



**Commonwealth Edison**

Quad Cities Nuclear Power Station  
22710 206 Avenue North  
Cordova, Illinois 61242  
Telephone 309/654-2241

AMS-94-014

May 12, 1994

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

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

Enclosed please find a listing of those facility and procedure changes, tests, and experiments requiring safety evaluations completed during the month of April, 1994, 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

Anthony M. Scott  
System Engineering Supervisor

AMS/dak

Enclosure

cc: J. Martin, Regional Administrator  
C. Miller, Senior Resident Inspector

SAFETY\NRC.LTR

9406020007 940512  
PDR ADOCK 05000254  
R PDR

JE47 /

**DESCRIPTION:**

Changed firewatch requirements for inoperable fire systems when they are required to protect safe shutdown cabling and equipment.

**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:

Design Basis Fire                      UFSAR SECTION 9.5.1

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because these procedure changes will require additional fire watches than previously required. This will only increase the probability of rapidly detecting and suppressing a fire. There is no change to the method of operating or controlling physical systems. Therefore, this change will not create the possibility of an accident or malfunction different than those evaluated in the UFSAR.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-94-35  
Interim Procedure IP-641

**DESCRIPTION:**

The purpose of this test was to obtain vibration amplitude and frequency readings present in the Unit One and Two HPCI Steam Supply lines. This was accomplished by installing a pressure transducer on the steam supply pressure test tap lines, 1(2)-2369-3/4", and recording the pressure pulsations using a data acquisition system while HPCI was in standby condition. This data will assist in evaluation of the degraded condition of the HPCI steam supply condensate flow problems that are present in Unit One and Two steam lines.

**SAFETY EVALUATION SUMMARY:**

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

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 pressure test tap line used for this test has no safety function other than to maintain pressure integrity. Per piping specifications (R-4411), for this type of pipe, its class rating is 900 lb. The pressure transducer design rating is 2500 psia. Therefore, the pressure integrity boundary between the pipe and transducer has more safety margin than required. Also, since the weight of the transducer is negligible, no seismic concern exists. Thus, there are no identified failure modes or interactions different from those already evaluated in the UFSAR.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-94-36

QCOP 6900-19, QOP 6900-4, 5, 6, 7

QOA 900-8 B-9, QOA 900-8 B-10, QCAN 1(2)-8350-1 B-3

QCAP 1270-14, QCAN 901(2)-8 E-10

**DESCRIPTION:**

These procedure changes provide guidance for documenting grounds on the safety-related 125 Vdc and 250 Vdc systems and the non-essential 250Vdc system.

**SAFETY EVALUATION SUMMARY:**

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

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because changing the procedures to include provisions for documenting grounds on the DC systems will not increase the possibility of an accident or malfunction of any type.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

**DESCRIPTION:**

This DCR updated the Equipment Piece Numbers (EPNs) for pressure switches on the Turbine Fast Acting Valves CV1, CV2, CV3, and CV4. Pressure switches 1-5600-PS-1, 1-5600-PS-2, 1-5600-PS-3 and 1-5600-PS-4 were relabelled as PS 1-5650-1, PS1-5650-2, PS1-5650-3 and PS 1-5650-4 respectively. These switches open on loss of oil pressure at the hydraulic inlet of the fast acting valves to activate the Turbine Generator Load Rejection (40% Mismatch) Scram.

**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 with failure of bypass system	UFSAR SECTION	15.2.2.2.2 15.2.3.1
Turbine trip with partial bypass max. power	UFSAR SECTION	15.2.3.2
Load rejection with bypass	UFSAR SECTION	15.2.2.2
Load rejection without bypass	UFSAR SECTION	15.2.2.1

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because no new accident scenarios are created by this DCR. The function of the turbine control valves and the Reactor Protection system its ability to operate are unchanged. This DCR will not adversely impact systems or functions nor will the possibility of an accident malfunction be created that is different from those previously evaluated in the SAR.

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

**DESCRIPTION:**

This DCR was submitted to document the following as-builts:

Wiring diagram 4E-1684F for valve MO 1-1301-49 (RCIC Pump Discharge Valve) was revised to reflect installed overload (OL) heater rating change in the Reactor Building 250Vdc MCC 1B cubicle Q02.

Wiring diagram 4E-2866 was updated to reflect cable terminations of the isolated phase bus duct thermocouples at junction box K-2011. The other electrical drawings associated with these thermocouples were previously updated and issued for record.

The Detailed System Walkdown Program (DSWP) verified fuse sizes for various systems through the following "Open Item Records":

DSWP ITEM NO.	SYSTEM OR COMPONENT	DRAWING NO.
91-1-F110	Nitrogen System-Q	4E-1680C
91-1-F90	Panel 901-11	4E-1745A
91-1-F100	Panel 901-37	4E-1760A
91-1-F115	Off Gas HVAC	4E-6234
91-1-F123	Fire Detection	4E-6575G
91-1-F123	Fire Detection	4E-6576G
91-1-F120	ATWS Recirc. Pmp.	4E-6579A
91-1-F115	Off Gas HVAC	4E-7234

The fuse sizes are not currently shown on the subject drawings or the fuse list. Both sets of documents will be updated to reflect the as-built information.

Fire suppression piping drawings are being updated to reflect changes in Equipment Piece Numbers (EPNs) to match the EPNs used in 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:

Complete Loss of Generator	UFSAR SECTION	15.2.2.2.2
Generator Load		
Turbine Trip	UFSAR SECTION	15.2.3
Inadvertent Closure	UFSAR SECTION	15.2.4
of MSIV's		
Loss of Condenser Vacuum	UFSAR SECTION	15.2.5
Loss of Feedwater Flow	UFSAR SECTION	15.2.7
Loss of Auxiliary Power	UFSAR SECTION	15.8.2.1

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because Updating the wiring diagram to show the correctly sized OL heater for the RCIC pump discharge valve will not adversely impact systems or functions. Updating various documents with non-technical as-built changes, such as thermocouple wire terminations, fuse sizes, and EPNs assigned to valves, will not create any scenarios that introduce the possibility of an accident or malfunction. The fuse sizes have been reviewed and they are appropriately sized for the loads. The updating of the isolated bus duct thermocouple wiring and the changes in the EPNs on the fire protection equipment will enhance system operation and maintenance since the accuracy of the drawings is improved.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.



**DESCRIPTION:**

This DCR documents as-built conditions pertaining to the Residual Heat Removal System.

The DCR updated the key, schematic and wiring diagrams to reflect the as-built breaker size for Motor Control Center (MCC) 28-1B, cubicle B2 which feeds motor operated valve 2-1001-19A. Nuclear Work Request Q06943 replaced the motor and overload heater for motor operated valve 2-1001-19A. These changes were addressed in the evaluation for work request Q06943. In addition, the breaker size was evaluated per approved station procedures and found to be adequate.

**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
Anticipated Transients Without Scram	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 function and operation of the RHR System remains unchanged. The changes made by this DCR involve updating the key, schematic and wiring diagrams to reflect the as-built circuit breaker size for MCC 28-1B cubicle B2. The size of the circuit breaker was evaluated per approved station procedures and found to be adequate (Reference NWR Q06943.) This change does not create the

possibility of the RHR System malfunctioning or of causing an accident different than those evaluated in the SAR.

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

M4-2-88-101C  
Regulatory Guide 1.97 Additional Computer Points

**DESCRIPTION:**

1. Established new computer inputs from existing instrumentation loops, using resistor.
2. Established new computer inputs from existing unused thermocouples.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because the addition of new input signal points using resistors into non-safety related circuits does not affect any safety-related circuits since there are no interconnections between any NSR and SR circuits. The use of existing, non-used elements on existing thermocouples for the new computer inputs does not affect any safety-related circuits. Therefore, these additions have not increased the probability of a DBA or of an SFE.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because all new cables will be installed in seismically mounted conduits to fully contain circuit failures and to mitigate failure effects. Balance of plant failures do not create new accident or malfunction situations.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the addition of signal generating resistors to Balance of Plant circuits and the use of previously unused thermocouples have no impact on the existing Technical Specifications, therefore the margin of safety remains unchanged.

M4-0-87-003B  
MUDS Upgrade

**DESCRIPTION:**

Modified the existing makeup demineralizer system by a) replaced and added instrumentation for flow and temperatures measurements; B) added resin traps on the outlet lines and effluent backwash lines; c) modified the piping to enable operation of the mixed bed units in series or in parallel; d) replaced all valves and instrumentation; e) replaced existing hot water with a new water tank to increase the dilution water storage to 3500 gallons; g) replaced the MUDS sample sink.

**SAFETY EVALUATION SUMMARY:**

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the UFSAR is not increased because this modification does not change the performance of the MUDS but will enhance its functions or reliability by upgrading valves, instruments and increasing the size of the hot water tank. Therefore, this modification does not increase the probability of an occurrence or the consequence of an accident or malfunction important to safety that has not been evaluated in the FSAR.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this modification does not impact any safety related systems nor does it interfere with any components or systems required to mitigate the consequences of a design basis accident.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because there are no modification to any Tech Spec system and this modification does not impact or interface with any Tech spec system.

E04-2-93-215  
Replacement of RHR/CS Channel B  
Low Pressure Permissive Switch 2-263-52B

**DESCRIPTION:**

The RHR/CS Channel B low pressure permissive switch 2-0263-52B was replaced due to increasing reliability problems. The previous Barton pressure switch was replaced with a Static-O-Ring (SOR) pressure switch.

The Barton model 288 pressure switch previously installed had a history of excessive setpoint drift which resulted in many Deviation Reports.

**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 (LOCA)      UFSAR SECTION 15.6

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the existing pressure switch is a Barton model 288A and has a history of excessive setpoint drift. The replacement switch is manufactured by Static-O-Ring and has proven to be a more reliable switch. This replacement will enhance system performance. The system function and operation will not be changed. Therefore, this exempt change does not create the possibility of an accident or malfunction of a type different from those evaluated in the SAR.

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

## Emergency Diesel Generator Control Power Transformer

**DESCRIPTION:**

The emergency diesel generator excitation cabinet control power transformers (CPT1, CPT2, CPT3) were replaced. The previous General Electric control power transformers (CPTs) had begun to show signs of aging and were no longer manufactured or available. As a result, the previous CPTs were replaced with GE model #9T25B9704 CPTs. The replacement transformers are electrically equivalent to the previous transformers. However, the replacement transformers have a slightly different mounting and increased weight.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

Loss of Offsite AC Power	UFSAR SECTION 8.3
Decrease in Reactor Coolant Inventory (LOCA)	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 existing control power transformers were replaced due to early signs of potential transformer failure. The new transformers have the same electrical rating and provide the same function as the existing transformers. The failure modes of the transformers are the same. Replacing a component which has begun to show signs of potential failure provides added assurance that the system will function as designed. As a result, no new



accident conditions are created by the installation of this exempt change.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because replacing aging components which have shown early signs of potential failure actually will provide added assurance that the diesel generator will function as designed when needed. As such, the diesel generator will be operable and available for the Technical Specification conditions described above. Therefore, the margin of safety is not reduced by this installation.

## Replacement of GE/MAC Flow Transmitter and Pressure Transmitters

## DESCRIPTION:

This exempt change replaced GE/MAC flow transmitter FT 1-2358 and pressure transmitters PT 1-2364, PT 1-2366, PT 1-2382, and PT 1-2359 with transmitters manufactured by Rosemount. Also, square root converter FY 1-2340-10 was replaced with a Moore Industries square root converter which is compatible with the flow transmitter. In addition, pressure indicators PI 1-2340-2, PI 1-2340-4, PI 1-2340-5 and PI 1-2340-7 were replaced in order to be compatible with the new pressure transmitters.

The flow and pressure transmitters were replaced to improve the accuracy and reliability of the flow and pressure loops. The Rosemount transmitters are more accurate and more reliable. The square root converter and pressure indicators required replacement in order to be compatible with the new transmitters.

## 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 (LOCA)      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 HPCI flow and pressure transmitters are being replaced to improve the reliability of the process indications. The Rosemount transmitters have been shown to be more reliable and accurate than the existing GE/MAC

transmitters. Enhancing system reliability does not create a new accident condition.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the GE/MAC HPCI flow and pressure transmitters are being replaced with Rosemount transmitters which have been shown to be more reliable and accurate. Improving system reliability and accuracy does not change the function or operation of the system. The availability of the HPCI will not be reduced by this installation. Therefore, the requirements of Technical Specification 3.5.C will be met.

E04-1-92-034  
Electro-Hydraulic Control Fluid Jet Supply

**DESCRIPTION:**

This exempt change disconnected and abandoned in place the 1/2" O.D. Electro-Hydraulic Control (EHC) Fluid Jet Supply tubing from the four (4) turbine control valves, the #2 main stop valve, and the #1, #3, and #5 intercept valves. The fluid jet supply tubing supplies the hydraulic fluid to the servo controls of the listed valves.

The fluid jet supply tubing was disconnected from each modified component and from the manifold block on the EHC hydraulic power unit and the resultant ports plugged with a threaded pipe plug.

The servo control for the valves is now from the valve actuating fluid (Fluid Actuator Supply or Fluid Actuator Supply Trip Control) directed through new adapter manifold internal porting.

This exempt change was installed to comply with the recommendations made in General Electric Technical Information Letter (TIL) 841-3A. General Electric has made these recommendations due to a high failure rate of the 1/2" C.D. flared fluid jet supply tubing.

**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:

Decrease in Heat Removal by                      UFSAR SECTION 10.2/15.2  
the Reactor Coolant System.  
Specifically any turbine trips.

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the removal of the 1/2" O.D. fluid jet supply tubing and installing an adapter manifold in accordance with the GE recommendations will enhance the performance of the EHC system. This exempt change actually removes a failure source from the affected valves. The function and operation of the affected valves remains unchanged. Therefore, the installation of this exempt change does not create the possibility of an accident different than those previously evaluated in the SAR.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

## Replacement of RHR/CS Channel B Low Pressure Permissive Switch

**DESCRIPTION:**

The RHR/CS Channel B low pressure permissive switch 1-0263-52B was replaced due to increasing reliability problems. The previous Barton pressure switch was replaced with a Static-O-Ring (SOR) pressure switch.

The Barton model 288 pressure switch previously installed had a history of excessive setpoint drift which resulted in many Deviation Reports.

**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 (LOCA)                      UFSAR SECTION 15.6

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the existing pressure switch is a Barton model 288A and has a history of excessive setpoint drift. The replacement switch is manufactured by Static-O-Ring and has proven to be a more reliable switch. This replacement will enhance system performance. The system function and operation will not be changed. Therefore, this exempt change does not create the possibility of an accident or malfunction of a type different from those evaluated in the SAR.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

E04-1-93-191  
Agastat Time Delay Relay

**DESCRIPTION:**

An Agastat time delay relay was installed in the 24 VDC high vibration trip circuit for the main turbine electro-hydraulic control logic. The contact for the new relay was installed in series and downstream of the high vibration contact. Upon closure of the high vibration contact (existing), the time delay relay was energized. If the coil remained energized for the 3 second time delay, a main turbine trip would occur.

This exempt change was installed to prevent a main turbine trip caused by a spurious momentary high vibration signal.

**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:

Decrease in Heat Removal by the Reactor Coolant System	UFSAR SECTION 10.2/15.2
---	-------------------------

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 failure of the time delay relay will cause the relay contacts to remain open or closed. Failure closed will result in a turbine trip provided a high vibration signal is present. This is consistent with the existing design which does not have a time delay relay in the circuit. Failure open will result in a failure of the turbine to trip if a high vibration signal is present.



However, monitoring capability is available to operations personnel by a vibrations recorder and detector alarm at 5 mils. This is consistent with the present configuration if the trip contacts did not close. Therefore, the installation of this exempt change does not create the possibility of an accident different than those evaluated in the SAR.

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

E04-1-93-190

Install two new Control Relays in the EHC System

**DESCRIPTION:**

This design change installed two Potter & Brumfield control relays in the Electro-Hydraulic Control (EHC) system. The relays energize the solenoid operated test valves 20-ISV-1, 3, 5-T, and 20-ISV-2, 4, -T when the main turbine shell is being warmed.

This design change was required during the shell warming mode of the main turbine operation to prevent steam leakage through the intercept valve component of the combined intermediate valve which could cause the low pressure turbine to roll off normal turning gear.

The function of the affected circuit in all other operating modes is unchanged by this exempt change installation.

**SAFETY EVALUATION SUMMARY:**

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

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 relays will provide added assurance that the low pressure turbine will remain on its turning gear during shell warming. This will enhance the reliability of the turbine system by eliminating a source of equipment failure. Enhancing system reliability does not create an accident condition different than those previously analyzed.

E04-1-93-190 CONTD

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

E04-1-93-0230  
Reserve Auxiliary Transformer

**DESCRIPTION:**

The existing GE Reserve Auxiliary Transformer (RAT) was replaced by a SMIT transformer. This was installed because the previous GE transformer had begun producing higher than desired concentrations of acetylene in the transformer oil. The SMIT transformer has a slightly different configuration than the GE.

The SMIT has a separate Conservator Oil Preservation System (COPS) which requires a separate concrete pad. The new pad was installed approximately fifteen feet north of the previous reserve auxiliary transformer pad.

Also, the configuration differences required the redesign of the fire protection system. This included both the detection and suppression systems. The detection system was changed to protecto-wire in place of the Fenwal fire detectors. The suppression system required replacement due to the physical differences between the GE and SMIT transformers. This required the installation of new concrete piers to support the suppression piping.

The transformer control panel wiring required revision due to the slight differences between the GE and SMIT transformers. These changes are as follows:

- Sudden Pressure Trip Lock-Out logic indicating light is now deenergized during normal operation and energized under trip conditions. There is an added indicating light that the Bucholz pressure device operates.
- The new SMIT transformer has two banks of fans which have the ability to select a "first bank on" which was not available on the GE transformer.
- Fire protection fan trip logic now requires two normally closed contacts (one for each bank) to allow fan operation. Minor re-wiring was done in the control panel to facilitate this change.
- The SMIT transformer does not require nitrogen so the Low Cylinder Pressure and Low Gas Pressure alarms are no longer required.
- The SMIT transformer is not cooled by forced oil so the Pump Alarm Relay alarm is no longer required.
- The Group 1 and 2 cooler power failure alarms now indicate a general (control or motive) power failure to each respective bank of coolers. Separate SER points indicate which bank has lost power.

- New alarms required for the SMIT transformer were wired into existing Sequence of Events Recorder input points. These alarms are:
  - Air Cell Failure
  - Bucholz Relay Actuation on high flow
  - Bucholz Relay Actuation on gas accumulation
  - X or Y winding high temperature
  - X or Y winding high-high temperature

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

Loss of Auxiliary Power                      UFSAR SECTION 8.3.1

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the reserve auxiliary transformer is being replaced due to reliability concerns. The replacement transformer has been procured to be a direct functional replacement. However, physical differences between the GE and SMIT transformers require the installation of new and redesigned equipment (COPS tank, fire protection, control wiring). These are considered part of the necessary equipment for the operation of transformer and protection of the plant. As such, this installation does not create an accident different than those previously evaluated in the SAR.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

System Engineers,

There have been some concerns at the 12 week lookahead meeting about the work lists (the ones distributed to you by Deb Kelley) that you use to prioritize work on your system. Besides the prioritization that you do, it is expected that the system engineers will also go through the lists and line out work that does not belong. The following are some examples of work that should not be included on the prioritized list:

- Jobs In Progress, Some of the jobs listed may already be being worked by the working groups.
- Completed Work, Some of the work may already be done and so would not need rescheduling.
- Cancelled Work, Some of the work may already have been cancelled.
- Outage Work, If the work is to be done during an outage then it should not be prioritized.
- Design Changes, If your work requires a design change and the design is not ready by the 8th window week, the work will be thrown out.

These are only some of the items that may cause work to be thrown out. After seeing this list I'm sure you can think of others.

Also note that work that has a work package status of HTSSP (hold for tech staff report) needs your special attention. There may be parts problems, etc. that need your input on before the schedulers can process it.

Please be sure to hand in your work lists by the date shown on their attached cover sheets so Mark Kooi can enter all the data on the computer for the schedulers and analysts.  
Thank you...

Robert Lundstrom  
x3231