

# Limerick 1

## 4Q/2008 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 09, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Promptly Implement Actions for a Low SST Level**

Inspectors identified a Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1 for failure to promptly implement actions to recover the Unit 1 skimmer surge tank (SST) level during the 1R12 Unit 1 refueling outage. Prompt action by the operators would have prevented entrainment of the air into the residual heat removal (RHR) system, elevated radiation levels on the refuel floor, and subsequent entry into off-normal procedure ON-120, "Fuel Handling Problems." Exelon entered this issue into their CAP for resolution.

This finding is more than minor because it affects the human performance attribute of the Initiating Events cornerstone and the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated this finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," Attachment 1. This finding is of very low safety significance (Green) because the finding did not require quantitative assessment per Checklist 7 of Attachment 1 to IMC 0609 Appendix G. The reactor time-to-boil during this event was approximately 26 hours and adequate time was available to vent and restart the affected RHR pump in the Alternate Decay Heat Removal (ADHR) mode of operation. Additionally, during the time that ADHR was secured, natural circulation provided reactor coolant flow. This finding has a human performance cross-cutting aspect in the area of work practices. Specifically, operators did not follow OP-AA-103-102, "Watchstanding Practices," in that they did not promptly implement actions required by the applicable alarm response procedure to recover SST level following receipt of the associated control room alarm (H.4(b)). (Section 1R20.3)

Inspection Report# : [2008002](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Sep 12, 2008

Identified By: NRC

Item Type: FIN Finding

#### **Failure to Perform Bleeder Trip Valve Testing**

The inspectors identified a finding of very low safety significance for Exelon's failure to complete the testing described in the Updated Final Safety Analysis Report (UFSAR) for one of the third stage feedwater heater bleeder trip valves. Exelon entered this issue into the corrective action program under issue reports (IRs) 772753, 812344, 817399, and 817443, and on August 28, 2008, started testing bleeder trip valve XV-002-108B at the desired frequency stated in the UFSAR.

The inspectors determined that this finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and has the potential to adversely affect the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Not testing the bleeder trip valves in accordance with the statements in the LGS UFSAR adversely impacted the assumptions in LGS's turbine missile probability analysis thereby potentially increasing the probability for damage to safety-related plant equipment caused by the release of high-energy turbine components.

The inspectors evaluated this finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings," and determined the finding is of very low safety significance. The inspectors also determined that this issue has a problem identification and resolution cross-cutting aspect in the corrective action area because LGS did not thoroughly evaluate the potential impact of an identified problem on the operability of safety-related equipment. Specifically, Exelon did not evaluate the impact that deferred bleeder trip valve testing may have had on the probability that the operability of safety-related equipment could have been impacted by turbine missiles. (P.1(c))

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Mar 22, 2008

Identified By: NRC

Item Type: FIN Finding

### **Failure to Correct Main Turbine Bypass Valve Adverse Condition**

The inspectors identified a Green finding for failure to identify corrective actions for an adverse condition associated with unsatisfactory performance of a Unit 1 main turbine bypass valve following an automatic scram event on March 22, 2008. As a result, an appropriate operability determination was not performed and the issue was not considered by the Plant Operations Review Committee during a restart meeting on March 23, 2008. Exelon entered the issue into the CAP for resolution.

The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was assessed using Phase 1 of IMC 0609, Appendix A, "Significance Determination for Reactor Inspection Findings for At-Power Situations," and determined to be of very low safety significance (Green) because the finding did not represent an actual loss of safety function of single train for greater than its TS allowed outage time. This finding has a cross-cutting aspect of Problem Identification and Resolution (PI&R) because Exelon did not thoroughly evaluate the problem such that the resolution addressed the cause of the condition or the effect the condition had on system operability (P.1(c)). (Section 1R15)

Inspection Report# : [2008002](#) (*pdf*)

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## **Barrier Integrity**

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Correct Adverse Condition Associated with Motor Operated Valves**

The inspectors identified an NCV of Title 10 of the Code of Federal Regulation, Part 20 (10CFR50), Appendix B, Criterion XVI, Corrective Action, for not correcting a condition adverse to quality associated with safety-related motor operated valve motor control center auxiliary contact switches in a timely manner following the failure of the Unit 1 Core Spray Loop A test bypass primary containment isolation valve (HV-052-1F015A) to close on August 3, 2006. As a result, the Unit 2 RCIC turbine exhaust line vacuum breaker outboard primary containment isolation valve (HV-049-2F080) experienced a similar failure to close on June 4, 2008.

The finding was more than minor because it was associated with the structures, systems, and components and barrier containment performance attribute of the Barrier Integrity cornerstone and affected the objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents and events. The inspector assessed the finding using Phase 1 of IMC 0609, Appendix A, "Significance Determination Process for Reactor Inspection Findings for At-Power Situations" and determined the finding to be of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment. This finding has a cross-cutting aspect of Problem Identification and Resolution because Exelon did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with the

safety significance and complexity (P.1(d)). (Section 40A2)

Inspection Report# : [2008003](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

**Significance:** N/A Sep 12, 2008

Identified By: NRC

Item Type: FIN Finding

### Identification and Resolution of Problems

The inspectors concluded that Exelon was generally effective in identifying, evaluating, and resolving problems. Specifically, Exelon personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with the safety significance. For most cases, Exelon appropriately screened issues for operability and reportability and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. However, for one issue reviewed by the inspectors, an inadequate evaluation resulted in an NRC-identified finding. Corrective actions taken to address the problems identified in Exelon's corrective action process were typically implemented in a timely manner.

The inspectors also concluded that, in general, Exelon adequately identified, reviewed, and applied relevant industry operating experience to Limerick Generating Station (LGS) operations. In addition, based on those items selected for review by the inspectors, Exelon's audits and self-assessments were thorough and probing.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employees concerns program issues, the inspectors did not identify any concerns that site personnel were not willing to raise safety issues nor did they identify conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Aug 19, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to translate preventative maintenance practices described in design calculations used to upgrade the LGS 125 ton Reactor Building Bridge Crane into the approved crane inspection procedures.**

A Green non-cited violation (NCV) of 10CFR Part 50, Appendix B, Criterion III, "Design Control" was identified. The NCV was related to the licensee's failure to translate preventative maintenance practices described in design calculations used to upgrade the LGS 125 ton Reactor Building Bridge Crane into the approved crane inspection procedures.

The finding is more than minor because left uncorrected it could become a more significant safety concern if the crane components were allowed to degrade in an undetected manner. Specifically, the failure to develop the preventative maintenance practices would lead to operation of the crane in a degraded condition.

The inspectors used Inspection Manual Chapter 0609 Appendix M, "Significance Determination Process Using Qualitative Criteria," because other significance determination process guidance was not suited to provide reasonable estimates of the significance of this inspection finding. With the assistance of Region I management, the inspectors determined that the finding was of very low safety significance (Green) because there was no actual crane operation problems during any spent fuel handling activities.

Inspection Report# : [2008006](#) (*pdf*)

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