

Limerick 2

2Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Jun 17, 2009

Identified By: NRC

Item Type: FIN Finding

Failure to Adequately Assess Erratic Time Delay Relay Operation on Unit 2 HPCI Operability

The inspectors identified a Green finding associated with the failure to adequately assess erratic time delay relay operation on Unit 2 High Pressure Coolant Injection (HPCI) system operability in a timely manner commensurate with the potential safety significance. Following a failed surveillance test, the Unit 2 HPCI system was considered operable despite having no “as-left” data for a system time delay relay, because of erratic operation, and failing to adequately address the relay’s design basis function. This finding is more than minor because it was associated with the human performance attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors 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 it did not represent a loss of safety function of a single train. This finding has a crosscutting aspect in Human Performance, Decision-Making, because Exelon did not make a safety-significant decision using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained [H.1(a)]. This included not obtaining timely interdisciplinary input and review on the safety significant decision (H.1(a)).

Inspection Report# : [2009003](#) (*pdf*)

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Obtain License Amendment for TS Bases Change

The inspectors identified a Severity Level IV NCV of 10 CFR 50.59, “Changes, Test, and Experiment,” for failing to obtain a Technical Specification (TS) license amendment for a change made to the TS Bases concerning offsite power source operability. Changes made to TS Bases 3/4.8.1 required a change in the TS, because the change caused the bases to be in direct conflict with the requirements of TS Limiting Condition for Operation 3.8.1, “AC Sources Operating,” through the application of associated TS surveillance requirements. Exelon entered this issue into the CAP and issued night orders to operators which required declaring an offsite power supply inoperable when an offsite power supply feeder breaker became unavailable to an emergency bus.

Because this was a violation of 10 CFR 50.59, it was considered to be a violation which potentially impedes or impacts the regulatory process. Therefore, such violations are characterized using the traditional enforcement process. In this case, the licensee failed to perform an adequate safety evaluation in accordance with 10 CFR 50.59 because the approved change to the technical specification basis was in conflict with the TS surveillance requirements. This change required prior approval from the NRC before its implementation. Comparing this item to the examples in NUREG 1600, Supplement I, “Reactor Operations,” this finding is more than minor because NRC approval would have been required. The inspectors completed a Significance Determination Review using NRC IMC 0609, Attachment 4, Phase 1 – Initial Screening and Characterization of Findings. Using the Phase I Screening worksheet

the finding was determined to be of very low safety significance (Green) since the finding did not represent an actual loss of safety function for greater than the TS allowed outage time. Comparing this item to the examples in NUREG 1600, Supplement I, this finding is similar to Item D.5, “Violations of 10 CFR 50.59 that result in conditions evaluated as having very low safety significance (i.e., Green) by the SDP.” This is an example of a Severity Level IV violation. Since the TS Bases change was made in 2000, the inspectors determined that this finding was not reflective of current licensee performance and, therefore, did not have a cross-cutting aspect.

Inspection Report# : [2009002](#) (*pdf*)

Significance:  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Post Maintenance Test following Containment Isolation System Relay Replacement

The inspectors identified a NCV of Technical Specification 6.8.1, “Administrative Controls-Procedures”, because Exelon did not maintain adequate maintenance procedures associated with work performed on the Unit 2 Nuclear Steam Supply Shutoff System (NSSSS). Specifically, the procedures, which performed system relay replacements, did not contain adequate post maintenance testing to demonstrate that the Technical Specification required response times of all circuits affected by the maintenance were satisfied.

The inspectors determined that this finding was more than minor because it was associated with the procedure quality attribute of the Mitigating System cornerstone, and affected the Mitigating System cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. As a result, additional unavailability and engineering evaluation was required to demonstrate satisfactory response times. The finding was determined to be of very low safety significance (Green) because it did not represent a loss of safety function. The inspectors determined this finding has a cross-cutting aspect in Human Performance, Resources, because Exelon did not provide complete and accurate work packages to assure nuclear safety. Specifically, the NSSSS was returned to service without all the required post maintenance testing being performed to demonstrate operability. (IMC 0305 aspect: H.2(c) (Section 1R19).

Inspection Report# : [2008005](#) (*pdf*)

Significance:  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Secondary Containment Control Procedure

The inspectors identified a NCV of Technical Specification (TS) 6.8.1, “Administrative Controls – Procedures,” because Exelon did not maintain adequate procedures in that Emergency Operating Procedure T-103, “Secondary Containment Control,” contained an inappropriate high maximum safe operating flooding level for the Unit 2 High Pressure Coolant Injection (HPCI) room.

The inspectors determined that this finding was greater than minor because it affected the procedure quality attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of the HPCI system. Emergency Operating Procedure T-103, “Secondary Containment Control,” delineated an incorrect value of 40 inches for the Unit 2 HPCI room maximum safe operating (MSO) flooding level. Water at this height in the Unit 2 HPCI room would submerge the auxiliary oil pump and would render the HPCI system inoperable. This finding is of very low safety significance because it did not represent a design or qualification deficiency, a loss of safety system function, an actual loss of safety function of a single train for greater than its TS allowed outage time, or a total loss of any safety function that contributes to external event-initiated core damage sequences. The inspectors determined that this violation has a cross-cutting aspect in the area of problem identification and resolution because Limerick did not perform a thorough extent-of-condition review following a 2005 NCV for a similar issue for the Unit 1 RCIC room MSO level (NCV 05000352/2005003-01). Although the station identified that the Unit 2 HPCI auxiliary oil pump and its associated junction box were located below the MSO level during the review, Limerick did not thoroughly evaluate the impact of the elevation difference on the operation of the HPCI system.

Barrier Integrity

Significance:  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Design Control for Reactor Building Temperatures

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the failure to translate minimum room temperatures assumed in an isolation actuation instrumentation setpoint calculation into Unit 1 and 2 procedures such that reactor building room temperatures were maintained above the minimum assumed. As a result, the reactor enclosure and refueling area ventilation systems were not operated to assure that room temperatures were maintained above the minimum assumed in design basis calculations. Exelon entered the issue into the Corrective Action Program (CAP) for resolution.

This finding was more than minor because it was associated with the Design Control attribute of the Barrier Integrity cornerstone, and affected the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers, including containment, protect the public from radionuclide releases caused by accidents or event. This finding was determined to be of very low safety significance because it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, and heat removal components. This finding has a cross-cutting aspect in Human Performance, Decision Making, because the licensee did not make a safety significant decision using a systematic process to ensure safety was maintained [H.1(a)]. Specifically, the decision to operate the reactor buildings at lower temperatures was made using an informal process within operations, therefore interdisciplinary input and a review by engineering and other support organizations was not obtained

Inspection Report# : [2009002](#) (pdf)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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.

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*)

G

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*)

Last modified : August 31, 2009