Limerick 2
2Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Technical Specification Surveillance Requirements on the Unit 2 Primary Containment Instrument Gas System
The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1.a, "Procedures and Programs," for Exelon's failure to implement surveillance test procedures specified for the Primary Containment Instrument Gas (PCIG) system as required by Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements." Specifically, Exelon's PCIG local leak rate procedures, ST-4-LLR-011-2 and ST-4-LLR-241-2, incorrectly credited the surveillance testing of the PCIG supply header 'B' check primary containment isolation valve (059-2005B) in ST-6-059-201-2 "PCIG Valve Test" which resulted in entry into TS 4.0.3 for a missed surveillance. Exelon's corrective actions included an extent of condition review and revising PCIG check valve surveillance testing to correct the crediting of the wrong check valves due to the successful completion of Local Leak Rate Testing (LLRT). Exelon has entered this issue into their CAP as IR 1554992 and 1569903.

The failure to perform the surveillance requirements specified for the PCIG system, specifically, incorrectly crediting the surveillance testing of PCIG check valve 059-2005B which resulted in a missed surveillance, is a performance deficiency. The performance deficiency was determined to be more than minor, because it adversely affected the Procedure Quality attribute of the Mitigating Systems cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Exelon failed to ensure that the PCIG system surveillance testing adequately tested and credited the successful completion of LLRT. The finding is of very low safety significance (Green) per IMC 0609, Appendix A, Exhibit 2 - "Mitigating Systems Screening Questions," because the PCIG system was determined to maintain its operability and functionality, does not represent a loss of system and/or function and does not represent an actual loss of function of a single train for greater than its TS allowed outage time. The inspectors determined that the finding had a cross-cutting aspect in the area of PI&R, CAP, because Exelon did not thoroughly evaluate problems such that resolutions address causes and extent of conditions, including properly classifying, prioritizing, fully evaluated, and that actions are taken to address safety issues in a timely manner, commensurate with their safety significance [P.1(c)]. Specifically, Exelon personnel did not adequately address, thoroughly evaluate, and prioritize IR 1498740 which documented potential deficiencies with Unit 2 PCIG check valve testing, in a timely manner (Section 1R13). Converted cross cutting aspect to P.2.

Inspection Report# : 2013004 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions Following Repeat Test Failures of a High Pressure Coolant Injection System Level Instrument
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to adequately evaluate and correct repeat calibration test failures in April 2012 and in February 2014 on the Unit 2 high pressure coolant injection (HPCI) system suppression pool level transmitter LT-055-2N062F. This resulted in LT-055-2N062F, a technical specification (TS) required instrument, being in a degraded and unreliable condition. The inspectors determined that failure to adequately evaluate and correct the condition was reasonably within the ability to foresee and correct, and should have been prevented. LGS entered the issue into their corrective action program (CAP) for resolution as Issue Reports (IRs) 1646041, 1651480, and 1659171.

This NRC-identified finding is more than minor because it affected the Barrier Integrity cornerstone attribute of the reliability and availability of structures, systems, or components to maintain the functionality of containment and affected the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. The inspectors evaluated the finding using Appendix A, "The Significance Determination Process for Findings At-Power," to IMC 0609, "Significance Determination Process." This finding was determined to be of very low safety significance (Green) because it was associated with the functionality of the reactor containment but didn't represent an actual open pathway in the physical integrity of containment, the containment isolation system, and heat removal components and, the finding did not involve an actual reduction in function of hydrogen igniters. In addition, the logic for the HPCI pump suction swap from the condensate storage tank to the suppression pool on high level in the suppression pool is a one-out-of-two logic. The inspectors determined that this function was available because the other channel which performs the function was not affected by the finding and was available during the time period in question with the exception of during brief testing periods.

The finding has a cross-cutting aspect in Problem Identification and Resolution, Evaluation, because LGS personnel did not thoroughly evaluate the issue to ensure that resolutions addressed the causes and extent of conditions commensurate with their safety significance [P.2].
Inspection Report# : 2014003 *(pdf)*

Significance: G Dec 31, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Properly Plan Work for Failed Airlock Door Magnetic Switch
The inspectors identified a self-revealing finding (FIN) of very low safety significance (Green) was identified for Exelon's failure to appropriately prioritize work activities associated with a degraded Unit 2 magnetic switch for a secondary containment airlock door in accordance with Exelon procedure WC-AA-106, "Work Screening and Processing." This contributed to multiple airlock doors being opened simultaneously and resulted in a loss of reactor enclosure secondary containment integrity.

The failure of the station to properly prioritize the work order for the defective magnetic switch for the Unit 2 313' elevation reactor building-to-reactor building air supply room access airlock doors was a performance deficiency that was reasonably within Exelon's ability to foresee and correct and could have been prevented. This was caused by not performing a site impact review of reportability clarifications made by NUREG 1022, "Event Report Guidelines 10 CFR 50.72 and 50.73," Revision 3. The performance deficiency was also contrary to Exelon's procedure for work screening and processing. The finding was determined to be more than minor because it was associated with the Barrier Integrity cornerstone attribute of SSC and Barrier Performance (doors and instrumentation) and affected the

cornerstone objective of providing reasonable assurance that physical design barriers (secondary containment) protect the public from radionuclide releases caused by accidents or events. Specifically, opening two reactor building airlock doors at the same time did not maintain reasonable assurance that the secondary containment would be capable of performing its safety function in the event of a reactor accident. The finding was determined to be self-revealing because it was revealed through the receipt of an alarm in the main control room which required no active and deliberate observation by Exelon personnel. The finding was determined to be of very low safety significance (Green) in accordance with Appendix A of IMC 0609, "Significance Determination Process (SDP) for Findings At-Power." Specifically, the finding only represents a degradation of the radiological barrier function provided for the SBGT system. Exelon entered the issue into the CAP as IR 1553563. Corrective actions performed or planned included repairing the magnetic switch, verifying that the corrective maintenance backlog did not contain any other issues involving the airlock door indicating lights, developing a periodic routine test of the airlock door indicating circuits, and performing a site impact review of the changes make by NUREG 1022, Revision 3.

This finding had a cross-cutting aspect in the area of Human Performance, Resources, because Exelon did not ensure that resources were available to minimize preventative maintenance deferrals and ensure maintenance and engineering backlogs were low enough to ensure that safety is maintained [H.2(a)]. Specifically, Exelon deferred implementation of the work order several times over a three year period which resulted in secondary containment becoming inoperable on September 3, 2013. Note: the cross-cutting aspect of this finding was changed from H.6, following IMC 0310 conversion, to H.3 per NRC Region I Letter from Ho K. Nieh, dated July 9, 2014. This change was also documented in NRC IR 05000352,353/2014003.

Inspection Report# : 2013005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Significance: G Mar 24, 2014
Identified By: NRC
Item Type: FIN Finding
Failure to Evaluate ODCM Change in Accordance with Technical Specification 6.14
The NRC identified an NCV of T/S 6.14, Offsite Dose Calculation Manual (ODCM), for failure to evaluate and provide sufficient information to support a change to the ODCM. Specifically, LGS revised the ODCM to allow the RHRSW monitors to be non-functional due to loss of flow for a period of up to 4 hours before they were required to be declared inoperable and did not provide sufficient information to support the change including a determination that the change would maintain the level of radioactive effluent release control. LGS entered the issue into their CAP as IR 1639697 and revised the applicable alarm response card (ARC-MRC-010 E4) to declare the monitor inoperable under similar conditions. A dose calculation was also completed that indicated no significant public dose consequences associated with the monitor’s inoperable status.

The failure to evaluate and provide sufficient information to support a change to the ODCM, in accordance with the requirements of TS 6.14 is a performance deficiency. This performance deficiency is more than minor because it affected the Public Radiation Safety Cornerstone attribute of Plant Facilities/Equipment and Instrumentation. Using IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, the inspectors determined this to be a finding of very low safety significance (Green) because: the finding was in the effluent release program; was not a substantial failure to implement the effluent program; and the dose to the public did not exceed the 10 Code of Federal Regulations (CFR) Part 50 Appendix I criterion or 10 CFR 20.1301(e) limits. This finding was associated with a cross cutting aspect of Human Performance, Design Margins. Specifically, LGS did not conduct a sufficiently rigorous review of a change in the operability status of a safety-related radiation monitor (RHRSW radiation monitors) to ensure that the change would not adversely impact the level of radioactive effluent release control (H.6).

Inspection Report# : 2014002 *(pdf)*

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

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