

Limerick 2

3Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Unplanned Manual Power Reduction to 90% on Unit 1.

A self-revealing, Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1.b, “Administrative Controls,” was identified for LGS’ failure to properly implement station procedure MA-AA-716-100, “Maintenance Alterations Process,” during trouble-shooting and calibration associated with the Unit 1 condensate filter (CF) system. As a result, on September 9, 2014, one of two Instrument Maintenance (IM) technicians inadvertently mispositioned the air supply valve to the 1G CF flow transmitter causing an unplanned plant transient. The inspectors determined that the failure to properly implement station procedure MA-AA-716-100, “Maintenance Alterations Process,” during troubleshooting of CF system instrumentation, was a performance deficiency. LGS promptly performed an investigation, verified the plant alignment and safely returned the Unit 1 reactor to 100 percent power. LGS entered the issue into their corrective action program (CAP) as issue report (IR) 2116233.

This self-revealing finding is more than minor because it affected 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. This resulted in elevated main steam line radiation levels which required operators to reduce reactor power in accordance with abnormal operating procedures. The inspectors evaluated the finding using inspection manual chapter (IMC) 0609, 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 a transient initiator, but didn’t 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 finding has a cross-cutting aspect in the area of Human Performance, because LGS maintenance management did not ensure supervisory and management oversight of work activities [H.2]. (Section 40A2)

Inspection Report# : [2014005](#) (*pdf*)

Mitigating Systems

Significance: G Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Preventive Maintenance of the HPCI System Motor Control Center

A self-revealing Green NCV of Technical Specification (TS) 6.8.1.a, “Procedures and Programs,” was identified because Exelon failed to adequately implement a preventive maintenance (PM) task for the 2DB-1-14 High Pressure Coolant Injection (HPCI) Direct Current (DC) Motor Control Center (MCC) cubicle. The root cause from a fire in the HPCI DC MCC on April 5, 2015 was determined to be that the administrative guidance to change the PM task in 1995

did not ensure all the work that was previously performed was now performed on the revised PM task. This led to the PM “M-095-002, 250 VDC Westinghouse MCU Maintenance, Revision 6” not being performed on the auxiliary compartment of the 2DB-1-14 cubicle. The cause of the fire, the 1A Timetactor, was located in the auxiliary compartment and would have been inspected and cleaned as a part of this PM.

This issue is more than minor because it was associated with the procedures quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, maintenance procedure M-095-002, 250 VDC Westinghouse MCU Maintenance, Revision 6, was not performed on both compartments of the 2DB-1-14 cubicle that led to the fire in the HPCI DC MCC which had the potential to affect HPCI system operation. Using IMC 0609, “Significance Determination Process, Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the inspectors determined that this finding was of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of the HPCI system and the system maintained operability and functionality. Specifically, the affected portions of the HPCI system were a part of the HPCI vacuum tank condensate pump which is not required to ensure operability or functionality. The inspectors determined that the finding did not have a cross-cutting aspect because the PM task change did not occur within the last three years, and the inspectors did not conclude that the causal factors represented present Exelon performance. (Section 4OA3)

Inspection Report# : [2015003](#) (*pdf*)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Fire Safe Shutdown Diesel Generator Maintenance Program Did Not Account for Cold Temperatures due to Inadequate Specification for Fuel Oil Cloud Point

The inspectors identified an NCV of LGS Units 1 and 2 operating license condition 2.C(3), Fire Protection, because Exelon did not implement and maintain in effect all provisions of the NRC approved fire protection program. Specifically, Exelon did not implement and maintain a maintenance program to ensure the operability of the fire safe shutdown diesel (FSSD) generator by not ensuring a fuel oil supply specified or protected for typical winter cold temperatures. Exelon’s corrective actions included adding a fuel oil additive (modifiers which inhibit wax crystal growth) to improve low temperature flow and pour characteristics at a time when ambient temperatures were greater than the cloud point and initiating condition report IR 2463216.

This finding is more than minor because it adversely affected the protection against external factors (fire) attribute of the mitigating systems cornerstone to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to ensure the cloud point of the diesel fuel oil was below the temperature of the surrounding air would impact the reliable operation of the equipment during low temperature conditions. Using IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” the inspectors determined that this finding was of very low safety significance (Green) because the finding did not impact the ability of LGS Units 1 and 2 to achieve safe shutdown. Specifically, the cloud point of diesel fuel delivered onsite by the vendor was substantially lower than Exelon’s specification, unavailability of the FSSD generator would not by itself prevent LGS from reaching and maintaining safe shutdown, and the need for powered ventilation given a loss of normal HVAC during cold weather would be less than during hot weather. The inspectors determined that this finding has a cross-cutting aspect in the area of Human Performance, Resources, because Exelon did not ensure that cold weather preparedness procedures were adequate to support nuclear safety. Specifically, Exelon relied upon the cold weather procedures to establish reliable equipment operation during cold temperatures, but the procedures did not address diesel fuel cloud point for equipment stored and/or operated outdoors [H.1]. (Section 1R15)

Inspection Report# : [2015001](#) (*pdf*)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Startup Procedure Considered High Pressure Coolant Injection Operable With High Reactor Water Level Trip Actuated

The inspectors identified an NCV of Title 10 of the Code of Federal Regulations (10 CFR), Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” because Exelon prescribed a procedure affecting quality with instructions which were not appropriate to the circumstances. Specifically, procedure GP-2, “Normal Plant Startup,” contained a note that stated high pressure coolant injection (HPCI) systems have been determined operable by engineering evaluation with a high level trip setpoint actuated. The inspectors determined that the note was inconsistent with Units 1 and 2 technical specifications (TS) and was not supported by an adequate engineering basis. Exelon’s corrective actions included briefing staff to ensure HPCI system operability is appropriately assessed when implementing GP-2, initiating condition report IR 2464416, completing a procedure revision to reference an interim evaluation contained in the condition report, and initiating an action to complete an engineering evaluation.

This finding is more than minor because it is associated with the procedure quality attribute of the mitigating systems cornerstone and affected the objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, procedure GP-2 stated that the HPCI system was operable with a Level 8 trip present without the ability to automatically actuate upon a high drywell pressure without an engineering evaluation which was inconsistent with the existing safety analysis performed at normal operating reactor pressure and temperature. Using IMC 0609, “Significance Determination Process,” Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the inspectors determined that this finding was of very low safety significance (Green) because the finding did not represent an actual loss of the HPCI system or function to inject high pressure emergency core cooling water. Specifically, the note in GP-2 allowed considering the HPCI system operable at normal operating reactor pressures with the HPCI system tripped. However, the HPCI system was not tripped at normal operating reactor pressures.

The inspectors determined that the finding did not have cross-cutting aspect because the procedure development performance deficiency did not occur within the last three years, and the inspectors did not conclude that the causal factors represented present Exelon performance. (Section 1R20)

Inspection Report# : [2015001](#) (*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

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