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## Limerick 2 – Quarterly Plant Inspection Findings

### 4Q/2017 – Plant Inspection Findings

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#### Initiating Events

#### Mitigating Systems

**Significance:** G May 11, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Inadequate Work Instructions for Staging of Equipment and Routing of Temporary Power Cables**

The inspectors identified a Green NCV of 10 Code of Federal Regulations (CFR) 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for Exelon's failure to establish instructions appropriate to the circumstances to properly stage equipment and route temporary power cables. Specifically, during cell replacement of the Class 1E '2A2' 125/250 volts direct current (Vdc) safeguards battery, a portable battery charger was staged adjacent to operable '2A1' battery cells and not restrained to prevent potential tipping and shorting of exposed battery cell terminals and a non-safety related extension cord was routed in near contact with exposed safety related cables in an open cable tray. Exelon moved the portable battery charger, removed and rerouted extension cords, and entered the issues into the corrective action program as issue report (IR) 3980217; IR 3980203; and IR 3983203.

This finding is more than minor because it adversely affected the configuration control attribute of the mitigating systems cornerstone to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, the portable battery charger was adjacent to the '2A1' battery rack and oriented such that it was susceptible to tipping over and causing electrical shorting, and a non-safety related temporary power cable connected to a non-safety related power source was routed in near contact with safety related cables in an open cable tray which introduced a potential to damage and disable safety related equipment. Using IMC 0609, Appendix A, Exhibit 2, the inspectors determined that this finding was of very low safety significance (Green). Specifically, the finding did not represent a loss of system or function and did not represent the loss of a single train for greater than technical specification allowed outage times or greater than 24 hours. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Training, because Exelon did not provide sufficient training to maintain a knowledgeable workforce and instill nuclear safety values associated with the staging

of material and equipment. [H.9] (Section 1R04)

Inspection Report# : 2017001 (*pdf*)

## Barrier Integrity

**Significance:** G Jul 31, 2017

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Inadequate Design Control of the Drywell Unit Cooler Condensate Flow Rate Monitoring System**

A self-revealing Green NCV of 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," occurred when Exelon failed to verify or check the adequacy of design of a new Unit 2 drywell unit cooler condensate flow rate monitoring system. Specifically, the design did not identify that the low conductivity of the drain fluid affected the ability of the flow elements to accurately detect drain flow. In addition to this, LGS staff did not assure adequate post modification acceptance testing in accordance with CC-AA-107-1001, "Post Modification Acceptance Testing." This inadequately designed and tested modification also resulted in a violation of technical specification (TS) 3.4.3.1, "Leakage Detection Systems," because the system was inoperable and unavailable to perform its function following the Unit 2 April 2015 refueling outage, and the TS 3.4.3.1 action statement was not met until the system was declared inoperable on December 10, 2015. In response to this issue, Exelon initiated a condition report, IR 2598308, performed an apparent cause investigation, and replaced the Rosemount drywell unit cooler condensate flow rate monitoring system with a modified version of the previously used system.

The inspectors determined that the failure to verify the adequacy of the newly installed Rosemount drywell unit cooler condensate flow rate monitoring was within Exelon's ability to foresee and correct and should have been prevented and therefore was a performance deficiency. This issue is more than minor because it adversely affected the design control attribute of the barrier integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the Unit 2 drywell unit cooler condensate flow rate monitoring system was inoperable and unavailable to perform its function as part of the reactor coolant leakage detection system following the Unit 2 April 2015 refueling outage. This issue was evaluated in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 3, "Barrier Integrity Screening Questions," Section B, "Reactor Containment." The finding was determined to be of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of the reactor containment and did not involve an actual reduction in function of hydrogen igniters in the reactor containment. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Conservative Bias, because LGS staff made inappropriate decisions based on informal vendor input and a successful implementation of the modification at another facility. [H.14] (Section 40A3)

Inspection Report# : 2017002 (*pdf*)

## Emergency Preparedness

### Occupational Radiation Safety

### Public Radiation Safety

### Security

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security

inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

### **Miscellaneous**

Current data as of : February 01, 2018

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