Nine Mile Point 2
3Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2015
Identified By: Self-Revealing
Item Type: FIN Finding
Use of Incorrect Grounding Cart Results in Loss of Electrical Bus
The inspectors identified a self-revealing Green finding (FIN) for Exelon Generation Company, LLC (Exelon) personnel's failure to stop when met with unexpected conditions as required by procedure HU-AA-101, "Human Performance Tools and Verification Practices." On August 21, 2015, a Unit 2 division of normal switchgear was unintentionally deenergized which required an unplanned down power to 90 percent and special operating procedure entry. The loss of the switchgear was the result of installation of an incorrect sized grounding cart in the electric fire pump breaker cubicle during breaker maintenance. Use of the correct sized grounding cart was discussed during the pre-job brief. This resulted in the loss of the electric fire pump, half of the drywell coolers, a heater drain pump, and unplanned reactivity change. Exelon entered this issue into their corrective action program for resolution and developed corrective actions which included developing procedures for the use of grounding carts and evaluating where other "skill of the craft" work may pose the same risk.

This finding is more than minor because it is associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. In accordance with Inspection Manual Chapter (IMC) 0609.04, "Initial Characterization of Findings," and Exhibit 1 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined that this finding is of very low safety significance (Green). The finding has a cross-cutting aspect in the area of Human Performance - Challenge the Unknown, because Exelon personnel failed to stop when faced with uncertain conditions. Specifically, after having been briefed on the different stab sizes for 1200 amp and 2000 amp grounding carts, Exelon personnel failed to stop and notify supervision when faced with unlabeled grounding carts stored in the same location, Exelon personnel failed to notify supervision or compare stab sizes to ensure the correct grounding cart was used.

Inspection Report# : 2015003 *(pdf)*

Significance: G Mar 31, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Perform an Adequate Review of Planned Work Activities Results in a Manual Reactor Scram
The inspectors documented a self-revealing Green finding (FIN) for Exelon's failure to properly review a work package associated with the replacement of a reactor vessel level recorder as required by MA-AA-716-234, "FIN Team Process," Revision 8. Specifically, on February 18, 2015, control room operators manually scrammed Unit 2 when reactor vessel water level unexpectedly rose above desired limits during a planned replacement of Unit 2 reactor vessel level recorder 2ISC-LR1608. The unplanned rise in reactor water level occurred when daisy chained leads associated with the level recorder were lifted, which caused an interruption in the feedwater level control circuit.

The inspector's determined that Exelon's failure to ensure measures were in place to address the impact on reactor

vessel level prior to level recorder replacement in accordance MA AA 716 234 was a performance deficiency that was reasonably within Exelon's ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, Exelon did not ensure measures were in place to prevent an adverse impact on the feedwater level control system during level recorder replacement. This resulted in a rapid rise in reactor water level and subsequent manual reactor scram.

In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 1 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because while the performance deficiency caused a reactor scram, it did not result in the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency, because Exelon failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk even while expecting successful outcomes. Specifically, Exelon did not ensure measures were in place to address the impact of the level recorder replacement on the feedwater level control system [H.12].

Inspection Report# : 2015001 *(pdf)*

Mitigating Systems

Significance: N/A Dec 31, 2014
Identified By: NRC
Item Type: VIO Violation
Incomplete and Inaccurate Medical Information Provided by the Licensee Which Impacted Issuance of Initial and Renewal Licenses
During an internal audit, Exelon identified multiple examples of an Apparent Violation (AV) of 10 CFR 50.74 associated with the licensee's failure to notify the NRC within 30 days of changes to licensed operator medical status. During a follow-up inspection, the NRC identified an additional instance of this issue. The NRC also identified multiple examples of an AV of 10 CFR 50.9 for providing information to the NRC in applications for new and/or renewed reactor operator licenses that was not complete and accurate in all material respects and of 10 CFR 55.33(a)(1) for failing to restrict seven operators with disqualifying medical conditions from performing licensed duties without appropriate license conditions.

Compliance was restored on September 25, 2014, when the licensee submitted a letter to the NRC with medical examination Form 396s indicating the new restrictions for the affected operators on shift, and on November 5, 2014, when the licensee requested termination of the license for another operator. This issue was entered into the licensee's corrective action program.

The inspectors determined that Nine Mile Point's failures to report changes in licensed operators' permanent medical conditions to the NRC, to restrict operators with disqualifying medical conditions from performing licensed activities, and to provide complete and accurate information to the NRC was a performance deficiency that was within the licensee's ability to foresee and correct and should have been prevented. The inspectors determined that traditional enforcement applies, as the issue impacted the NRC's ability to perform its regulatory function. Namely, the NRC relies upon the licensee to ensure all new license applicants and licensed operators meet the medical conditions of their licenses. If, during the term of the individual operator license, the operator develops a permanent physical or mental disability that causes the operator to fail to meet the requirements of 10 CFR 55.21, the facility licensee shall notify the Commission, within 30 days of learning of the diagnosis, in accordance with 10 CFR 50.74(c). If the

general medical condition of an operator does not meet the minimum standards, the operator must be removed from the conduct of licensed activities, unless the NRC has authorized the operator to continue to perform such functions. Additionally, the NRC issued initial and/or renewal licenses to seven operators based on information that was not complete and accurate in all material aspects. The performance deficiency was screened against the ROP per the guidance of IMC 0612, Appendix B, "Issue Screening." No associated ROP finding was identified and no crosscutting aspect was assigned. This issue constitutes apparent violations in accordance with the NRC's Enforcement Policy, and its final significance will be dispositioned in separate future correspondence.

Inspection Report# : 2014005 *(pdf)*
Inspection Report# : 2015008 *(pdf)*

Barrier Integrity

Significance: G Aug 28, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Identify and Correct a Condition Adverse to Quality Associated with Secondary Containment Leakage
The inspectors identified a Green non-cited violation of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Actions," because between 2007 and 2015, Exelon staff did not promptly identify and correct a deficiency associated with Unit 2 reactor building service water pipe penetration W-3177-C. Specifically, on August 20, 2015, during Exelon staff's investigation of an inspector concern associated with the service water pipe penetration into secondary containment, a leakage path into secondary containment was discovered and was not previously identified and evaluated for impact on operability of Unit 2 secondary containment. Exelon generated issue report (IR) 2544831 to document the newly identified condition. The assessment included a review of previously identified leakage paths that were being tracked in accordance with procedure, previously performed secondary containment drawdown leakage testing, and a comparison to the maximum allowable flow rate leakage area. The assessment concluded that based on the gap that was identified at secondary containment penetration W-3177-C, there was a new total of 1.783 square inches of surface area allowing leakage into the Unit 2 secondary containment. Exelon determined this to be acceptable because calculations for secondary containment drawdown testing allows for up to 33.6 square inches of surface area causing in-leakage into secondary containment. Given 1.783 square inches of total identified leakage being less than the allowable 33.6 square inches, there was reasonable assurance that standby gas treatment system will be able to perform its drawdown function and maintain secondary containment vacuum greater or equal to 0.25 inches of vacuum water gauge in accordance with Technical Specification (TS) 3.6.4.1, "Secondary Containment."

This performance deficiency was more than minor because it impacted the design control attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, Exelon's staff failed to identify the degraded penetration seal that impacted the reasonable assurance of Unit 2 secondary containment operability. In accordance with Inspection Manual Chapter (IMC) 0609.04, "Initial Characterization of Findings," and Exhibit 3 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined this finding was of very low safety significance (Green) because the finding only represented a degradation of the radiological barrier function provided for the control room, or auxiliary, spent fuel pool, or standby gas treatment system (i.e., secondary containment). This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because Exelon staff failed to properly evaluate the condition identified in multiple IRs to determine the extent of condition associated with secondary containment water in-leakage.

Specifically, between 2007 and 2015, three IRs were generated and a 2012 structural monitoring review documented the service water penetration water in-leakage and the issue was not appropriately evaluated for the potential for a service water pipe through-wall leak or the potential impact on secondary containment. [P.2]

Inspection Report# : 2015009 *(pdf)*

Significance: G Dec 31, 2014
Identified By: NRC
Item Type: NCV Non-Cited Violation
Missed Surveillance Test of Alternate Decay Heat Removal Secondary Conainment Isolation Valves
[DRAFT] The ADH removal system is a non-safety-related system used to remove decay heat from the spent fuel pool (SFP) and the reactor core during shutdown conditions. It consists of two loops—a primary loop that circulates hot water from the SFP to a heat exchanger (HX), and a secondary loop that transfers the heat from the HX to a natural draft cooling tower. Although the ADH removal system is not safety related, a section of the ADH removal system which penetrates the reactor building (RB) wall (secondary containment boundary) is safety related and is subject to leak rate testing to ensure the requirements of TS 3.4.6.1, "Secondary Containment," are maintained. This section consists of two separate pipes that contain two safety-related check valves in series 2ADH*V21A, 2ADH*V21B, 2ADH*V22A, and 2ADH*V22B. Secondary containment integrity can be verified by leak testing the check valves or repositioning spectacle flanges that are installed in each of the lines to the no flow position, which provides full isolation of the secondary containment to the atmosphere.

During an inspection of the system in the plant on October 28, 2014, the inspectors identified that the spectacle flanges for each line were not repositioned to the no-flow position. In response to the inspector's observation, Exelon reviewed previous surveillance tests performed under N2-OSP-GTS-R001 and determined that tests performed in 2012 and 2014 were not implemented correctly. Specifically when operators performed section 8.2.1 of procedure N2-OSP-GTS-R001, they marked a check box that stated the flanges were repositioned to the no flow condition when, in fact, they had not been moved. As a result, operators should have conducted a seat leak check on valves 2ADH*V21A, 2ADH*V21B, 2ADH*V22A, and 2ADH*V22B to ensure the secondary leakage requirements of TS 3.4.6.1 were maintained. Exelon identified the last successfully performed secondary containment integrity test was performed in 2010, which verified the ADH isolation check valves were leak-tight without the spectacle flanges rotated to the no flow condition.

Exelon immediately entered this issue into their CAP as IR 2403311. Exelon entered TS Surveillance Requirement (SR) 3.0.3, which is used when a licensee discovers that a surveillance test requirement has not been performed. As required by the TS, Exelon completed a risk evaluation of the missed surveillance and determined large early release frequency remained low without ADH secondary containment isolation. Exelon also performed extent-of-condition inspections for other systems which may not have proper alignment to ensure they are meeting TS requirements. No other valve lineup issues were discovered. On December 4, Exelon rotated the spectacle flanges to the no flow isolation position to ensure secondary containment integrity was maintained.

Inspection Report# : 2014005 *(pdf)*

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: FIN Finding
Loss of Secondary Containment due to Loss of Auxiliary Boiler System
The inspectors identified a Green finding (FIN) of CNG-PR-1.01-1005, "Control of Technical Procedure Format and Content," Revision 00500, because Exelon Generation Company, LLC (Exelon) provided Unit 2 operators with an inadequate auxiliary boiler system operating procedure. Specifically, N2-OP-48, "Auxiliary Boiler System," Revision

01100.00, did not provide operators adequate detail to properly establish chemistry requirements for water conductivity of the auxiliary boiler system. On March 23, 2014, when Unit 2 experienced a trip of the auxiliary boiler system due to inadequate water conductivity, operators became challenged with system restoration which caused an unplanned loss of secondary containment and entry into Technical Specification (TS) 3.6.4.1, "Secondary Containment." Exelon generated condition report CR-2014-002281 regarding this issue. Immediate corrective actions included updating chemistry requirements associated with auxiliary boiler procedures, implementing new preventive maintenance strategies for significant components associated with the auxiliary boilers, and implementing new performance monitoring plans.

This finding is more than minor because it affected the procedure quality attribute of the Barrier Integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, over the past 2 years, the auxiliary boilers have experienced trips as a result of insufficient procedural guidance. On March 23, 2014, the inadequate procedural guidance resulted in a trip and subsequent loss of reactor building (RB) differential pressure (DP). This caused an unplanned entry into the secondary containment emergency operating procedure and an unplanned entry into TS 3.6.4.1, which presented unnecessary challenges and distractions to operators during a planned down-power. In accordance with Inspection Manual Chapter (IMC) 0609.04, "Initial Characterization of Findings," the inspectors used IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," because secondary containment was declared inoperable following a loss of building heating. Using Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," Section C, "Control Room, Auxiliary, Reactor, or Spent Fuel Pool Building," the inspectors determined that this finding is of very low safety significance (Green) because although the performance deficiency resulted in a trip of the auxiliary boiler system and a loss of secondary containment, the RB DP was restored to greater than 0.25 inches of water, within the allowable limiting condition for operation time, and did not result in a failure of the ability for secondary containment to maintain isolation or impact the ability for standby gas treatment system to maintain secondary containment. This finding has a cross-cutting aspect in the area of Human Performance, Resources, because Exelon did not ensure personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety. Specifically, the inadequate management oversight of the auxiliary boilers resulted in numerous failures of the auxiliary boilers due to inadequate knowledge transfer, inaccurate classifications of maintenance rule functional failures for the system, inadequate procedures for boiler operation, and inadequate procedures for the prompt restoration of secondary containment when the auxiliary boiler system is not available [H.1]

Inspection Report# : 2014004 *(pdf)*

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

Significance: N/A Sep 15, 2015
Identified By: NRC
Item Type: FIN Finding
Biennial PI&R Assessment
The inspectors concluded that Exelon Generating Company, LLC (Exelon) was generally effective in identifying, evaluating, and resolving problems. Exelon personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. Exelon appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that Exelon typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified two violations of NRC requirements in the area of evaluation of problems.

The inspectors concluded that, in general, Exelon adequately identified, reviewed, and applied relevant industry operating experience to NMPNS operations. In addition, based on those items selected for review, the inspectors determined that Exelon's self-assessments and audits were thorough.

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 employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : 2015009 *(pdf)*

Last modified : December 15, 2015