Limerick 1
2Q/2008 Plant Inspection Findings

Initiating Events

Significance: G 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)*

Mitigating Systems

Significance: G 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)*

Significance: G Nov 09, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Required Voltage for Load Tap Changer Motor
The team identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, Design Control. Specifically, the licensee did not ensure the automatic load tap changer (LTC) controls and motor for the 101 and 201 safeguards, 10 station auxiliary, and 20 regulating transformers had adequate voltage to operate during design basis events. As a result of a new voltage study, Exelon performed modifications to change the load tap changers response time in 2006 and credited the LTCs for offsite power source operability. The team questioned whether there was sufficient voltage supplied to the LTC motor to prevent it from stalling during the worst case degraded voltage conditions of the transient. In response, the licensee performed a number of calculations, revised existing calculations and received additional information from the LTC vendor to demonstrate that sufficient voltage was available during the worst case degraded voltage levels. The team reviewed and agreed with the conclusion.
The finding was more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the team conducted a Phase 1 screening and determined the finding was of very low safety significance (Green) because it was a design deficiency that did not result in a loss-of-offsite power operability. This issue has a cross-cutting aspect in the area of Human Performance - Resources which requires licensees to ensure that equipment is adequate to assure nuclear safety, specifically: complete, accurate and up to date design documentation.
Inspection Report# : 2007007 *(pdf)*

Significance: G Aug 09, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Fire safe Shutdown Procedure for Securing HPCI
The team identified a finding of very low safety significance (Green) involving a non-cited violation of the Limerick Generating Station operating license, in that the procedure for shutting down the plant in response to a fire in the cable spreading room was not consistent with the safe shutdown analysis. Specifically, impediments related to the safe shutdown procedure would have prevented the operators from securing the high pressure coolant injection (HPCI) system within the design time limit. Fire induced cable failures in the cable spreading room could allow HPCI to overfill the reactor vessel which would adversely affect the operation of the reactor core isolation cooling (RCIC) system and the main steam relief valves (MSRVs).
This issue was more than minor because it affected the procedure quality attribute associated with the mitigating systems cornerstone as related to the objective of ensuring the reliability and availability of the RCIC system and MSRVs under postulated fire scenarios. The finding was of very low safety significance based on a Phase 2 Significance Determination Process (SDP) evaluation performed in accordance with IMC 0609, Appendix F, "Fire Protection Significance Determination Process."
Inspection Report# : 2007006 *(pdf)*

Barrier Integrity

Significance: G 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 4OA2)

Inspection Report# : 2008003 *(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

Last modified : August 29, 2008