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## **Limerick 2 – Quarterly Plant Inspection Findings**

### **2Q/2017 – Plant Inspection Findings**

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### **Initiating Events**

**Significance:** G Sep 30, 2016

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Inadequate Design Control of Plant Processing Computer Modification**

A self-revealing finding of very low safety significance (Green) was identified when Exelon did not implement their engineering design control procedures during the plant processing computer (PPC) modification. Specifically, procedure CC-AA-103-1003, "Owner's Acceptance Review of External Engineering Technical Products," requires that effects on other plant systems have been addressed, and procedure CC-AA-107-1001, "Post Modification Acceptance Testing," section 4.4.3, states that the testing boundary should encompass not only the equipment modified, but also any components whose operation may have been altered by the modification. The PPC modification had a wiring design error that resulted in the trip of both reactor recirculation pumps (RRPs) which required a manual reactor scram of Unit 2. In response to this issue, Exelon initiated IR 2676712, investigated the cause of the scram, fixed the wiring design error, performed a root cause evaluation, and performed an extent of condition review.

This issue is more than minor because it adversely affected the design control attribute of the initiating events cornerstone to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the PPC modification process had a wiring design error that resulted in the trip of both RRP's which required a manual reactor scram of Unit 2. The issue was evaluated in accordance with IMC 0609, Appendix A, "Significance Determination Process for Findings At-Power," using Exhibit 1, "Initiating Events Screening Questions," Section B, "Transient initiators." The finding was determined to be of very low safety significance (Green) because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Challenge the Unknown, because LGS staff did not stop when faced with uncertain conditions, and risks were not evaluated and managed before proceeding. Specifically, Exelon did not stop and reevaluate the risks and effects on plant systems when changes were made to the

PPC design modification package. [H.11] (Section 40A3)  
Inspection Report# : 2016003 (*pdf*)

## Mitigating Systems

**Significance:**  Mar 31, 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*)

**Significance:**  Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Control Structure Chiller Unit Trip Caused by Failure to Implement Procedures**

A self-revealing Green NCV of LGS Units 1 and 2 technical specification 6.8.1 was identified when Exelon did not properly implement a surveillance procedure. Specifically, operators secured cooling water to the operating 'A' control structure chilled water system (CSCWS) chiller unit which resulted in the unit automatically tripping to prevent damage. Operators restored cooling water flow in accordance with procedures. Exelon entered the issue into the corrective action program as IR 2720374.

This finding is more than minor because it is associated with the human performance 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, the loss of cooling water to the 'A' CSCWS chiller unit resulted in a trip of the unit on high condenser pressure and rendered the chiller unavailable. 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, Avoid Complacency, because operators did not recognize and plan for the possibility of mistakes and inherent risk and did not use appropriate error reduction tools. [H.12] (Section 40A2)

Inspection Report# : 2016004 (*pdf*)

## **Barrier Integrity**

## **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 : August 03, 2017

*Page Last Reviewed/Updated Wednesday, August 10, 2016*