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PCA-95-007

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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 December, 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,

ComEd  
Quad-Cities Nuclear Power Station

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PCA/dak

Enclosure

cc: J. Martin, Regional Administrator  
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SAFETY\NRC.LTR

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**DESCRIPTION:**

Removed excessive verbiage. Removed outdated internal commitments. Eliminated bulky and repetitive attachments.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

None.

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this procedure (QCAP 1100-4) is the station procedure for the procedure revision and approval process. It has no direct impact on plant equipment nor operation.

The types of procedures and the controls for procedures that are discussed in UFSAR Section 13.5 are still met by the revision to QCAP 1100-4.

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

**DESCRIPTION:**

Established better controls on the Interim Procedure Change (IPC) process and increased the distribution of IPCs to all controlled sets of procedures.

**SAFETY EVALUATION SUMMARY:**

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
  - The change alters the initial conditions used in the UFSAR analysis.
  - The changed structure, system or component is explicitly or 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 improvement to the IPC procedure will not directly impact systems, structures, or component function.

By improving the IPC procedure (increasing distribution, clarifying actions, and defining controls of IPCs), the possibility of any accident or malfunction should be decreased.

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

## QCAP 1500-1, "Administrative Requirements for Fire Protection"

**DESCRIPTION:**

1. Removed the reporting requirements for Non Essential Fire Protection (NFP) systems from QCAP 1500-1, "Administrative Controls for Fire Protection".
2. Removed the tracking of 14 day Essential Fire Protection (EFP) systems from QCOS 4100-17, "Fire Protection Outage Reports" and tracks the LCO on the Fire Impairment, QCAP 1500-13, and the POD.
3. Clarified the requirements for back-up suppression.
4. Made format changes for affected procedures.
5. Moved safe shutdown fire watch requirements for inoperable fire systems from QCAP 1500-2, "Administrative Controls for Inoperable Safe Shutdown Equipment" to QCAP 1500-1. "Administrative Controls for Fire Protection". Once per hour, general fire watches for safe shutdown remain in QCAP 1500-2.
6. Changed the compensatory measures for the floor area under fire zone 8.2.8.A while that floor area is inoperable. This change removed the requirement for a continuous fire watch and formally instituted transient combustible control requirements. This change will be required until the floor area becomes operable or approved as is by an NRC exemption.
7. Noted on QCAP 1500-1 the fire systems which protect safe shutdown. This information is used to determine the type of fire watch required.
8. Clarified operating requirements currently contain within other fire protection procedures.
9. Changed hydrostatic testing requirements of hose stations to conform to NFPA codes.
10. Changed QCAP 1500-2 to require that both RHRSW pumps on loop B are required for safe shutdown Paths A and B for their respective units.

**SAFETY EVALUATION SUMMARY:**

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
  - The change alters the initial conditions used in the UFSAR analysis.
  - The changed structure, system or component is explicitly or implicitly 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, FPR Vol. 1

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because all changes to the procedures control the compensatory measures required when fire systems are inoperable. All changes made are as conservative or more conservative than those already in place or those required by the Administrative Technical Requirements for safe shutdown. Procedure changes do not affect the way that equipment is used for safe shutdown and therefore, to not create the possibility of an accident or malfunction of a type 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.

Q2F35 System Certification on the Condensate Booster  
and RHRSW Systems

**DESCRIPTION:**

The condensate booster pumps (CBP) and residual heat removal service water pumps (RHRSW) have a removable plastic shield installed over the mechanical seals. This document evaluates the safety significance these shields have on the plant. The presence of the shields are also reviewed for an unreviewed safety question. The shields were originally installed several years ago to contain and control the seal leakage. No installation documentation could be found about the shields, thus system engineering has initiated this evaluation.

**SAFETY EVALUATION SUMMARY:**

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
  - The change alters the initial conditions used in the UFSAR analysis.
  - The changed structure, system or component is explicitly or implicitly 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
Loss of Normal Feedwater Flow	UFSAR Section 15.2.7

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the plastic shields contain and control the pump leakage from the mechanical seals on the RHRSW and CBPs. The shields also serve as FME barrier to help prevent the seal reservoir drains from clogging. A clogged seal reservoir could cause water to back up and potentially flow into pump bearings and inop a pump.

The plastic shields are not considered as a repair to a leaking seal, but mitigate the nuisance associated with water sprays that are common with seal leaks. The shields are removable and used to help control and direct the leakage to its proper place.

The shields do not affect the operation of the RHRSW and CBPs. If a plastic shield were removed or falls off, the pump would still be able to function. The plastic is a weaker material than any component of the pump; therefore, is sacrificial to falling objects or forces causing the plastic to contact a rotating shaft.

The shields do not affect the operation function of the RHRSW or CBPs. No accident other than those described in the UFSAR are created due to the presence of the plastic shields.

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

**DESCRIPTION:**

The revision changed the administrative requirements for on-site review participants selection in the processing of Licensee Event 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:

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 UFSAR and Technical Specifications referenced outline the existence of an on-site review function and require that OSR review and approve selected items including Licensee Event Reports (LERs). Neither of these higher tier documents specify the level of detail as to which plant personnel must review the LER. As described in other station procedures, the on-site review qualifications are controlled, documented, and reviewed in such a manner as to ensure that proper reviews are performed.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-94-090  
QCMM 203-43 & 203-44, Steam Line Plugs

**DESCRIPTION:**

The original GE steam line plugs were replaced with the GE Rem\*Light steam line plugs.

**SAFETY EVALUATION SUMMARY:**

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

Fuel Handling Accident	UFSAR Section 15.7.2
Loss of Coolant Accident	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 the plugs have only two failure modes (dropping onto fuel or leaking and not sealing). No other accidents or failure modes exist.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

SE-94-091  
Setpoint Change No. 377

**DESCRIPTION:**

TS 1340-8, RCIC steam leak detection temperature switch, needed it's setpoint to be changed from 175°F to 140°F.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

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 setpoint change will reduce the current setpoint of 175°F to 140°F as required by QGA 300 Detail D-11. This allows CR operators ample time to correct or mitigate the problem before the RCIC is tripped/isolated at 155°F.
3. The margin of safety, is not defined in the basis for any Technical Specification, therefore, the safety margin is not reduced.

M04-0-92-012

Modify Fuel Oil System on Diesel Generator  
to Allow for Flexible Hose Installation

**DESCRIPTION:**

This modification was installed to correct leakage problems associated with the Emergency Diesel Generator Fuel Oil System. Leakage from the suction and discharge connections of the engine driven pump has been attributed to excessive vibration. This modification replaced the existing pump with an equivalent pump utilizing flange connections for better leak tightness. Flexible hoses were installed to reduce vibration between the pump and fuel oil piping. The new pump was designed to fit in the existing space available although minor changes to the pipe orientation were made. Additional pipe supports were added to ensure allowable stresses and movement of the piping system are not exceeded.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

Failure of DG Start	UFSAR Section 8.3.1.6
LOOP + DBA	UFSAR Section 8.3.1; 6.3.3.2; & 15

For each of these accidents, it has been determined that the change described above will not increase the probability of an occurrence or the consequence of the accident, or malfunction of equipment important to safety as previously evaluated in the 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 engine driven pump has the same characteristics and internals as the existing pump. The new pump casing, however, will have flange nozzles instead of threaded nozzles. Adding flexible hose to the fuel oil piping will isolate vibrations, thus reducing pipe stresses. The operation of the fuel oil system will not change due to

M04-0-92-012 (Cont'd)

implementation of this design. There are no new accidents or equipment malfunctions created as a result of this modification.

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

**DESCRIPTION:**

The guide disk nut to disk threads were stripped on the 2-1301-64, RCIC Exhaust Stop Check. Because of no availability of replacement parts, the disk nut to disk assembly was welded.

**SAFETY EVALUATION SUMMARY:**

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

The accidents which meet these criteria are listed below:

Loss of Feedwater  
with Reactor  
Isolated from  
Condenser

UFSAR Section 15.1; 15.2; 15.3; 5.4.6

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

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because this exempt change does not contain any system interfaces or failure modes that have not been evaluated. Therefore, this exempt change does not create or increase the probability of a failure of other systems or components. There are no accidents caused by a failure of the added new weld to the 2-1301-64.

This exempt change alters the design of the 2-1301-64, however, the change has been analyzed and proven not to functionally change the operation of the valve.

SE-93-085 Cont'd

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

E04-0-93-211

Replace Diesel Generator Control Power  
Transformers in the 2212-46 Panel

**DESCRIPTION:**

The emergency diesel generator excitation cabinet control power transformers (CPT1, CPT2, CPT3) were replaced. The existing General Electric control power transformers (CPTs) had begun to show signs of aging and are no longer manufactured or available. As a result, the existing CPTs were replaced with GE model #9T25B9704 CPTs. The replacement transformers are electrically equivalent (Schuster to Stotts memo dated October 5, 1993) to the existing transformers. However, the replacement transformers are heavier and have a slightly different mounting configuration.

**SAFETY EVALUATION SUMMARY:**

1. The change described above has been analyzed to determine each accident or anticipated transient described in the UFSAR where any of the following is true:
  - The change alters the initial conditions used in the UFSAR analysis.
  - The changed structure, system or component is explicitly or implicitly 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 are being replaced due to early signs of potential transformer failure. The Original Equipment Manufacturer (OEM) General Electric has recommended the model of the replacement transformers and has provided assurance that the new transformers have the same electrical rating and provide

the same function as the existing transformers (Schuster to Stotts memo dated October 5, 1993). The failure modes of the transformers are the same. Replacing a component which 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. The Original Equipment Manufacturer, General Electric, has recommended the replacement models which will be installed. These replacements are electrical equivalents to the obsolete model currently installed. 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.

M04-1-88-043-C  
Wiring for Alternate 125 VDC Battery

**DESCRIPTION:**

The subject modification was initiated because of decreasing capacity of the original 125 VDC battery. The modification was performed in three partials. Partial A installed an alternate 125 VDC battery in the Unit 1 battery room and paralleled it to the 125 VDC bus. Partial B replaced the existing Unit 1 125 VDC battery with a new battery. The alternate 125 VDC battery was used to power the 125 VDC system while the permanent battery was replaced. Partial C disconnected the alternate battery from the 125 VDC system after Partial B was complete.

**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 alternate battery, used to provide power to the system while the permanent battery is replaced, will be disconnected by determining its cables from the distribution panel, thus leaving the permanent battery the source of emergency power to the system.

The new permanent battery will handle the same load as the old battery. The permanent battery is designed to carry the normal dc loads required for safe shutdown on one unit and operations required to limit the consequences of a design basis event on the other unit for a period of four hours following loss of all Ac sources. This design is identical to that of the old battery. As stated in the UFSAR Section 12.1.1, the portions of Class II structures which house Class I components have been designed to provide protection for the Class I components in the same manner as Class I structure. The permanent battery is housed within a concrete structure in the turbine building (Class II).

The probability of an occurrence or the consequence of an accident or malfunction as analyzed in the FSAR/UFSAR is not increased.

2. The possibility for an accident or malfunction of a different type than any previously evaluated in the UFSAR is not created because the battery racks and associated cable conduits are seismically supported. Both the main and reserve feeds to the same 125 vdc system will be unaffected by the replacement of the permanent battery and disconnection of the alternate battery. The new permanent battery will use the same charger as the old battery without a load increase. Even though the permanent battery will be located in the same battery room as the alternate battery, the latter one will not be connected to any charger and other batteries will be in a float mode when the permanent battery is being charged. Thus, there will be no increase in hydrogen generation at any time in the battery room.

Thus, the possibility for an accident or malfunction of a different type than any previously evaluated in the FSAR/UFSAR is not created.

3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the surveillance applied to the old permanent battery will be equally applied to the new battery. The type of surveillances described in the Technical Specifications has been demonstrated over the years to provide indication of a cell becoming irregular or unserviceable long before it becomes a failure. The new permanent battery can supply the same load as the old battery. The new permanent 125 VDC battery is designed to carry the normal DC loads plus all DC loads required for safe shutdown on one unit and operations required to limit the consequences of a design basis event on the other unit for a period of four hours following loss of all AC sources. Since the surveillance of the permanent battery will not change, and the alternate battery will be disconnected from the charger and the distribution panel, there will not be a need to equally apply the surveillance to the alternate battery.

Therefore, the margin of safety defined in Section 3.9/4.9B of the Technical Specifications will not be reduced.