing a varistor across the motor shunt field windings of the 2-2301-3 (HPCI steam supply valve), 2-2301-5 (HPCI steam supply isolation valve), and 2-2301-14 valve (HPCI minimum flow valve). Valve failures within the HPCI system could prevent the system from initiating or operating as designed. This failure mode exists in both the present and modified condition.

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 High Pressure Coolant Injection System functions as defined in Technical Specifications Section 3.5/4.5-5 or the UFSAR Section 6.2.5. The Minor Design Change is installing a varistor across the motor shunt field windings of the 2-2301-3 (HPCI steam supply valve), 2-2301-5 (HPCI steam supply isolation valve), and 2-2301-14 valve (HPCI minimum flow valve). The enhancement of installing a varistor will eliminate the spurious 250 VDC ground alarms in the main control room. Failure of the varistor puts the circuit in it's current configuration.

**DESCRIPTION:**

Installation of banana jack adapters in various control panel terminal points and relay terminals in place of the existing screws. This was done to facilitate testing of the circuits by eliminating the need to de-terminate wires and then re-terminate them to simulate certain accident conditions. This was also being done to facilitate jumpering of circuits as required by certain QGA procedures. Currently the station uses alligator clips and "C" connectors which is time consuming combersome, and could lead to unintentional changes in equipment status.

**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:

   Safety Analysis SAR SECTION 14.0

   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 banana jack adapters essentially perform the same function as the screws they replace. The adapters have been qualified through calculation for this application. The function of all systems, structures, and components has not been changed in any manner. All safety responses to accident conditions remain as previously analyzed in the FSAR/UFSAR. The banana jack adapters are being installed to facilitate testing as required by certaind QTS procedures. They also facilitate circuit jumpering during certain accident conditions as required by various QGA procedures.

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

P04-2-91-137

**DESCRIPTION:**

This modification replaced the two ply tandem type flexible metallic bellows at RWCU supply line-to-drywell penetration X-14. These changes were implemented because the existing bellows elements have been found to show indications of leakage during normal periodic testing.

**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:

   LOCAs 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 new bellow assembly will perform the same safety functions in all plant operating modes as the existing bellows. Installation of the new bellows will reduce the leakage through penetration X-14 and restore primary containment integrity. Therefore, this Minor Plant Change does not create the possibility of any new accident or malfunction.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because by installing the new bellows, the overall leakage rate of penetration X-14 and, theoretically, the overall leak rate of primary containment will be reduced. The overall margin of safety for containment leakage will remain the same or increase by installation of this Minor Plant Change.

**DESCRIPTION:**

The change standardized the main Control Room chart recorders to allow for improved maintenance and spare parts inventory. Obsolete and poorly performing models of chart recorders were replaced with standardized recorder models.

It will also be possible to achieve simulator fidelity after completion of the chart recorder replacement project. Currently, many of the recorder models are obsolete.

**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 Inside Containment (Bounding) | FSAR SECTION<br>UFSAR SECTION | 14.2.4<br>15.6.5 |

   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 recorders have been evaluated by BWRSD (and S&L) and found to be suitable replacement components.

   The new recorders are of a high quality standard and are expected to provide reliable service. Commercial or Class 1E (not required) recorders are purchased with a variety of features normally attributed to Class 1E recorders. The new recorders are, therefore, expected to improve equipment reliability.

The recorders, if failed, have no new failure modes that could cause an accident different than what currently exists.

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

M04-2-87-51-A
Overall Annunciator and Sequence of Event Recorder Systems

**DESCRIPTION:**

This partial modification installed the conduit, conduit supports, cables and piggyback terminal blocks with isolation diodes and jumper wires. It also installed the SER equipment cabinet near Panel 901(2)-34, the SER peripherals and the dual electronic horns at the panel groups 901(2)-3 & 4, 901(2)-5, 901(2)-6, 7 & 8 and 912-1 & 5.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR 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. 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 UFSAR 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) 3.7.C for the Secondary Containment system's penetration seals and 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.

**DESCRIPTION:**

Installed fire suppression and detection systems in several areas of the plant.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because fire suppression and detection is not classified as Safety Related in the FSAR. Seismic installation of equipment ensures adequate operation of existing safety equipment and safety related equipment in the immediate area of installation.

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 does not interfere with any existing safety systems.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because suppression and detection is not Safety Related. The reliability of the Fire Protection system is increased by providing this additional suppression and detection.

**DESCRIPTION:**

The change was to standardize the main Control Room chart recorders to allow for improved maintenance and spare parts inventory.

**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 (Bounding) 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 replacement recorders have been evaluated by BWRSD (and S&L). The proposed replacements and minor design changes have been found to be suitable for the applications.

   There are a number of minor changes made to the instrument loops to increase instrument accuracy, linearize signals, and improve the HFE characteristics of the design. These enhancements to the design do not inadvertently degrade the performance eof the instrument loops in any way.

   The new recorders are of a high quality standard and are expected to provide reliable service. Commercial recorders are purchased with all of the applicable features (except for QA paperwork) of Class 1E recorders.

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

M04-2-89-167
Penetrations

**DESCRIPTION:**

This modification changed the piping configuration at various penetrations to enable leak rate testing to be performed. This included the installation of test taps, drain taps, and block valves as required by the existing configuration. The specific penetrations and their systems are as follows: X-16A and X-16B, core spray; X-20, clean demineralized water; X-21, service air; X-22, instrument air; X-23 and X-24, reactor bldg. closed cooling water; X-47. standby liquid control; X-216. instrument air.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because this modification does specifically affect safety related piping, however, the configuration change is minimal and does not alter existing fluid characteristics. Additionally, analysis has shown that piping and support loads will not result in stresses that exceed the allowables. Therefore, the probability of an occurrence or consequence of an accident or malfunction if equipment important to safety will not increase.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because although the piping configuration will be altered, the flow characteristics will not be changed. Additionally, installed piping and supports have been analyzed to verify that the loads do not result in stresses in excess of the allowables. To ensure that system safety function will be maintained, the proper position of all new and relocated valves will be controlled by updated plant operating procedures. Therefore, there are no new accident or malfunction possibilities created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because since no system functions will be altered and the resultant loads do not result in stresses that exceed the allowables as defined in the Tech. Spec basis, there will be no decrease in the margin of safety.

M04-2-92-013-A

**DESCRIPTION:**

Quad Cities station installed In-Core/In-Pipe Electro-Chemical Potential (ECP) and Double Cantilevered Beam (DCB) crack growth monitoring systems on Unit 2 during the Q2R12 refueling outage. This test equipment will help evaluate the effectiveness of the Hydrogen Water Chemistry System in mitigating IGSCC.

This monitoring system requires a large number of conductors to carry the instrumentation signals from the ECP and DCB sensors installed in the drywell to the Data Acquisition System (DAS) located on third floor reactor building. Since enough spare electrical conductors were not available in existing penetrations, it was necessary to install a new permanent instrument penetration.

This partial modification removed the existing pipe cap at penetration sleeve X-100A and installed a weld neck flange, shielding ring, and electrical canister assembly manufactured by Conax Buffalo Corp. The electrical canister contains two types of instrumentation cable feedthroughs and spare ports for future use.

This modification required an update to FSAR table 6.2-7.

This modification is safely related because of the primary containment boundary.

**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 this modification does not interface with or affect any systems other than primary containment. Plant operations are not affected. There are no new failure modes as a result of this modification.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the basis of the technical specification related to primary containment are not affected by this modification.

**DESCRIPTION:**

A Stress Corrosion Monitoring (SCM) system was installed as a joint venture with the Electrical Power Research Institute (EPRI), General Electric, and Commonwealth Edison. This portion of the modification involved the installation of modified blind flanges on the 3" reactor recirculation lines (loops A & B) and on the reactor vessel drain line which was being modified to a 3" line as part of Engineering Change Notice (ECN) 04-00802M. The modified blind flanges contain Electro-Chemical Potential (ECP) probes and Double Cantilevered Beam (DCB) crack growth sensors which provide in-pipe monitoring of the potential for IGSCC within the reactor cooling water piping system. The data obtained will be used for comparison with data obtained from the in-core ECP probes which were installed in modified LPRM tubes. Specifically, the SCM system and the Hydrogen Water Chemistry (HWC) system injection test provide the following:

1. Control of hydrogen injection rate based on measurement of Electro-Chemical Potential (ECP) in different coolant flow regions.

2. Establishment of hydrogen water chemistry conditions for protection of reactor internals from Intergranular Stress Corrosion Cracking (IGSCC).

3. Monitoring of crack arrest or attenuation of precracked Double Cantilevered Beam sensors.

**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 15.6.2, 15.6.5

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 of the modified blind flanges does not introduce any potential for malfunction of any previously analyzed or unanalyzed systems or components because the consequences of any potential cooling water flow blockage has been shown to be negligible.

   Any postulated loss of coolant cause by a leakage of the sealing area around the probes can be made up by the feedwater and/or HPCI systems.

   Therefore, the installation of the modified flanges does not create any possibility of an accident or malfunction of a different type from those previously evaluated in the FSAR/UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because Technical Specification 3.6.D provides leakage restrictions for the drywell. This modification does not change these requirements.

M04-2-92-013-B

**DESCRIPTION:**

Replaced an existing 2" flanged decon connection on the reactor vessel drain line 2-1265-2" with a new 3" flanged connection to allow for future use of an in-pipe ECP monitoring flange assembly.

**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 RWCU system and its ability to operate are unchanged due to the revised decon flange size. This modification will not adversely impact systems or functions nor will the possibility of an accident malfunction be created that is different from those previously evaluated in the SAR.

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

**DESCRIPTION:**

Provided oxygen injection lines to downstream of the last stage of SJAE to permit increased oxygen injection rates for the SCM program. Existing injection point upstream of the first stage SJAE were not be removed.

**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 Off-gas and Oxygen Injection piping systems and their ability to operate are unchanged due to rerouting the oxygen injection line. UFSAR Sections 5.4.3, 5.4.3.2.2 and Figure 11.3-6 require minor editorial changes due to this modification. These changes, per the attached preliminary FSAR submittal review form QTP 200-S6, will not adversely impact the system or function nor will the possibility of an accident malfunction be created that is different from those previously evaluated in the SAR.

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

M04-2-88-016
Safety Related MOVs

**DESCRIPTION:**

The 2-rotor configuration of the existing 2-rotor MOVs were kept unchanged; however, the torque switch open bypass (TSO) contact was be eliminated with minor wiring changes by this modification. The valve's limit switches were reset to more accurately reflect the valve position. All other electrical and mechanical functions of the valves modified remained the same.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because by removing the TSO contact from the valve's open control circuit, the position of the valves being modified will be more accurately reflected by the valve's limit switch setting, and all other electrical and mechanical function of these valves will remain unchanged. The single failure events and design basis accidents as analyzed in the FSAR/UFSAR have been reviewed and are not affected by this modification. Thus, the probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as analyzed in FSAR/UFSAR will not be increased.

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 change the intended electrical and mechanical functions of the MOVs involved (except that the valve's limit switches being reset to reflect the accurate valve position) nor do the failure modes previously evaluated and analyzed. Furthermore, because of the fail-safe and backup features associated with the valves involved in this modification, the possibility for an accident or malfunction of a different type than any previously evaluated in the FSAR/UFSAR will not be created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Technical Specifications for Unit 2 of the Quad Cities Station have been reviewed. The systems described in the Tech Spec will not be affected by this modification. Specifically, Valves 2-220-2, 2-1001-20, 2-1001-21, 2-1601-57, and 2-1001-47 are the only primary containment isolation valves (among the 50 valves being modified) as listed in Table 3.7-1 of the Tech Spec.

The required maximum operating times, normal operating positions, and actions on initiating signal of these valves will not be affected by this modification. Therefore, no change is required to the Technical Specifications or their bases, and the margin of safety will not be reduced by the design covered by this modification.

M04-2-88-016
Safety Related MOVs

**DESCRIPTION:**

Existing internal limit switch assembly for safety related MOVs were removed. A new safety-related and environmentally qualified 4 rotor limit switch assembly was installed with minor wiring changes. The torque switch open bypass contact was relocated to the fourth rotor and is independently set from the valve's open indication contacts. All rotor and valve limit switches were reset to their appropriate setpoints. The electrical and mechanical functions of these modified valves remain the same. A listing of the 32 MOVs involved in this modification is provided on Page 1a, Exhibit D, NSED Procedure Q.6.1, Rev. 0.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because a separation of the non-safety related indication function of the limit switch from the safety-related torque switch override function will enhance the reliability of the operation of the MOVs being modified, and the electrical and mechanical functions of these valves will remain unchanged. Furthermore, the single failure events and design basis accidents as analyzed in the FSAR/UFSAR have been reviewed and are not affected by this modification. Thus, the probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the FSAR/ UFSAR, will not be increased as a result of this modification.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the modification to the internal limit switch assemblies for these safety-related MOVs does not change their intended electrical and mechanical functions nor do the failure modes previously evaluated and analyzed. Thus, the possibility for an accident or malfunction of a different type than any previously evaluated in the FSAR/UFSAR will not be created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Tech Spec for Unit 2 of the Quad Cities Station have been reviewed. None of the systems described in the Tech Spec will be affected by this modification. Specifically, Valves 2-2 0-1, 2-1001-50, 2-1001-2, 5, 2-1301-16, 17, 2301-4 and - 5, are the only primary containment isolation valves (among the 32 valves modified for the limit switch replacement) as

listed in Table 3.7-1 of the Tech Spec. The required maximum operating times, normal operating positions, and actions on initiating signal of these valves will not be affected by this mode. Therefore, no change is required to the Tech. Spec. or their bases, and the margin of safety will not be reduced by the design covered by this mod.

**DESCRIPTION:**

This change replaced the existing Henry Pratt (HP) 2-1601-20B, 24, 56, and 60 valves. This type of valve was replaced due to the poor performance history experienced during Local Leak Rate Testing (LLRT) and frequent maintenance required. The HP 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. The instrument air supports for the 2-1601-20B, 24, 56, and 60 valve were modified to meet the FSAR/UFSAR requirements as required by NRC Generic Letter 88-14.

**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 15.6 |
   | Loss of Instrument Air | UFSAR SECTION 9.3.1.1 |

   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 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 design 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 Related equipment. The FSAR will require a revision to Table 6.2-7 "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. The reinforcement of the instrument air lines supports will not change the function of the existing system. The changes are being made to support the design basis loads established in the FSAR/UFSAR.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the instrument air supports for the 2-1601-23, 56 and 63 valve will be reinforced to meet the FSAR/UFSAR design based loads. The piping support modifications are required to bring the piping/supports within the Mark I Containment Analysis and seismic analysis when the Jamesbury valves are installed. The margin of safety will not be reduced due to the installation of this modification.

M04-2-87-002-E
2C RHRSW Pump Impeller Replacement

**DESCRIPTION:**

This mod practice will reduce high vibration amplitudes at vane pass frequency on the 2-1001-65C RHRSW Low Pressure 85F pump. This vibration is caused by dynamic forces created by the interaction between the impeller vane pressure wake and the volutes. Increasing the gap between the volutes inner diameter and the impellers outer diameter (referred to as "Gap B" will reduce these dynamic forces.

The pump internal casing will be modified by grinding the existing double volute inlet edges (cut-waters).

**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 design will modify the RHRSW pump internals by increasing the difference between the volute's inner diameter and the impeller's outer diameter (Gap B). This will decrease the dynamic force created by the interaction between the impeller vane pressure wake and the volutes, reducing the vibration amplitudes occurring at vane-pass frequency. The reliability of the pump and its components are increased and pump performance will be improved. No new accidents or equipment malfunctions are created by this design.

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