Three Mile Island 1
1Q/2013 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Combustible Loading near the 'B' CST within FHAR Limits
[Draft] Green. The inspectors identified a Green non-cited violation (NCV) of license condition DPR-50 section 2.C. (4), Fire Protection, for Exelon's failure to maintain transient combustible loading within fire loading limits near the 'B' condensate storage tank (CST). Specifically, on January 9, the inspectors identified a Portable On-Demand storage (POD) container staged within 50 feet of the 'B' CST. Specifically, the POD and its contents contained substantial transient combustible materials in excess of the allowed fire loading in accordance with the FHAR. The inspectors determined that the failure to maintain transient combustible loading in the restricted area around the 'B' CST within the FHAR limits was a performance deficiency that was within Exelon's ability to foresee and correct. Exelon promptly removed the POD container and restored transient combustible loading within allowable limits. Exelon entered this issue into their corrective action program under IR 1461029. Corrective actions included additional postings around the safety-related above-ground tanks, site-wide notifications and the performance of a root cause evaluation to address recent station fire protection issues.

This performance deficiency is more than minor because it is associated with the Protection Against External Factors (Fire) attribute and adversely affected the Mitigating Systems cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, it was determined to be more than minor since it is similar to more than minor example 4.k of Inspection Manual Chapter (IMC) 0612 , "Power Reactor Inspection Reports," Appendix E because the fire loading was not within the FHAR limits. In accordance with Inspection Manual Chapter (IMC) 0609.04, "Phase 1 – Initial Screen and Characterization of Findings," the inspectors determined the finding affected the administrative controls for transient combustible materials. Therefore, the inspectors conducted a phase 1 SDP screening using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and the inspectors determined that the finding affected the category of Fire Prevention and Administrative Controls in that combustible material was not being properly controlled, the finding had a "low" degradation rating, and the finding was of very low safety significance (Green).
This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Exelon failed to thoroughly evaluate and take appropriate corrective actions for similar transient combustible loading issues such that the cause and extent of condition are fully addressed. [P.1(c)]

Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation

Adequacy of Reactor Building Seismic Gap Flood Seal
Green. The inspectors identified a non-cited violation (NCV) of General Design Criterion 2, "Performance Standards," because Exelon had not established measures to ensure that the seismic gap flood seal was adequate to remain watertight during a probable maximum flood (PMF) event, as required by the TMI design. Specifically, the design requirement for the seismic gap seal specified that it was to be watertight. However, the installed seal configuration had measurable leakage when tested. The inspectors determined that the failure to construct, maintain, and inspect the seismic gap flood seal consistent with its design (e.g., watertight) was a performance deficiency within Exelon's ability to foresee and prevent. Exelon entered this issue into their corrective action program, took appropriate interim corrective actions, and completed permanent modifications to restore the watertight function of the seismic gap barrier.

This finding was more than minor because it was similar to the more than minor example 3.j in Inspection Manual Chapter (IMC) 0612 Appendix E, "Examples of Minor Issues," in that the seal's as-built and maintained configuration resulted in a condition where there was reasonable doubt regarding the functionality of the seismic gap seal to remain watertight during a PMF event. Also, this finding was associated with the protection against external factors attribute of the Mitigating Systems Cornerstone and adversely 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 G, "Shutdown Operations Significance Determination Process," the inspectors performed a bounding risk evaluation using an unavailability period of greater than one year for the watertight seal, and determined this finding was of very low safety significance (Green). This finding has a cross-cutting aspect, as described in IMC 0310, in the area of Human Performance, Decision Making, because Exelon failed to verify the validity of underlying assumptions or continued functionality of the seismic gap flood seal following an external flood re-analysis which revised the design basis PMF conditions. [H.1(b)]
Inspection Report# : 2012005 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct Licensing Basis Flood Barrier and Support Equipment Deficiencies in Intake Screen and Pump House
Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, in that Exelon failed to identify and correct conditions adverse to quality regarding the licensing basis external flood barrier integrity. Specifically, Exelon failed to identify and correct 13 unsealed penetrations through the Intake Screen and Pump House (ISPH) flood barrier and multiple deficiencies that challenged the fulfillment of ISPH support equipment capability to maintain the integrity of the licensing basis flood barrier. The deficiencies were entered into the corrective action program and permanent corrective actions were taken to seal the penetrations to restore the external flood barrier integrity and restoration of the support equipment capability for flood protection.

The finding was more than minor because it is associated with the protection against external factors attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Exelon did not identify and correct 13 unsealed penetrations in a licensing basis external flood barrier and its associated support equipment deficiencies such that the barrier is fully capable of maintaining the ISPH free of flood water. The inspectors evaluated the finding in accordance with IMC 0609, Appendix A, Exhibit 2 – Mitigating Systems Screening Questions and Exhibit 4 – External Events Screening Questions and determined that a detailed risk evaluation was required based upon the assumed complete failure of the flood barrier would degrade two trains of Decay Heat Removal. A detailed risk evaluation modeled in SAPHIRE 8 using the TMI SPAR model version 8.18 determined the finding to be of very low safety significance (Green). This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Exelon failed to identify the unsealed penetrations through the flood barrier and multiple deficiencies in supporting equipment in a timely manner commensurate with its safety

significance. [P.1(a)]

Inspection Report# : 2012005 *(pdf)*

Significance: TBD Dec 31, 2012
Identified By: NRC
Item Type: AV Apparent Violation
Failure to Identify and Correct Missing Electrical Conduit Flood Seals in the Air Intake Tunnel
TBD. The inspectors identified an apparent violation (AV) of 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, was identified during the TI-187 flooding walkdowns for Exelon's failure to identify and correct an external flood barrier deficiency. Specifically, Exelon failed to identify and correct, during external flood barrier walkdowns, that electrical cable conduits were not flood sealed in the Air Intake Tunnel (AIT), as designed, to maintain the integrity of the external flood barrier. The deficiency was entered into Exelon's corrective action process and permanent corrective actions were taken to seal the electrical conduits and restore the external flood barrier integrity.

The finding was determined to be more than minor because it is associated with the protection against external factors attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Exelon failed, during multiple focused walkdowns, to identify the degraded external flood barrier in the Crouse-Hinds couplings in the AIT that challenged the external flood barrier operability. The significance of the degraded external flood barrier is to be determined and cannot accurately be calculated
until additional testing and analysis of the as-found configuration is complete. Specifically, Exelon is performing additional testing on the capability of as-found foam fire sealant material, present in the conduits at the AIT/Aux Building interface, to mitigate flood water entry into the safety-related structures. These results will be an input into the licensee's flood mitigation aggregate impact review. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Exelon failed to review the external flood barrier with a low threshold for identifying issues which resulted in the failure to identify the unsealed electrical conduits in the AIT in a timely manner commensurate with its safety significance. [P.1(a)]

Inspection Report# : 2012005 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Combustible Loading in the BWST Tunnel within FHAR Limits
The inspectors identified a Green non-cited violation (NCV) of license condition DPR-50, section 2.C.(4), Fire Protection, for Exelon storing transient combustibles in excess of the fire loading allowed near the borated water storage tank (BWST). Specifically, on July 11, the inspectors identified eight bags of trash/transient combustible materials stored within 50 feet of the BWST which is in excess of the allowed fire loading in accordance with the Fire Hazards Analysis Report (FHAR) and transient combustible control program. The inspectors determined that the failure to maintain combustible loading in the BWST tunnel within the FHAR limits was a performance deficiency that was within Exelon's ability to foresee and correct. Exelon promptly removed the improperly stored transient combustibles and entered the performance deficiency into their corrective action program as issue report 1388097. Corrective actions were implemented to alert technicians of the restrictions on transient combustible materials near the BWST.

This finding was determined to be more than minor since it is similar to more than minor example 4.k of Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix E, because the fire loading was not within the FHAR limits. In accordance with Inspection Manual Chapter (IMC) 0609.04, "Phase 1 – Initial Screen and Characterization of Findings," the inspectors determined the finding affected the administrative controls for transient

combustible materials. Additionally, the inspectors determined that this issue was more than minor because it affected the protection against external events attribute of the mitigating systems cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors conducted a phase 1 SDP screening using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and the inspectors determined that the finding affected the category of Fire Prevention and Administrative Controls in that combustible material was not being properly controlled, the finding had a "low" degradation rating, and the finding was of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of Human Performance, Resources, because Exelon failed to appropriately ensure interdepartmental coordination during the work activities such that the transient combustibles were promptly removed from the BWST tunnel. [H.3(b)]
Inspection Report# : 2012004 *(pdf)*

Significance: G May 25, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions Associated with ESAS relay replacement
The inspectors identified a finding of very low safety significance (Green) involving a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for Exelon's failure to implement prompt corrective actions following the identification of a degraded engineered safeguards actuation system (ESAS) emergency diesel generator (EDG) block load relay. Specifically, Exelon staff did not perform a relay replacement in a timely manner to correct a condition adverse to quality commensurate with its safety significance. This resulted in an EDG block load relay failing a subsequent surveillance test on April 24, 2012. Exelon staff entered this issue into their corrective action program as issue report (IR) 1368183 and replaced the relay on May 31, 2012.

This finding is more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609.04, "Phase – Initial Screen and Characterization of Findings," the inspectors conducted a Phase 1 SDP screening and determined that the finding was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as potentially risk significant due to external initiating events. Specifically, Exelon staff's past operability evaluation affirmed the relay would have performed its safety function given the degraded relay condition that existed. This finding had a cross-cutting aspect in the area of problem identification and resolution in that Exelon staff actions were not timely in addressing an adverse trend associated with a degraded ESAS block load relay. [P.1(d)]
Inspection Report# : 2012008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : June 04, 2013