



**Commonwealth Edison**

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GCT-92-44

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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 October 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  
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## TEMPORARY ALTERATION 92-1-68

**DESCRIPTION:**

This temporary alteration makes 3 changes to the Unit 1 125 VDC system. First, jumpers (250 mcm logged cables) are connected between Compt. B04 of 125 V Bus 1A and Compt. C03 of 125 V Bus 1. Second, #14 gauge jumpers (lugged cables) are connected between fuses of undervoltage relay at Compt. B04, Bus 1A and fuses at Compt. C01, Bus 1, which are associated with the DC battery undervoltage alarm in the control room. Third, 400A fuses in Compt. B04 of Bus 1A are replaced with 800A fuses.

**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 with Loop

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 temporary alteration is installed in order to connect the alternate 125V battery/charger to the 125 VDC system while the normal 125 V battery is being tested and recharged. Since both batteries are located in the same battery room, hydrogen gas generation will increase during the time that both batteries are being charged simultaneously. During the time that both batteries are being charged, additional ventilation will be provided by means of opening the battery room door (a non-fire door) and operating a portable fan at the battery room's entrance. This precaution should reduce the possibility of explosion in the battery room due to increased hydrogen gas levels.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the parameters used to establish the Tech Spec Limits are not changed. Tech Spec 3.9B requires that two 125V batteries be operable. By connecting the alternate 125V battery to the 1A battery charger through the temporary alteration, the normal 125V battery can be isolated for testing and the 125V system loads can be supplied by the alternate battery. The normal 125V battery is required to be tested in order to satisfy Tech Spec 4.9B (discharge test surveillance). This Temporary Alteration allows both 3.9B and 4.9B Tech Specs to be satisfied without changing the Tech Spec parameters.

## ALKA Dose Reduction Sheet 92-109

**DESCRIPTION:**

Radiation Protection requested an evaluation to place ten 1 foot by 6 foot lead blankets on scaffolding near the Chemical Decontamination equipment for Q1R12.

This safety evaluation is being written generically to cover all floor loadings that do not exceed the posted live load, due to lead shielding.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

None

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the plant design bases will not be exceeded; therefore, the additional load due to the lead blankets will not create 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:**

Relocate PS-002-1054 from the "B" loop to the "A" loop on the drawing to reflect the as-built condition of the plant.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

Turbine Trip	UFSAR SECTION: 15.2.3
Inadvertant Closure of Main Steam Isolation Valves	UFSAR SECTION: 15.2.4
LOCA 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 no physical change has been made in the plant to the pressure switch.
3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the set point for the pressure switch is set at 45 psig which is 5 psig greater than that required in the Technical Specifications. PS-002-1054 is mounted at 558' 5" and ties into PS-002-1001-74A which is mounted at an elevation of 557' 8". PS-002-1001-74B is also mounted at the same elevation. Since both the 74A and 74B pressure switches are at the same elevation, no head correction needs to be considered in moving PS-002-1054 from the "B" loop to the "A" loop on the drawing. No change was made to this set point or the pressure switch therefore there is no change in the margin of safety.

**DESCRIPTION:**

Change to drawing 4E-1820C.

**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 nothing has physically changed on the SBT system. This drawing change adds wiring details for the SBT instruments 1/2-7541-2A, 1/2-7541-4A and 1/2-7541-12A. The wiring details have not been shown on the drawing before.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.



## TEMPORARY ALTERATION

## DESCRIPTION:

Isolate Differential Pressure Transmitters DPT-1-5741-8318 and DPT-2-5741-8302. These transmitters monitor differential pressure between the Reactor Building and the Regenerative and Non-Regenerative Heat Exchanger Room for each respective Unit One and Unit Two reactor.

## SAFETY EVALUATION SUMMARY:

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

The accidents which meet these criteria are listed below:

None

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this change will restore accurate Reactor Building to atmosphere DP indication and will have no other affect on plant operation. The existing transmitters are disfunctional and therefore isolating them will have no effect on function or operations. The claspers controlled by the DP transmitters will not change position with th's temporary alteration.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

**DESCRIPTION:**

The Radiation Protection Department is placing up to 12 - 1' x 6' lead blankets on the pipe restraints that surround the jet pump risers. Bechtel performed the technical evaluation under SESR 4-1093.

**EVALUATION SUMMARY:**

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 Reactor Recirculation System Jet Pump Riser supports have been evaluated by Bechtel, under SESR 4-1093, to safely support 12 - 1' x 6' lead blankets. As long as this maximum load is not exceeded, none of the UFSAR accident analyses will be affected nor will any new accidents be created.
3. The margin of safety, is not defined in the basis for any technical Specification, therefore, the safety margin is not reduced.



## Unit 1 Degraded Voltage Condition

### DESCRIPTION:

The Nuclear Engineering Department has evaluated the results of the Quad Cities Station degraded voltage analyses (Calculation 8913-67-19-1 Rev. 0 approved July 31, 1992, for Unit 1, Division I, Calculation 8913-69-19-1 Rev. 0 approved May 5, 1992, for Unit 1, Division II and Calculation 8913-67-19-3 Rev. 0 approved July 31, 1992, for Second-level Undervoltage Relay Setpoint for Quad Cities Unit 1, Division I & II) with regard to 10CFR50.59. Our conclusion is that the results of these analyses do not involve an Unreviewed Safety Question.

### SAFETY EVALUATION SUMMARY:

The probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the CECO System Planning Department has studied the expected Quad Cities Station 345 KV switchyard voltages for Summer 1992 through Spring 1993. Their analysis concluded that the 345 KV switchyard voltage would be 345 KV under a system load of 18,500 MW and emergency conditions. This considers the worst case double contingency condition (the two failures which result in the lowest voltage) such as the outage of one line and one generator, or one transformer and one generator, or both generators. The double contingency requirement is addressed in System Planning Operating guide (SPOG) No. 2-1.

NED-E/I&C has estimated a 4 KV safety-related bus voltages for the above condition. Data from the Sargent & Lundy ELMS program was used to model the station auxiliary power loading conditions. The computer program used for the analysis is a highly reliable commercial mainframe program called Power System Simulator (PSS/E), which utilizes the Newton-Raphson method of performing power flow analysis. The table below represents the safety bus voltages for various plant conditions as indicated in the column headings.

# Unit 1 Degraded Voltage Condition (CONTD)

## Quad Cities Expected Bus Voltage Levels

	Normal Lineup Loads Split, UAT/RAT 100% Power Summer Loading	Post Trip From 100% Power RAT Only Summer Loading	Post LOCA From 100% Power Summer Loading RAT Only
Switchyard Voltage*	345KV	345KV	345KV
Bus 13-1	4175V	4057V	4007V
Bus 14-1	4185V	4055V	4005V
Bus 23-1	4178V	4056V	4009V
Bus 24-1	4186V	4054V	4005V

\*Minimum expected switchyard voltage for the period from Summer 1992 through Spring 1993 under double contingency conditions is 345 KV per System Planning Department letter from H.L. Terhune to G.P. Wagner, dated 4/6/92.

As can be seen from the table above, at the lowest expected switchyard voltage (345 KV), 4 KV safety-related bus voltage will not drop below 4005 volts. In addition a review of historical system data from 1/1/89 to 12/31/91 corroborates that the Quad Cities 345 KV switchyard voltage has not dropped below 347 KV. Hence the probability of losing offsite power during a LOCA because of degraded voltage on the system has not significantly increased over the previously evaluated Safety Evaluation Report value.

The nominal second level undervoltage relay setting is 3998 volts, or 107 volts below the lowest anticipated 4 KV safety-related bus voltage (4005 volts). On the basis of the nominal relay setpoint, the maximum possible relay trip actuation voltage, including all potential positive error, is 3935 volts (72 volts below 4005 volts) and the maximum possible trip reset voltage could be 3953 volts (52 volts below 4005 volts). Hence no measurable increases in the probability of occurrence, or the consequences of an accident or malfunction of equipment important to safety, as previously evaluated in the Safety Evaluation Report is expected.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the above listed relay setpoint provides for the automatic actuation of equipment as currently described in Table 3.2.2 of the Technical Specifications. The new relay setpoint does not alter the current automatic actuation of equipment. Therefore, the new setpoint does not create any different accident, or a malfunction of a different type, than previously evaluated in the Safety Analysis Report.

## Unit 1 Degraded Voltage Condition (CONTD)

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because Table 3.2.2 of the Quad Cities Technical Specifications defines the second level undervoltage on 4 KV safety-related bus relays to be set to 3840 volts (+/- 2% tolerance) after 5 minutes (+/- 5% tolerance) with a 7 second (+/- 20% tolerance) time delay. The new relay setpoint is 3898 volts with a 1.36% total negative error and a 0.90% total positive error. The new setpoint methodology includes relay, potential transformer, calibration and test instrument tolerances. Time delay values were not changed.

By increasing the second level undervoltage relay setting, the margin of safety for the protection of rotating equipment has increased. This is because the power source for the equipment will transfer to a higher voltage source (the emergency diesel generator) at a higher 4 KV safety-related bus voltage value (approximately 82 volts at a 4 KV; the difference between the new setpoint and the existing setpoint minimum trip voltages,  $3898 \times 98.64\% - 3840 \times 98\%$ ). In contrast, by increasing the second level undervoltage relay setting, the margin of safety as related to the removal of the safety-related 4 KV bus from the preferred off-site source of power decreased slightly (approximately 16 volts at 4 KV; the difference between the new setpoint and the existing setpoint maximum trip voltages,  $-3898 \text{ volts} \times 100.9\% - 3840 \times 102\%$ ). Considering that this is a relatively insignificant percentage increase, and that the primary purpose of the degraded voltage function is to protect Class IE equipment and systems from damage due to sustained degraded voltage of the offsite power system, it is concluded that the increase in the relay setting does not reduce the overall margin of safety.

## Temporary Alteration

## DESCRIPTION:

Install four 0-1200 psig pressure transducers on existing pressure taps off of the main steam line low pressure switches, PS-1-261-30A, B, C, & D sensing lines. The pressure transducers will then be connected to a strip chart recorder.

Install four accelerometers on the seismic mounted plates of the main steam line low pressure switches. The accelerometers will then be connected to a digital audio tape recorder.

## 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:

Steam System Line Break Outside Containment	UFSAR SECTION	15.6.4
Increase in Steam Flow	UFSAR SECTION	15.1.13

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 failure of one of the pressure transducers would depressurize the associated main steam line low pressure switch which would insert a 1/2 Group I Isolation signal. A failure is assumed to be the transducer falling off the test tap allowing a steam path to atmosphere. The test tap is only 3/4" in diameter, a steam leak of this size is considered negligible and could be isolated if necessary by closing the associated isolation valve.

The setpoints of the main steam line low pressure switches are also remaining unchanged with the installation of this temporary alteration. The transducers are being installed on existing test taps, and thus, will not interrupt the flow path to the main steam line low pressure switches. The weight of the transducers is also considered negligible. Therefore, after installation of this temporary alteration the four main steam line low pressure switches will function as designed and described by:

1. UFSAR section 7.3.2.2.5 Low Steam Pressure at Turbine Inlet
2. UFSAR section 7.3.2.3 Primary Containment Isolation System Instrumentation, section E.

Based upon the above, installation of this temporary alteration will not create the 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.



Work Request Q02700  
BLTA Inspection and Reconstitution for UIC13

**DESCRIPTION:**

Barrier Lead Test Assembly (BLTA) inspection and reconstitution. The work scope requires the fuel prep machine stops to be adjusted from the current height of 8' of H2O coverage from the top of the bail handle bundle to 7' of H2O coverage from bail handle top.

**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 BLTA work scope including adjusting the fuel prep machine to allow 7' of H2O coverage from the top of the bundle 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. The adjustment allows for adequate H2O coverage, providing adequate shielding.\* The change in no way affects any accident or malfunction mentioned in the UFSAR.

\*Section 9.1-57 indicates that when IRRADIATED fuel is raised above the "NORMAL UP" position, the potential exists for exceeding 100 mR/hr. (The normal up position corresponds to 8.5.) In order to assure 100 mr/hr is not exceeded an EC4-3 will be set up next to the fuel prep machine work area. The alert alarm comes in at 40 mr/hr and the high alarm at 50 MR/hr. In the event 50 MR/HR is exceeded all work on the fuel prep machine shall stop and the bundle shall be lowered to a conservative lower position in the pool, (Per RWP 92-4227).

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



## Temporary Alteration

**DESCRIPTION:**

This Temporary alteration will connect a strip chart recorder at two locations to monitor and record certain parameters in the HPCI system during surveillance testing. One strip chart recorder will be connected at the 901-31 panel, the other recorder will be connected to the new vacuum breaker line per modification M04-1-91-013.

**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	15.0, 15.5, 15.6, 15.8
Inadvertent Injection for HPCI	UFSAR SECTION	15.5

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 HPCI turbine speed and pressure indicators have no automatic safety system actuations associated with them. They are not considered in the UFSAR single failure criteria. Because the strip chart recorders uses non-safety related power, fuses will also be used to provide isolation between safety and non-safety related power. The flow controller will not be affected due to parallel circuitry and high impedance resistor within the recorders themselves. Additionally, the chart recorder fail re mode is that of an "open circuit" assuring no short would occur throughout the logic circuits. The pressure transducers and tubing used for the vacuum breaker line will monitor only pressure differentials across the vacuum breaker check valves. The instrumentation used is sized to assure the pressure integrity of the line is maintained. This will not affect the operation of the check valves.

There are no identified failure modes or interactions more severe than a steam line break or inadvertent injection. Therefore, the potential failures are still bounded by the UFSAR analysis.

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

## Temporary Alteration

## DESCRIPTION:

The 2-1301-50 testable check valve has a leak in the Pressure Seal Ring area. To stop the leak, the valve body will have holes drilled into it and leak sealant injected into the pressure seal ring area. This work with sealant will remain in the valve until Q2R12.

## 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:

Reactor becomes isolated from  
condenser simultaneously with  
loss of feedwater

UFSAR SECTION

3.6.1, 5.4.6,  
6.3, 7.3.2

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 repair on the 2-1301-50 valve has been evaluated and found not to create an accident different from those evaluated in the UFSAR. This valve is a non-code, non-safety, non-seismic related valve. The work on this valve follows original construction code B31.1. The drilling and installation of adapters has been evaluated for thread engagement, and spacing. The sealant compound has been evaluated for temperature and pressure design. Also, the adapters will be left on the valve for maintenance access. This work will allow to maintain the pressure integrity of the valve and not affect the operation of the check valve. The system will, therefore, be able to fulfill its intended function.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

## Temporary Alteration

## DESCRIPTION:

The A02-2301-7 testable check valve has a leak in the valve packing area. To stop the leak, the leak sealant will be injected into the packing area through the packing leak-off 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:

Loss of Coolant Accident	UFSAR SECTION	5.4, 6.3, 7.3, 15.0
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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 repair for the A02-2301-7 valve has been evaluated and found not to create an accident different from those evaluated in the UFSAR. A sealant injection thru the packing leak-off will be utilized. This will avoid reaching the pressure boundary, thus the structural integrity of the valve will not be affected. The sealant material is similar to packing material, thus provide pressure retention capabilities as before. Engineering has analyzed the specific concerns and found it acceptable per the directive TID-MS-06. The packing sealant will not "cure" per discussions with furmanite, thus, the operator/actuator will not be affected. The sealant used is nuclear grade and acceptable per the QA program. If minimal amounts of sealant intrusion enters the flow stream, the chemistry department has analyzed the compound. The operation of the swing check valve will not be affected from this work. therefore HPCI will still meet its intended safety function.
3. The margin of safety, is not defined in the basis for any Technical Specification. therefore, the safety margin is not reduced.

## Setpoint Change #156

**DESCRIPTION:**

Change setpoint of PIC-1/2-5741-333 to allow FCV-1/2-5741-333 to control compressor discharge pressure on the "B" Control Room HVAC system at 225 psig instead of 294 psig.

**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
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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 after the setpoint change is installed, the "B" HVAC compressor and the FCV will operate within their design ranges and have the same operating modes. Since the equipment being affected will be operated within its design constraints and modes, there is no possibility of creating a failure that was not already evaluated when the system was originally designed and installed.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.



## Temporary Procedure #8095

**DESCRIPTION:**

This procedure describes the steps to vary Reactor water level with the Reactor vessel defueled and the +8 Low Reactor water level trips bypassed in order to obtain reference data to calibrate the Reactor Level Instrumentation.

**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 accidents analyzed in the FSAR pertaining to a loss of Reactor Coolant assume that fuel is present in the vessel. Under the present plant conditions the Reactor Vessel is defueled. Therefore, no fuel rod overheating and subsequent release of fission products can occur from lowering vessel level. With no fuel present the Low Level scram is not required to be in effect.

Also, under the present plant conditions primary containment is not required to be operable by Technical Specifications and the Group II and Group III isolations are not required to be in effect.

The Reactor Building Vent Isolation SBGTS Auto stop and Control Room vent isolation protect plant personnel and the public from a release or radiation due to Fuel damage. With no fuel in the vessel no fuel damage can occur from lowering vessel level.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because no fuel is present in the vessel and therefore there is no possibility of damaging fuel by lowering Reactor Water Level.



## Setpoint Change #92-136

**DESCRIPTION:**

The setpoint for the RV1-1301-31 is set at 150 psig. The original design document spec, DED, refers to this valve to be set at 100 psig. Therefore, a setpoint change form will be issued to change this setting.

**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:

Reactor isolated from condenser  
with loss of feedwater.

UFSAR SECTION

15.8, 5.4, 6.3

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 by changing the relief valve setpoint from 150 psig to 100 psig, the setpoint will be changed to reflect the original design specification and design basis document. The setpoint is being lowered to provide a better safety margin the conservative direction. In order to do this change, the valve spring will be replaced with a spring having a lower spring source. The vendor has provided information for the correct type of spring to use. If the relief valve fails in the closed direction, the piping is still protected because an annunciator alarm will actuate in the control room when the pressure reaches 70 psig. If the relief valve fails open, the 1" relief valve and 1" relief piping have been sized based on pressure loss considerations. Therefore, changing the spring will not create any accident worse than complete failure of the relief valve itself.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

## Temporary Procedure 8105-8110

**DESCRIPTION.**

Revise procedure so SBGT Trains are placed in Primary after completion of the surveillance. A note was also added to the precautions in the event both trains are run simultaneously.

**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 accident which meet these criteria are listed below:

Loss of Coolant	UFSAR SECTION	15.6.2, 15.6.5
Fuel Handling	UFSAR SECTION	15.7.2

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 Standby Gas Treatment system is used to mitigate the consequences of an accident by reducing radioactive releases. Therefore, SBGT does not create the possibility of an accident. Allowing both trains of SBGT to start on an initiation signal is within the design basis of its design basis and will not effect normal operation.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

M04-1-84-036-D  
and  
M04-2-84-036-D

### Suppression and Detection

#### DESCRIPTION:

Install 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 Final Safety Analysis Report 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 Final Safety Analysis Report 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.

## PARTIALS J &amp; K

**DESCRIPTION:**

Purpose of modification is to suppress recirculation water oxygen by means of adding hydrogen to the feedwater thus mitigating the effects of Intergranular Stress Corrosion Cracking (IGSCC). Hydrogen will be added by injection into the condensate system. To ensure that all excess hydrogen is safely recombined in the recombiners, oxygen will be injected into the off-gas system. Dissolved oxygen concentration in the reactor coolant will be monitored. Oxygen concentration in the off-gas flow will also be monitored. System control will be from a self-contained panel to be added in the main control room or from local control panels.

**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 Final Safety Analysis Report is not increased because the additional delay introduced into the main steam isolation sequence, due to the Main Steam Line Radiation Monitor (MSLRM) setpoint increase from 7 to 15 times normal full power background without hydrogen addition will result in a small increase in the consequences of the CRDA. A licensing document for this modification was prepared and sent to the NRC for review, and was subsequently approved via a January 19, 1989 SER.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the hydrogen addition system design does not create the possibility for an accident or malfunction of a different type than previously evaluated in the FSAR. The storage areas have been analyzed to be located at a sufficient distance to mitigate the effects of a hydrogen fireball or explosion, and to prevent hydrogen or oxygen rich air from entering any safety-related air pathways into the station. Excess flow check valves are located at the hydrogen and oxygen storage areas, and at the Turbine Building entrance point for hydrogen to prevent large hydrogen or oxygen releases due to a pipe break. Also, hydrogen area monitors are interfaced with a hydrogen supply isolation valve which will terminate hydrogen flow into each unit's Turbine Building if there is a high area hydrogen concentration for that unit. In addition to these safety features, normal Hydrogen Water Chemistry System shutdown is performed by closure of the active train's flow control valve and each hydrogen injection solenoid isolation valve, which are located just prior to the injection point to the condensate pump discharge piping. An electronic interlock between the Hydrogen Injection Solenoid Isolation Valve and its corresponding condensate pump motor also prevents inadvertent hydrogen injection into a non-operating condensate pump. These features should prevent spurious hydrogen addition into the condensate system.

3. The margin of safety, as defined in the basis for any Technical Specification is not reduced because the MSLRM setpoint is defined in the Tech. Spec. Bases for the Reactor Protection System (Sec. 7.1) and the Protective Instrumentation (Sec. 7.2) as seven times normal full power background. This modification will increase the MSLRM setpoint to fifteen times normal full power background. This change does not reduce the margin of safety for the Reactor Protection System, however, it does promote an increase in the radiological consequences for the CRDA. This is because the primary purpose of the MSLRM is to mitigate the radiological consequences of a CRDA once the fuel damage has occurred and not to minimize the fuel damage from the CRDA. Therefore, a licensing document for this modification was prepared and sent to the NRC for approval. The NRC has approved the MSLRM setpoint increase to 15 times normal full power background without hydrogen addition via a January 19, 1989 SER. This SER has accepted the required Tech. Spec. changes and their insignificant affect on the total activity release and resulting dose to the public.