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Nuclear

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

Quad Cities Nuclear Power Station, Unit 2  
Facility Operating License No. DPR-30  
NRC Docket No. 50-265

Subject: Reply to Notice of Violation 50-265/01-12-01

Reference: Letter from G. E. Grant (U.S. NRC) to O. D. Kingsley (Exelon Generation Company, LLC), "QUAD CITIES NUCLEAR POWER STATION NRC INTEGRATED INSPECTION REPORT 50-254/01-12; 50-265/01-12, and Notice of Violation," dated November 26, 2001

In the referenced inspection report, the NRC issued a cited level IV violation of 10 CFR 50.9, "Completeness and Accuracy of Information," to Exelon Generation Company (EGC), LLC. The violation involved the reporting of reactor oversight process performance indicator information. We have carefully reviewed the violation presented in the referenced inspection report and concur with the violation. The attachment to this letter contains the reply to the violation.

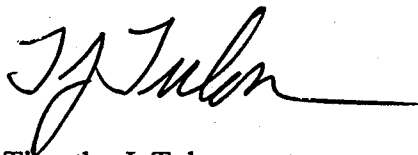
The specific plant issue involved in the violation was the intermittent failure of an Emergency Diesel Generator (EDG) fuel oil transfer solenoid valve to properly operate when transferring fuel oil from the main fuel oil tank to the EDG fuel oil day tank. The root cause was determined to be a design deficiency that resulted in thermal pressurization of the transfer piping beyond the capability of the fuel oil transfer solenoid valve to

properly operate. The EDG fuel oil transfer solenoid valves for the EDG in question and for two other EDG's with similar piping arrangements were replaced with a normally open manual valve or straight run piping, thereby precluding thermal pressurization of the fuel oil transfer piping.

New precedents concerning the Reactor Oversight Process (ROP) and the voluntary NRC performance indicator program continue to evolve. EGC fully supports the ROP and commits that as new plant issues arise we will continue to work with you to understand their treatment under the ROP. EGC will continue to work closely with the NRC Resident Inspectors to address mutual concerns as they arise.

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

Respectfully,

A handwritten signature in black ink, appearing to read "T. J. Tulon", with a long horizontal flourish extending to the right.

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

Attachment: Reply to Notice of Violation

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

## Reply to Notice of Violation

## NOTICE OF VIOLATION 50-265/01-12-01

On November 26, 2001, Inspection Report 50-254/01-12; 50-265/01-12 was issued. This Inspection Report included the following Notice of Violation:

10 CFR Part 50.9 requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, on July 23, 2001, the licensee provided information to the Commission which was not complete and accurate in all material respects. Specifically, the licensee indicated that the root cause of a Unit 2 emergency diesel generator fuel oil transfer system solenoid valve failure resulted from a design deficiency without sufficient justification to support this claim. Subsequent testing performed by the licensee indicated that the failure was not the result of design deficiencies associated with cable insulation and that the root cause of the valve failure was unknown at that time. This information is material to the NRC because it was used by the licensee as a basis to exclude approximately 9 months of fault exposure hours as part of the Second Quarter 2001 Unit 2 Emergency Alternating Current - Safety System Unavailability performance indicator submittal.

## REPLY

Reason for the Violation

The reasons for the violation are:

- Exelon Generation Company (EGC) was untimely in its determination of the cause of the failure of the emergency diesel generator fuel oil transfer (EDG FOT) solenoid. The station acted with less than appropriate urgency given the potential impact on the performance indicator. The station understood the low reactor safety risk associated with this event, but did not fully appreciate that the timeliness of the station's response to this event had the potential to impact the NRC's understanding of plant performance.
- EGC understood that it was appropriate to use preliminary data as a basis for not reporting fault exposure hours versus potentially over-reporting fault exposure hours. EGC now understands that the fault exposure hours should have been promptly reported noting the preliminary nature of the findings.

## Reply to Notice of Violation

The following issues also contributed:

- This event presented a complex technical issue, including apparently disparate data from the Exelon Labs failure analysis of the EDG FOT solenoid and from experiences in the field during the event, as well as the difficulty inherent in understanding the thermal pressurization phenomenon. For Quad Cities this was a first-time application of NEI 99-02 guidance involving the combination of design issues, manual actions, and fault exposure hours. The combination of these issues contributed to an untimely response.
- The error in the Exelon Labs failure analysis of the failed EDG FOT solenoid and the fact that the station did not identify that error prior to the submittal of the performance indicator data directly contributed to the untimely determination of the cause of the failure.

Prior to receipt of the laboratory report, the station had completed an Apparent Cause Evaluation (ACE) that identified a design deficiency in the EDG FOT system. The station analysis determined that the apparent cause was thermal pressurization coupled with degradation of the EDG FOT solenoid. As part of the ACE, further analysis of the EDG FOT solenoid by an independent laboratory was obtained. Upon receipt of the laboratory report, the focus on thermal pressurization as the cause with solenoid degradation as a contributor shifted such that the primary cause of failure was considered to be degraded performance of the EDG FOT solenoid.

Because the two causes (thermal pressurization and degraded solenoid performance) were not mutually supportive of all of the available information, a formal root cause was initiated. The formal root cause analysis was in progress at the time of the performance indicator submittal and at the time of the August resident inspector exit that notified the station of the potential 10 CFR 50.9 violation

### Corrective Steps Taken and Results Achieved

- Exelon Labs identified the cause of the analysis error, re-performed the tests on the EDG FOT solenoid, and issued a corrected report.
- The root cause analysis was completed identifying the root cause as inadequate design such that the fuel oil transfer piping was susceptible to thermal pressurization resulting in a differential pressure that was beyond the capability of the EDG FOT solenoid valve.
- As stated in the inspection report cover letter, a Frequently Asked Question (FAQ) had been submitted to the NRC/NEI task force concerning the use of manual actions to provide fuel oil to the Emergency Diesel Generator day tank when the fuel oil transfer system was unavailable. A response to that FAQ has been approved by the NRC providing guidance that the Emergency Diesel Generator is not unavailable when the fuel oil transfer system is unavailable given the manual actions that can be utilized.

## Reply to Notice of Violation

### Corrective Steps to Avoid Further Violations

- EGC has implemented the industry practice of early submittal of FAQ's for event and site specific issues involving the interpretation of guidance or differences between the NRC and licensee positions.
- This NOV reply and the associated root cause report (RCR) will be communicated to and reviewed with EGC Regulatory Assurance Managers and appropriate site and ROG management, including the organizations accountable for implementation of the performance indicator program.
- This NOV reply and the associated RCR will be provided to EGC Plant Managers and Site Vice Presidents.
- This NOV reply will be provided to the EGC sites through the EGC Nuclear Operations Notification (NON) process.
- The formal guidance provided to site Management Review Committees (MRCs) for evaluating issues with potential to change a performance indicator to YELLOW or RED will be enhanced.
- EGC guidance concerning reporting performance indicator data will be revised to include clear guidelines for reporting performance indicator data prior to completion of an investigation.

### Date When Full Compliance will be Achieved

Full compliance has been achieved.