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10 CFR 50.59
10 CFR 72.48

SVP-09-001

January 5, 2009

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

Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254, 50-265, and 72-53

Reference: Letter from T. J. Tulon (Exelon Generation Company, LLC) to U. S. NRC, "10 CFR 50.59 / 10 CFR 72.48 Summary Report," dated January 3, 2007

Subject: 10 CFR 50.59 / 10 CFR 72.48 Summary Report

In accordance with 10 CFR 50.59, subpart (d)(2), and 10 CFR 72.48 subpart (d)(2), "Changes, tests, and experiments," Exelon Generation Company, LLC is submitting a summary of completed changes, tests, and experiments for Quad Cities Nuclear Power Station (QCNPS). This summary is provided as an attachment to this letter, which describes the 10 CFR 50.59 evaluations that were completed for QCNPS between January 1, 2007 and December 31, 2008. The referenced letter provided the previous summary report. Note that there were no 10 CFR 72.48 evaluations completed for QCNPS between January 1, 2007 and December 31, 2008.

Should you have any questions concerning this letter, please contact Mr. W. J. Beck at (309) 227-2800.

Respectfully,

Timothy J. Tulon
Site Vice President
Quad Cities Nuclear Power Station

Attachment: Summary Report of Completed Changes, Tests, and Experiments

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

NMSS01
IE47
NRR

ATTACHMENT
Summary Report of Completed Changes, Tests, and Experiments

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1 **Tracking Number: QC-E-2006-003**

Unit: Common

Activity Description

The proposed activity is a configuration change that implements an upgrade to the turbine and steam bypass pressure control system on each unit. This upgrade will replace the obsolete EHC (Electro-Hydraulic Control) system with a DEHC (Digital Electro-Hydraulic Control) system that will perform the same overall functions as the existing system. This design change will replace the existing EHC controls in the main control room with redundant workstations including redundant manual turbine trip pushbuttons. The existing turbine and pressure control functions will be available to provide control during normal startup, power generation, and shutdown conditions. The existing system has little redundancy and is not fault tolerant. In addition, the current system is obsolete and is no longer supported by the manufacturer. Implementation of a digital system will provide a redundant, fault-tolerant control system that facilitates on-line repairs. The upgrade will effectively eliminate the numerous single failure points that are part of the existing EHC system. The overall benefits will be increased system reliability and reduced operating costs.

Impact of Activity

The existing turbine control functions (including speed control, load control, flow control, valve control, valve position, load limit, turbine protection, and overspeed protection) are the same for the DEHC system as they were for the EHC system. Further, the DEHC system steam bypass pressure control function will be functionally the same as the original EHC system with the addition of a reactor dome pressure control mode. The upgrade does not mechanically alter the existing turbine system components including the turbine/bypass valves and EHC hydraulics (valve position indication and servo valves will be upgraded on the stop, control and bypass valves, but the functional requirements for these devices remains unchanged).

Bases for Not Requiring NRC Prior Approval

The 50.59 review determined that the upgrade to a digital system does not result in operation of equipment outside the design functions described in the UFSAR. The malfunctions and accidents currently analyzed in the UFSAR for the EHC system are bounding for the DEHC system. In addition, the proposed change does not create the possibility for an accident or malfunction of equipment important to safety of a different type than previously analyzed in the UFSAR. With increased redundancy and improved reliability, the DEHC system will not increase the frequency of accidents previously evaluated in the UFSAR and will not increase the likelihood of any malfunction of equipment important to safety. There are no new inter-system interfaces created by the proposed control system upgrade and no significant physical changes to the main steam path, turbine or steam bypass system. The design does not alter or affect any emergency core cooling system (ECCS) or barrier credited in mitigating the consequences of an accident. As such, the proposed activity does not increase the consequences of an accident or malfunction of equipment important to safety as previously analyzed in the UFSAR and will not result in a design basis limit for a fission product barrier being altered or exceeded.

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Summary Report of Completed Changes, Tests, and Experiments

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2 **Tracking Number:** **QC-E-2007-001**

Unit: **Unit 1**

Activity Description

The proposed activity is a Temporary Configuration Change Package (TCCP) that will bypass a faulty Main Steam Line (MSL) tunnel temperature switch. The switch will be bypassed by installing a jumper across the faulted temperature switch. The switch contact is normally closed and opens on high temperature. The remaining three temperature switches in the affected trip string remain operable, meeting the Technical Specifications requirements of two switches per trip string. The installation of the jumper will eliminate spurious "half" Primary Containment Isolation System (PCIS) Group I isolations caused by the faulty temperature switch, preventing an unnecessary plant transient if another isolation signal occurs simultaneously.

Impact of Activity

The TCCP will render a single MSL temperature switch inoperable. The remaining three switches (in the same trip string) will remain operable. Technical Specifications Section 3.3.6.1 requires two of four temperature switches (per trip string) to be operable for the MSL Tunnel High Temperature trip function. The three operable switches satisfy the Technical Specifications minimum requirement and all other trip strings will have four operable temperature switches. No other systems, structures, or components (SSCs) are affected by this TCCP.

Bases for Not Requiring NRC Prior Approval

The 50.59 review determined that the change does not increase the frequency of occurrence or consequences of an accident evaluated in the UFSAR. Further, the TCCP does not increase the likelihood of occurrence or consequences of a malfunction of an SSC important to safety. The change does not create the possibility of an accident of a different type or malfunction of an SSC important to safety from those previously evaluated in the UFSAR. This change does not result in a design basis limit for fission product barrier being exceeded or altered. Finally, the change does not depart from existing design evaluations, analyses, or methodologies.

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3 **Tracking Number: QC-E-2007-002**

Unit: Unit 2

Activity Description

The proposed activity is a Temporary Configuration Change Package (TCCP). The effect of this activity will be the removal (disabling) of a faulty overtravel alarm for control rod H-2. This overtravel alarm is provided by a reed switch at a location of piston travel that is beyond the limits of normal rod travel. If the rod drive piston moves to the overtravel position, an alarm is sounded in the main control room signifying that the control rod has become uncoupled from its associated drive mechanism. The overtravel alarm provides a means to verify that rod coupling is intact, because with the coupling in its normal condition, the drive cannot be physically withdrawn to the overtravel position. The Technical Specifications require a coupling verification each time a control rod is withdrawn to the "full out" position. Even with the overtravel alarm disabled, alternate methods to verify coupling integrity are available (e.g., an overtravel condition may also be detected by a "Rod Drift" alarm when position indication has moved past the "full out" position indication). Since the affected wire (lead) being lifted only affects the overtravel signal, the overall method of operation and control of drive H-2 is not affected. The TCCP has no impact on the overtravel alarm function for any other control rod.

Impact of Activity

The effect of this activity will be the removal (disabling) of the overtravel alarm for control rod H-2. Even with the overtravel alarm disabled, alternate methods to verify coupling integrity are available. The Control Rod Drop Accident (CRDA) is the only accident of concern for this change. The CRDA is defined as a power excursion caused by the accidental removal of a control rod from the core at a rate greater than can be achieved using the control rod drive mechanism. The CRDA assumes a fully or partially inserted control rod falls out of the core after becoming decoupled from its associated drive. This TCCP in no way impacts the coupling mechanism between the control rod and associated drive mechanism. In order to minimize the impact of a CRDA, the Banked Position Withdrawal Sequence (BPWS) process was developed to minimize control rod worths. BPWS applies from the "all rods in" condition to the Lower Power Setpoint (LPSP). Above the LPSP, control rod worths are not high enough to result in a CRDA with unacceptable consequences. Operating procedures require rod following verification checks during startup and during major rod movement by monitoring Local Power Range Monitor (LPRM) response. Procedures require full insertion of rods when rod following cannot be verified below the LPSP. Weekly verification checks are performed on all fully withdrawn rods to ensure coupling integrity. These measures provide assurance that control rods remain coupled throughout the operating cycle. Control rod H-2 has been verified coupled during the weekly control rod exercising. The disabling of the overtravel alarm will not impact the assumptions of the postulated CRDA.

Bases for Not Requiring NRC Prior Approval

The 50.59 review concluded that the activity does not increase the frequency of occurrence or consequences of the CRDA evaluated in the UFSAR. It does not increase the likelihood of occurrence or consequences of a malfunction of an SSC important to safety. It does not create the possibility of an accident of a different type or malfunction of an SSC important to safety from those previously evaluated in the UFSAR, and does not result in a design basis limit for fission

product barrier being exceeded or altered. Finally, this activity does not depart from existing design evaluations, analyses or methodologies.
