Nine Mile Point 1 – Quarterly Plant Inspection Findings

2Q/2017 – Plant Inspection Findings

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Initiating Events

Significance: G Mar 31, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
DRAFTFailure to Identify and Correct a Non-Conforming Condition in Safety-Related UPSs
DRAFTThe inspectors documented a self-revealing Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," for the failure to identify and correct a non-conformance (an inadequate capacitor) in safety-related uninterruptable power supplies (UPSs) 162 and 172. Between 2008 and 2017, this non-conformance led to multiple component failures, loss of vital power supplies, plant transients, and in one case, loss of the emergency condenser safety function. Specifically, in 2003, during a preventative maintenance activity, NMPNS installed a commercially dedicated capacitor (part number C-805) that was not rated for the normal service temperature for the application. This resulted in chronic overheating, reduction of service life, and in seven cases failures (internal shorts of C-805) which resulted in the loss of the associated safety-related UPS. Upon identification, Exelon entered each failure into the CAP conducted an apparent cause evaluation (ACE) following the 2016 and 2017 failures, and developed corrective actions to replace the underrated capacitors.

The performance deficiency was determined to be more than minor because it affected the equipment performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge the critical safety functions during shutdown as well as power operations. Specifically, the underrated capacitors failure resulted in the loss of a vital alternating current (AC) bus, a support system and in one case the unplanned loss of a safety function required to bring and maintain the plant in safe shutdown. In accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," a detailed risk assessment was required. Using the NMPNS Unit 1 Standardized Plant Analysis Risk (SPAR) Model Version: 8.21, model date January 28, 2010, a Region I senior reactor analyst ran a zero maintenance condition assessment with basic events for emergency condenser (EC) motor operated valve (MOV) 39-09R and EC MOV 39-10R, normally closed condensate return isolation valves, failed for a duration of one hour. The results were

a ?CDP of 1.37E-08. The dominant risk sequences involved loss of feedwater and loss of offsite power. As a result, the finding is of very low safety significance (Green). The performance deficiency for this finding occurred in 2008. Because the performance deficiency occurred greater than 3 years ago and is not indicative of current performance based upon the corrective actions taken following the 2016 failure, there is no cross-cutting aspect assigned to this finding.
Inspection Report# : 2017001 *(pdf)*

Mitigating Systems
Barrier Integrity

Significance: G Mar 31, 2017
Identified By: NRC
Item Type: NCV Non-Cited Violation
DRAFTDeficient Design Control of Outboard MSIV Pilot Valve Instrument Air Supply
DRAFTThe inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, "Design Control," for Exelon's failure to correctly translate the design basis into the NMPNS Unit 1 instrument air system to ensure the Unit 1 outboard main steam isolation valves (MSIVs) were capable of performing their design function. Specifically, the NMPNS Unit 1 Updated Final Safety Analysis Report (UFSAR) states, "Reliable operation of instrument air end users and in-line components is dependent on the filtration and removal of particulates greater than 40 microns. Additional filtration for various components exists where the 40 micron limit is not satisfactory." The MSIV pilot valves at Unit 1 have a tighter clearance than the 40 micron limit. However, contrary to the UFSAR, NMPNS did not install additional filtration upstream of the pilot valves. As a result, during a surveillance test conducted on December 10, 2016, foreign material in the instrument air system potentially contributed to the failure of an outboard MSIV. Exelon's immediate corrective actions included entering this issue into its corrective action program (CAP) as issue report (IR) 03959732, performing an air purge of the instrument air system to remove foreign material from the system, and replacing the current style pilot valves with new style valves with larger clearances during the spring 2017 refueling outage.

The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents for events. Specifically, Exelon failed to install additional filtration in the instrument air system upstream of the outboard MSIV pilot valve in accordance with the Unit 1 UFSAR even though the internal clearance of the pilot valve was significantly less than the 40 micron particulate limit. Additionally, example 3.j from IMC 0612, Appendix E, "Examples of Minor Issues," provides a similar scenario to this issue. Example 3.j details that a performance deficiency is more than minor if the error results in a condition where there is a reasonable doubt of the operability of a system or component. This performance deficiency is more than minor because without the additional filtration defined in the UFSAR there existed a reasonable doubt of operability for the Unit 1 outboard MSIVs. The finding was evaluated in accordance with IMC 0609.04, "Initial Characterization of Findings," and
Exhibit 3 of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined to be of very low safety significance (Green). The finding has a cross-cutting aspect in the area of Human Performance, Documentation, because Exelon failed to create and maintain complete, accurate, and up-to-date documentation pertaining to instrument air sampling for high particulate. Specifically, Exelon failed to develop and implement a surveillance testing program for the instrument air system that would alert personnel that particulate greater than 5 microns could jeopardize the operability of the outboard MSIVs.

Inspection Report# : 2017001 *(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 : August 03, 2017

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