



10 CFR 50.59  
10 CFR 72.48

SVP-15-001

January 5, 2015

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. Hanley (Exelon Generation Company, LLC) to U. S. NRC, "10 CFR 50.59 / 10 CFR 72.48 Summary Report," dated January 4, 2013

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, 2013 and December 31, 2014. The referenced letter provided the previous summary report. Note that there were no 10 CFR 72.48 evaluations completed for QCNPS during this time period.

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

Respectfully,

Scott Darin  
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

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# ATTACHMENT

## Summary Report of Completed Changes, Tests, and Experiments

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**1** Tracking Number: QC-E-2012-005

**Unit:** Unit 2

### **Activity Description**

The proposed activity will add a new protective relaying scheme to isolate the Reserve Auxiliary Transformer 22 (RAT 22) upon detection of an open or loss of phase upstream of RAT 22. The new protective relaying scheme augments the existing protective devices which isolate RAT 22. The new relay scheme monitors phase current input from existing Current Transformers on the high-voltage side of RAT 22 to detect an open or loss of phase condition, and on a detected open or loss of phase will initiate a transformer lockout. The open phase relay is provided with a short time delay allowing the detection scheme to differentiate between an open phase condition and a fault condition. This activity addresses a vulnerability identified during an event at Byron Station where a mechanical failure on the "C" phase to the Station Auxiliary Transformer (SAT) created a single phase voltage condition that propagated to the buses fed from the SAT.

### **Impact of Activity**

This activity will install a new relaying scheme to: (1) detect an open or loss of phase upstream of RAT 22, and (2) actuate the existing transformer lockout relays to isolate the transformer upon detection of an open or loss of phase condition. When RAT 22 is isolated, the feed to the associated 4kV buses will automatically be transferred to the Unit Auxiliary Transformer, if available. The actuation of the new scheme will produce the same results as the actuation of existing RAT 22 protection devices. The activity will protect the Class IE electrical system from an open or loss of phase condition. This protective scheme is a new; the initial installation of this activity will only alarm (the tripping action will not be armed). This approach allows an assessment of the functioning and response of the protective relaying scheme. After an appropriate time for assessment, the tripping function will be activated.

### **Basis for Not Requiring NRC Prior Approval**

The proposed activity does not adversely affect RAT 22 capacity or the existing automatic and manual switching capabilities involving the normal, reserve, or emergency feeds to the Station 4kV buses. The proposed activity does not adversely affect existing equipment protection, including protection from overcurrent, undervoltage, or degraded voltage conditions. There is no adverse impact on UFSAR-described design functions and the proposed activity will not adversely affect how the UFSAR functions are performed or controlled. However, the new trip system could result in a loss of offsite power to the 4kV buses on an open or loss of phase condition. However, the review determined that due to the balancing of the positive effects (isolating a degraded power source) and the negligible negative effect (inappropriate isolation of a functioning power source), the proposed activity does not result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the UFSAR. The activity does not involve an adverse change to an element of a UFSAR-described evaluation methodology, or use of an alternative methodology, that is used in establishing the design bases or used in the safety analyses. The proposed activity involves the installation of an additional feature that will disconnect an unreliable offsite power supply to the 4kV buses. Therefore, the proposed activity does not involve a test or experiment not described in the UFSAR, where an SSC is utilized or controlled in a manner that is outside the reference bounds of the design.

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