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Susquehanna 1 – Quarterly Plant Inspection Findings

1Q/2018 – Plant Inspection Findings

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Initiating Events

Significance: **G** Sep 30, 2017

Identified By: SR

Item Type: FIN Finding without a Violation (FIN)

Failure to Prepare Work Packages with Necessary Detail Results in Automatic Reactor Scram

The inspectors identified a self-revealing finding of very low safety significance (Green) associated with Susquehanna's failure to ensure a work package was prepared to the detail necessary based on task difficulty as required by NDAP-QA-0502, "Work Order Process," Revision 51. Specifically, on June 8, 2017, maintenance workers inadvertently shorted the Unit 1 main electro-hydraulic control (EHC) logic power supply to ground while working in a cabinet with little space to manipulate tools, resulting in a reactor scram. This finding is more than minor because it is associated with 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 during power operations. Specifically, Susquehanna did not ensure measures were in place to prevent an adverse impact on the EHC control system during power supply voltage adjustment. This resulted in a rapid rise in reactor pressure and neutron flux, and subsequent automatic reactor scram. In accordance with IMC 0609.04, "Initial Characterization of Findings," dated October 7, 2016, and Exhibit 1 of IMC 0609, Appendix A, "The SDP for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because while the performance deficiency caused a reactor scram, it did not result in 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, Avoid Complacency, because the station failed to recognize and plan for the possibility of mistakes and inherent risk even while expecting successful outcomes. Specifically, multiple individuals at various organizational levels did not ensure measures were in place to prepare maintenance technicians to perform a task on the EHC system that involved manipulating tools in a small space with tight clearances.

Inspection Report# : 2017003 (*pdf*)

Inspection Report# : 2017003 (*pdf*)

Mitigating Systems

Significance: G Jun 30, 2017

Identified By: SR

Item Type: NCV Non-Cited Violation (NCV)

Failure to Assess and Manage Risk Associated with Emergent Work

The inspectors identified a Green, self-revealing, NCV of 10 Code of Federal Regulations (CFR) 50.65 (a)(4) because Susquehanna failed to assess and manage the increase in risk for emergent work on the Unit 1 'A' 125 voltage direct current (VDC) battery charger. Susquehanna entered this issue into the CAP as CR-2017-09589. Corrective actions include conducting training on the emergent risk assessment process and reinforcing the expectation that control room staff is notified prior to releasing work. The PD was more than minor because it adversely impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and the related attribute of equipment performance involving availability and reliability. In addition, it is similar to Example 7.e from IMC 0612, Appendix E, Examples of Minor Issues, which states that the failure to perform an adequate risk assessment when required to do so is more than minor if the overall elevated plant risk would put the plant into a high licensee-established risk category and would require risk management actions under licensee procedures. The inspectors evaluated the significance using IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management SDP" and determined that this PD was of very low safety significance (Green). Specifically the PD was associated with risk management actions only and the incremental core damage probability (ICDP) was $2E-7$ ($<1E-6$) for charger 1D613 out of service for approximately one hour. This finding had a cross-cutting aspect in the area of Human Performance, Consistent Process because individuals did not implement systematic approach to make decisions to commence work, and did not incorporate appropriate risk insights.

Inspection Report# : 2017002 (*pdf*)

Significance: G Jun 30, 2017

Identified By: NRCI

Item Type: NCV Non-Cited Violation (NCV)

Inadequate Assessment of Fire Brigade Performance during an Unannounced Drill

The inspectors identified a Green NCV of Susquehanna Unit 1 and 2 Operating License Condition 2.C.6, Fire Protection, because Susquehanna did not adequately assess an unannounced fire brigade drill, as required by the fire protection program. Susquehanna entered this issue into the corrective action program (CAP) for resolution as condition report (CR) CR-2017-10767 and is conducting an apparent cause evaluation to determine the most appropriate corrective actions. The performance deficiency (PD) was more than minor since the deficiency was associated with the protection against external events (fire) attribute of the Mitigating Systems cornerstone and impacted its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety Significance (Green) in accordance with D.1 of IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." Because the

finding involved fire brigade training requirements, the fire brigade demonstrated the ability to meet the required times for fire extinguishment for the fire drill scenarios, and the finding did not significantly affect the fire brigade's ability to respond to a fire, the finding screened as Green. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Self and Independent Assessments, because Susquehanna did not conduct assessments of their activities to assess performance and identify areas of improvement. Specifically, the Susquehanna self-evaluation of fire brigade performance was not of sufficient depth, appropriately objective, or self-critical.

Inspection Report# : 2017002 (*pdf*)

Barrier Integrity

Significance: **G** Sep 30, 2017

Identified By: NRCI

Item Type: NCV Non-Cited Violation (NCV)

RBCCW PCIV Design Control Issue

The inspectors identified a finding of very low safety significance (Green), an associated NCV of 10CFR50 Appendix B, Criterion III, "Design Control," and a resultant violation of technical specification (TS) 3.6.1.3, Primary Containment Isolation Valves (PCIVs), when the reactor building closed cooling water (RBCCW) outboard isolation supply valve, HV21314, was found with a pull apart terminal block unseated within the motor control center (MCC), resulting in the loss of function for the valve to close given an initiation signal. Based on questions from inspectors, it was discovered that the terminal block was not installed in accordance with its dynamic qualification report. Immediate corrective actions included correctly seating the terminal block and performing an engineering evaluation to validate that the configuration conformed to the dynamic qualification report. The finding was more than minor because it was associated with the design control attribute of the reactor safety – barrier integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the RBCCW outboard PCIV was inoperable for more than four years. In accordance with IMC 0609.04, "Initial Characterization of Findings," dated June 19, 2012, and Exhibit 3 of IMC 0609, Appendix A, "The SDP for Findings At-Power," dated June 19, 2012, inspectors determined the significance to be of very low safety significance (Green) since the finding did not represent an actual open pathway in the containment isolation system and was not associated with hydrogen recombiners. The finding had a cross-cutting aspect in the area of Human Performance, Documentation, because Susquehanna did not maintain complete, accurate, and up-to-date documentation. Specifically, Susquehanna was not able to make a clear determination of the acceptability of the as-left configuration of the terminal block until the issue was discussed with the vendor to determine that the configuration was not in accordance with the dynamic qualification of the 480VAC MCC buckets.

Inspection Report# : 2017003 (*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.

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