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GCT-02-30

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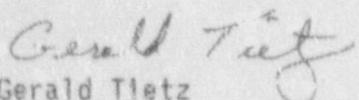
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

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 July 1992, for Quad-Cities Station Units 1 and 2, DPR-29 and DPR-30. A summary of the safety evaluations are being reported in compliance with 10CFR50.59 and 10CFR50.71(e).

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION


Gerald Tietz
Technical Superintendent

GCT/dak

Enclosure

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

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TEMPORARY ALTERATION

DESCRIPTION:

Install a 2-pen recorder in the place of the removed temperature recorder 1-263-105. The old GE temperature recorder was removed to be worked on.

SAFETY EVALUATION SUMMARY:

- i. 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 digital, Yokogawa recorder is more reliable and more accurate than the old GE recorder. The temperature recorder is required per Tech. Specs. to monitor the Reactor Vessel shell and flange temperature during Reactor heatups and cooldowns. The installation of the Yokogawa recorder is necessary to comply with this Tech. Spec. while the old GE recorder is being repaired. Based on these factors, the change does not create any possibility of an accident or malfunction of any type different from those evaluated in the FSAR.
3. The margin of safety, as defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Update the 1-0220-59B feedwater check valve to the vendor's current design. The existing valve uses a set screw to lock the valve internal hinge pin to the disc. The proposed change will use a "through pin" to lock the hinge pin to the disc. The through pin will extend through the diameter of the hinge pin rather than surface locking.

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
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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 no new failure modes exist as a result of this change. The upgrade is essentially like for like.
3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because for HPCI to inject into the vessel 1-0220-59B must close. QTS 105-4 is performed each refuel outage to insure valve closes against backflow. This test will continue to be performed to insure the changes does not affect the check valve or prevent the valve from closing against backflow.

DESCRIPTION:

Upgrade the 1-0220-59A feedwater check valve to the vendors current design. The existing valve uses a set screw to lock the valve internal hinge pin to disc. The proposed change will use a "through pin" to lock the hinge pin to the disc. The through pin will extend through the diameter of the hinge pin rather than surface lock.

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	UFSAR SECTION 15.2.2
Turbine Trip	UFSAR SECTION 15.2.3
Loss of Condenser Vac.	UFSAR SECTION 15.2.5
Loss of Normal FW Flow	UFSAR SECTION 15.2.7
Inadvertant MSIV Closure	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 no new failure modes exist as a result of this change. The design function is unaffected as well. The upgrade is essentially like for like.
3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the changes affecting the Tech Spec requirements are in a conservative direction, therefore the margin of safety is not reduced. The valve will be monitored per QAP 400-32 to ensure that the valve disc is intact and closes against backflow.

NWR's #Q-91221 and Q-91222

DESCRIPTION:

NWR's Q-91221 & Q-91222 will be used to implement modification MO4-1(2)-91-009, which will replace the existing HPCI control relay 2330-108 (HPCI Low Pump Suction Pressure Trip) with an AGASTAT Model E-7012 time-delay-energization relay. The TDE relay will be set to 2.5 seconds to maintain this delay prior to tripping the HPCI turbine on low pump suction pressure.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
 - The change alters the initial conditions used in the UFSAR analysis.
 - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
 - Operation or failure of the changed structure, system, or component could lead to the accident.

The accidents which meet these criteria are listed below:

LOCA

UFSAR SECTION 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 failure of HPCI and RCIC have been previously evaluated (UFSAR 6.2.6) no possibility of an accident not previously analyzed in the UFSAR is created. Although the NWR/Modification replaces a control relay in HPCI subsystem, the RCIC system is affected when the control power isolation results in de-energization of relay 2330-150, and results in the transfer of RCIC pump suction to the suppression pool. This transfer does not render RCIC system inoperable. In the worst case (failure or inoperability of both high pressure ECCS systems, HPCI and RCIC), the ADS and LPCI/RHR Low Pressure ECCS Systems are provided as backups.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because Technical Specification Section 3.5.F/4.5.F states that failure or inoperability of any ECCS system will not impare the remaining systems from performing their safety function(s). Implementation of this NWR/Modification will require making HPCI inoperable, but RCIC will be in connection with it's primary (i.e., "ultimate") suction source and fully operable. This configuration will allow RCIC to meet the design function of supplied cooling water to the core when the reactor is isolated from the main turbine and feedwater is unavailable. No other ECCS system is affected by this implementation of the NWR. All specified parameters of the Tech Spec Margin of Safety are not decreased or reduced.

ALARA DOSE REDUCTION REQUEST 92-0060

DESCRIPTION:

Place four 1' x 4' lead blankets on the steel checker plate above each of the Unit Two Reactor Building Floor Drain Sump pumps.

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 due to the fact that the steel checker plate is capable of supporting (AUL) 133 lbs/ft² and only 40 lbs/ft² is being added by the addition of the four lead blankets, the steel checker plate will still perform its intended function. Therefore, the operation of the sump pumps will not be affected in any way by the addition of the lead blankets. Due to these facts, no new nor previously evaluated accidents or malfunctions will be created or affected.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

TEMP PROCEDURE FOR DP TEST OF MO 2-1001-36A

DESCRIPTION:

Provide steps to demonstrate the ability of RHR valve MO 2-1001-36A to stroke open and closed against its design basis differential pressure under system flow 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:

Intermediate/Large Line Break	UFSAR SECTION	6.2.4, 6.2.7
LOCA	UFSAR SECTION	14.2.4

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the 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 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, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

TEMP PROCEDURE FOR DP TEST JF MO 2-1001-36B

DESCRIPTION:

Provide steps to demonstrate the ability of RHR valve MO 2-1001-36B to stroke open and closed against its design basis differential pressure under system flow 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:

Intermediate/Large Line Break	UFSAR SECTION	6.2.4, 6.2.7
LOCA	UFSAR SECTION	14.2.4

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the 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 2-1001-36B 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 for any Technical Specification, therefore, the safety margin is not reduced.

COMPONENT REPLACEMENT

DESCRIPTION:

Change model of mechanical seal for the 8G1 (high pressure) RHRSW pump from 880-34 to 891-34. New model will allow stationary seal ring to "float" and absorb static pressure. New design is functionally identical to original.

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 mechanical seals are functionally identical to the originals. The new model incorporates a floating seal ring design which will allow deflection of the gland plate while maintaining the surface contact and seal integrity. Replacement model uses similar hard face materials (Silicon-Carbide over Tungsten-Carbide) for application in services water environments.

This design change is the result of special test 1-161 and evaluations by Chesterton (Seal Manufacture) and ABB Impell Engineering Corporation. BWR Engineering has reviewed and approved their recommendations.

Test results determined gland plate deflection is a contributing to excessive seal wear and shortened life.

The change will increase reliability of the RHRSW pumps and does not adversely impact any other system or component.

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

TEMPORARY ALTERATION 92-2-61

DESCRIPTION:

Supplement to Safety Evaluation SE-92-67.

Evaluate effect of removing sheet metal from around one tube in the 2C RHRSW Vault room cooler. Removal is required to allow repair of leaking tube documented in Temp. Alt. 92-02-61 and SE-92-67.

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-Post LOCA
Containment Heat Removal

UFSAR SECTION: 6.2.2 paragraph 6.2-50

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 temporary repair to the room cooler requires the removal of some sheet metal to allow access to the leak and facilitate repairs. The material will only be removed from around the one tube. The remaining tubes will be unaffected.

Removal of the material constitutes less than one percent of the total mass of the cooler. The change is insignificant to the seismic loading of the cooler.

TEMPORARY ALTERATION 92-2-61
(CONTINUED)

The sheet metal is located two inches from the inlet header. The overall distance to the next support is approximately 40 inches. The removal of the sheet metal would constitute a change of about five percent in the length between supports. All the cooling coils are in semi-contact by cooling fins, this reduces individual motion of one tube. Seismic loading changes for the individual tube would be insubstantial.

An engineering evaluation has been performed to analyze the removal and repair. It was determined that the repair will have essentially no effect on the operation or performance of the room cooler. (BAA letter, dated May 8th, 1992, CHRON# 0115585).

The effect of the patch, action to facilitate the repair, and potential losses of RHRSW pumps and coolers are discussed in Safety Evaluation SE-92-67.

No accidents, malfunctions or failures are created that have not been 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.

Approval and Authorization of Permanent Procedures

DESCRIPTION:

Delete requirement to include QAP 1100-T11, Checklist for review of permanent procedures, for procedures being deleted.

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 checklist is used to provide a detailed listing of items to be reviewed when a procedure is revised or created. Currently it is also applied when a procedure is deleted. Since the purpose of a detailed checklist is to verify all required elements exist within the procedure, it is unnecessary and illogical to review these items when deleting the procedure because the steps will no longer exist. Since no new procedure steps are being implemented for use, in the procedure revised using this new process, this change cannot 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.

DESCRIPTION:

Add a step to allow for the disabling of rod block for an inoperable accumulator if the Control Rod has been fully inserted and disarmed.

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 control rod being fully inserted in the core out of sequence is an analyzed condition. This is a position that inoperable control rods are placed. The Control Rod pattern adjustment would be required sometime after this event. This situation is allowed by Technical Specifications 3.4.D:

If a Control Rod with an inoperable accumulator is (e.g.) full in and its directional control valves are electrically disabled it shall not be considered inoperable and the rod block associated with that inoperable Accumulator may be bypassed.

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

DESCRIPTION:

1. Provides the Operator with more complete guidance for isolating and returning a Control Rod HCU to service as well as venting a CRD after maintenance.
2. Provides two different PREREQUISITES to be satisfied a) with the Vessel Head tensioned and b) with the Vessel Head detensioned.
3. Provides a new PRECAUTION for prevention of contamination of personnel should the CRD System water be from a contaminated source.
4. Provides a new PRECAUTION for prevention of fuel movement with a Control Rod withdrawn and FULL-IN indication will NOT be jumpered out.
5. Provides new LIMITATIONS AND ACTIONS to
 - a. Ensure shutdown margin is met by fully inserting and electrically disarming two Control Rods in all directions around the withdrawn rod.
 - b. If this cannot be established, thus perform QCOP 300-25.
6. Provides steps to pull fuses for the Control Rod being removed from the core.
7. Provides direction to verify Reactor remains subcritical after the Control rod is withdrawn.

Provides steps to allow for Refueling Interlock checks if the Head is tensioned and not tensioned.
9. Incorporates steps from QCOP 300-8 to valve out and electrically disarm a control rod.
10. Provides extra steps to ensure proper drive purging by positioning to various locations before going to full-in.

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. The accidents which meet these criteria are listed below:

Loss of Coolant Accident
Resulting from Piping breaks
inside containment.

UFSAR 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 change does not adversely impact systems or functions as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR. The UFSAR Loss of Coolant Accident assumes that the Reactor is pressurized to 1000 psi and a full Reactor Recirculation Pump suction piping circumferential break occurs. The conditions assumed for the execution of this procedure are as follows:

- Reactor is in cold shutdown.
- Reactor mode Switch is locked in REFUEL Mode.
- The 25 Control Rod array (5X5 rod array for a peripheral rod) of fully inserted and electrically disarmed Control Rods is in effect prior to withdrawing the Control Rod for maintenance.
- Verification of Shutdown Margin is performed while the Control Rod is being withdrawn and after fully withdrawn.
- The Reactor Head may or may not be tensioned but is vented to atmosphere.
- This procedure allows for only one Control Rod Drive to be pulled.
- Technical Specifications Section 3.10.D., Control Rod and Control Rod Maintenance allows for the provision of withdrawing Control Rods provided all conditions in Section 3.10.D are met.

In view of the foregoing, the following demonstrates that the changes does 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:

1. The Reactor is Cold shutdown.
2. Shutdown Margin will be maintained by 25 Control Rod array (5X5 rod array for a peripheral rod) of fully inserted and electrically disarmed Control Rods.
3. No rapid depressurization of the Reactor can occur because the Reactor is depressurized.
4. It is not expected that other Control Rods will be withdrawn as required by procedure.

5. Providing the option to pull the Scram Inlet and Outlet Valve fuses provides added protection to prevent an accident or malfunction of the Control Rod while being worked on and does NOT affect the capability of any other Control Rod to perform its intended function. By maintaining the same system integrity, NO reduction of system capability is compromised and the analysis described in the UFSAR remains valid.
 6. The change would allow for CRD maintenance without verifying all Refueling Interlocks, may only be performed when the Head is tensioned. With the vessel head tensioned fuel movement cannot take place, thus the only Refueling Interlock required to prevent inadvertent criticalities is Refueling Mode - One Rod Out Permissive.
 7. The analyzed Refueling Accident - Dropped Fuel Bundle is affected only if the Head is NOT tensioned, at which time the Refueling Bridge Interlocks are required to be operable. If the Head is tensioned, then the Dropped Fuel Bundle Accident does NOT apply because thus NO fuel can be transferred into/out of the Reactor with the Reactor Head in place. Subsequently, the UFSAR analysis for Dropped Fuel Bundle with the Head detensioned remains unchanged, and, does NOT apply for the situation when the Head is tensioned.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

1. Provides instructions for more complete guidance for isolating and returning a Control Rod HCU to service as well as venting a CRD after maintenance.
2. Allows any number of Control Rods to be removed for the purposes of extended CRD maintenance due to the provision that the fuel surrounding the Control Rod is removed from the core.
3. Provides specific instructions of how to jumper out Rod Out Blocks from the RRA and RMC System or jumper of RPIS simulator installation.
4. Provides steps to pull fusion from the Control Rod being removed from the core.
5. Provides additional CAUTION for inserting a Control Rod for the first time after outage related work.

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:

Refueling Accident	UFSAR SECTION	15.4.10
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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 adversely impact systems or functions as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR. The UFSAR states that the Reactor core is designed to remain subcritical with one Control Rod fully withdrawn even if it is assumed that a fresh fuel assembly is dropped into an empty fuel space in an otherwise fully constituted core. At least two Control Rods adjacent to the empty space must be withdrawn for a nuclear excursion to occur. Electrical interlocks that meet single failure criteria are included into the design to prevent such an excursion. With the Reactor Mode Switch in "REFUEL" a rod withdrawal interlock prevents the withdrawal of more than one Control Rod. When any one rod position indicator shows that a rod is withdrawn from the fully inserted position, the interlock is effective.

The change provides reduced consequences for a Refueling Accident (i.e. Dropped Fuel Bundle) because removing all the fuel from around the Control Rod reduces the amount of fuel in the vessel reducing the probability of number of ruptured fuel rods in the UFSAR Analysis. The procedure allows for Any number of Control Rods to be withdrawn for extended CRD maintenance and, with the removal of more fuel, the analyzed conditions and subsequent consequences tend to be reduced.

2. Removal of the fuel from the cell of the Control Rod being worked on reduces the probability of an inadvertent local criticality as well as a overall core criticality thus providing a better Shutdown Margin than that provided for a fully loaded core.
3. This procedure is only applicable in the REFUELING Mode. Technical Specifications Section 3.10.E., EXTENDED CORE MAINTENANCE allows for the provision of withdrawing any number of Control Rods provided all conditions in Section 3.10E are met and already analyzed for. Bypassing the interlock of ONE ROD OUT permissive with the Control Rod's cell completely empty does NOT violate the intended function of the interlock to perform its intended function. Under the circumstances where any other Control Rod is withdrawn, the core is expected to remain subcritical based upon the analysis. The bypassing of the Accumulator and the RPV position interlock is in effect for ONLY that (those) Control Rods. In the unlikely event that more than one Control Rod be moved, the electrical interlocked described above would still be fully functional and thus prevent any further movement of Control Rods.
4. All three methods of bypassing the REFUEL Mode ONE ROD OUT Permissive do NOT defect this interlock for any other fully inserted rods.

5. The method of bypassing a RMC - CRD ACCUMULATOR TROUBLE Control Rod BLOCK due to a low accumulator pressure caused by depressurizing the accumulator as required to perform work on the drive, does NOT bypass any other RMC accumulator trouble Control Rods blocks for other Control Rods and therefore maintains the same level of confidence of the interlock as described in the UFSAR.
6. Providing the option to pull the Scram Inlet and Outlet Valve fuses provides added protection to prevent an accident or malfunction of the Control Rod while being worked on and does NOT affect the capability of any other Control Rod to perform its intended function. By maintaining the same system integrity, No reduction of system capability is compromised and the analysis described in the UFSAR remains valid.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Added steps to vent filter prior to placing into operation and steps to vent inlet and outlet piping of suction filter.

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 adversely impact systems or functions so as to create the possibility of an accident or malfunction of a type from those evaluated in the UFSAR. This procedure change provides for a more thorough venting of the CRD suction filter prior to placing into operation. This venting will reduce the amount of air being transferred to the CRD system from placing a new CRD suction filter into operation. This will reduce the number of Control Rod drives from becoming air bound which will reduce the number of drives requiring venting, double clutching, and increasing CRD drive pressure to be able to move the drive.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Provides the Operator with more complete guidance to identify and take corrective action in the event of a Control Rod drifting into/out the core.

The guidance covers all modes of Reactor Operation and provides a listing of fuses to be checked which was not previously provided in QOA 300-11.

Incorporate the recommendations of SER 14-89, Multiple Rod Drifts due to Low Air Pressure.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
 - The change alters the initial conditions used in the UFSAR analysis.
 - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
 - Operation or failure of the changed structure, system, or component could lead to the accident.

The accidents which meet these criteria are listed below:

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 condition where a Control Rod inadvertently drifts into/out of the core is annunciated in the Control Room. The indication that the operator will have under these circumstances will be the Alarms 901(2)-4 A-3, ROD DRIFT and E-3 (A-2), ROD OVER TRAVEL as well as improper position indication on Panel 901(2)-5 and RHM error messages.

The procedure provides enhanced direction the Operator which is required to be taken based upon the SYMPTOMS provided for ALL modes of operation (i.e. Refueling, Shutdown, Startup and or Run) regardless of the mode of the CRD System. The change to this procedure provides the same level of protection, therefore:

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1. does NOT change existing equipment function so as to create the possibility of an accident or malfunction of a type different from those evaluated in the USFAR.
 2. does NOT affect the probability of equipment failure.
 3. does not introduce any new failure modes that have not been previously analyzed in the UFSAR or Technical Specifications.
 4. provides better indication of modes of equipment failure not previously provided in QOA 300-11.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Added steps to check for failed fuses on CRD insert and withdrawal solenoids.

Added immediate operator actions to check that NO Rod block or RWM Select Lock exist and that the Control Rod is properly selected.

Added a Caution NOT to scram a stuck control rod as damage may be experienced.

Added a step to verify proper valve lineup.

Provide increments that pressure should be increased each time the Drive pressure is required to be increased to move a control rod.

Added a step to refer to Control Rod outage report to track the inoperable Control Rod and to meet the Technical Specification 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:

None

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because these change will NOT adversely impact system or functions so as to create the possibility of an accident or malfunction of a type different from those evaluated in UFSAR. This procedure change just provides for an earlier recognition of most causes of this problem. These problems would be found with or without this change, just clarifies these potential problem.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Provide steps during an event where a Control Rod was found withdrawn or inserted by two notches and a QNE can NOT be contacted to insert the affected Control Rod to position 00 and a step to contact a QNE if more than one Control Rod was found mis-positioned.

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 to this procedure will NOT adversely impact systems or function so as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR. The insertion of mispositioned Control Rod is a conservative safe condition to take if a QNE can not be contacted. Time is of the upper most importance on mispositioned Control Rod. The longer a Control Rod is out of proper position the more severe localized power may become and the more severe clad damage may be experienced. The insertion of the Control Rod will reduce the localized power levels and prevent clad failure.

Control Rod being fully inserted in the core out of sequence is an analyzed condition. This is a position that inoperable Control Rods are placed. The Control Rod pattern adjustment would be required sometime after this event.

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

DESCRIPTION:

Added a note stating that the NON-standby CRD pump(s) must have its discharge valve closed.

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 adversely impact the CRD system or its function so as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR. This change actually will prevent a possible malfunction of over-pressurization of low pressure suction piping and also makes the standby CRD pump more readily available for service. In the present configuration the CRD pump may be immediately started and discharge valve opened where previously an operator would have to be dispatched to the CRD pump area to close the standby CRD pump discharge valve prior to starting the pump.
3. The margin of safety, as defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

CRD Weekly Exercise

DESCRIPTION:

Changed procedure from "Q" to "QC" format. Added References, Limitations and Actions, Performance Acceptance Criteria, and included the applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification. Added check mark brackets, initial lines, and sign-off lines to 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.
 - 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 procedure change does not affect any systems or functions. It only adds References, Limitations and Actions, Performance Acceptance Criteria, and includes the applicable portion of QOS 300-S1 as Attachment A, added additional step to procedure for clarification, and added checkmark brackets, initial and sign-off lines to procedure. Therefore it does not create the possibility of a new 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.

DESCRIPTION:

Changed procedure from "Q" to "QC" format. Added References, Limitation and Actions, Performance Acceptance Criteria, included the applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification, and added checkmark brackets, initial and sign-off lines to 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.
 - 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 procedure change does not affect any Systems or Functions. It only adds References, Limitations and Actions, Performance Acceptance Criteria, includes the applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification, added checkmark brackets, initial and sign-off lines to procedure. Therefore it does not create the possibility of a new 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.

DESCRIPTION:

Changed procedure from "Q" to "QC" format. Added References, Limitation and Actions, Performance Acceptance Criteria, included applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification, added checkmark brackets, initial and sign-off lines to 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.
 - 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 procedure change does not affect any systems or functions. It only added References, Limitations and Actions, Performance Acceptance Criteria, and includes the applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification, added checkmark brackets, initial and sign-off lines to procedure. Therefore it does not create the possibility of a new accident or malfunction.
3. The margin of safety, as not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

DESCRIPTION:

Additional prerequisites were added to ensure plant is in a condition to start the CRD pump (electrical supplies, scram reset or charging water valve closed) and added a precaution to minimize system shutdown.

Added a note and a limitation stating that the NON running CRD pump(s) must have its discharge valve closed.

In the body of procedure a detailed series of steps are provided for placing the FCV into operation (old procedure just stated to place in to operation electrically and pneumatically).

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
 - The change alters the initial conditions used in the UFSAR analysis.
 - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
 - Operation or failure of the changed structure, system, or component could lead to the accident.

The accidents which meet these criteria are listed below:

None

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because these changes do NOT adversely impact the CRD system or its function so as to create the possibility of an accident or malfunction of a type different from those evaluated in the UFSAR. The change to close the discharge valve on the NON running CRD pump actually will prevent a possible malfunction of over-pressurization of low pressure suction piping and also makes the standby CRD pump more readily available for service. In the present configuration the CRD pump may be immediately started and discharge valve opened where previously an operator would have to be dispatched to the CRD pump area to close the standby CRD pump discharge valve prior to starting the pump. The other changes would be required to be available or performed in the first place to startup the system.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

CRD Daily Exercise

DESCRIPTION:

Changed procedure for "Q" to "CC" format. Added References, Limitations and Actions, Performance Acceptance Criteria, included the applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification, added checkmark brackets, initial and sign-off lines to procedure.

SAFETY EVALUATION SUMMARY:

- i. 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 procedure change does not affect any systems or functions. It only adds References, Limitations and Actions, Performance Acceptance Criteria, includes the applicable portion of QOS 300-S1 as Attachment A, added additional steps to procedure for clarification, and added checkmark brackets, initial and sign-off lines to procedure. Therefore it does not create the possibility of a new 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.

Temporary Alteration 92-1-37

DESCRIPTION:

Installation of temporary cooling lines from domestic (well) water to emergency cooling supply valve 1-3999-645 outlet connection. Two 3/4" supply hoses from 3/4" well water supply lines on 595' elevation of the Turbine Building will be utilized for this purpose. Temporary Alteration also will require installation of blank side of spectacle flange into service water supply piping to prevent cross-connection of service water and domestic water.

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:

Inadvertent closure of Main Steam Isolation Valves	UFSAR SECTION	15.2.4
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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 IA Instrument Air Compressor will still operate as designed with well water as a cooling source rather than service water. There is sufficient backup air supply utilizing service air and the other available instrument air compressor as needed. A loss of instrument air accident was previously analyzed in UFSAR Section 9.3.1.1 and 15.2.4.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

Temporary Procedure # 7945

DESCRIPTION:

Allow for use of normal Service Water instead of RHR Service Water as a cooling medium for the refrigeration condensing unit 1/2-9400-102 of the "B" train of Control Room HVAC.

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 "B" train of Control Room HVAC was designed to allow the use of either normal or RHR Service Water as the cooling medium for the refrigeration condensing unit 1/2-9400-102. Therefore, using normal Service Water will not adversely impact the Control Room HVAC system and cannot 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.

DESCRIPTION:

Install a time delay relay in the first floor Turbine Building to Reactor Building interlock doors circuitry and the 1/2 Diesel Generator Room.

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
 - The change alters the initial conditions used in the UFSAR analysis.
 - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
 - Operation or failure of the changed structure, system, or component could lead to the accident.

The accidents which meet these criteria are listed below:

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

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

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

DESCRIPTION:

The 2330-108 relay in the 90X-39 panel is to be replaced with a TOE time delay relay. This provides a 2.5 second time delay (where the low suction pressure signal must be present) prior to tripping the HPCI turbine. The low pump suction pressure and high condenser vacuum trips are also inhibited during an emergency initiation of HPCI (i.e., when indications are present of a high drywell pressure or low-low reactor water level).

SAFETY EVALUATION SUMMARY:

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
 - The change alters the initial conditions used in the UFSAR analysis.
 - The changed structure, system or component is explicitly or implicitly assumed to function during or after the accident.
 - Operation or failure of the changed structure, system, or component could lead to the accident.

The accidents which meet these criteria are listed below:

Small Break LOCA

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 affects the HPCI system, only. The potential failure of HPCI, a single emergency core cooling subsystem, is described in section 6.2.6 of the FSAR/UFSAR. The failure of HPCI is a previously analyzed condition. The Automatic Pressure Relief (APR) system and low pressure ECCS subsystems are the backups for a loss of HPCI.

The logic changes described in this modification create an interface between the HPCI initiation logic and the turbine trip logic (both logic are contained in the same control circuit). This interface is intentional and designed to reduce the probability of spurious failures (i.e. turbine trips) causing HPCI to fail to perform its design function during an accident.

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The failure modes, which have been impacted by the change, are the reduced protection of the HPCI equipment from off normal conditions (i.e., low suction pressure and high condenser vacuum). The advantage of the reduced spurious trips is seen as more important to safety than the reduced protection from off normal conditions.

A detailed failures analysis was performed by BWRSD with the result that the possibility of a low pump suction pressure or high condenser vacuum pressure trip due to equipment malfunction and/or personnel error are both extremely unlikely events. This protection during manual operation of HPCI is sufficient and should be blocked in an emergency to minimize the potential of spurious HPCI trips.

3. The margin of safety, as defined in the basis for any Technical specification, is not reduced because the modified trip logic does not perform a safety related function other than to protect the HPCI equipment from off normal conditions. Since the modification is to make HPCI more reliable and available in an emergency, the modification does not reduce the margins of safety. The premise that some type of protective equipment can be bypassed in an emergency (to provide better assurance that the equipment will be functioning and not spuriously tripped due to equipment protection devices) has been used in the design of the emergency diesel generator and other Safety Related equipment.