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Salem 2 – Quarterly Plant Inspection Findings

3Q/2017 – Plant Inspection Findings

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Initiating Events

Significance: G Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Inadequate Surveillance Test Procedure Results in Water Hammer and Reactor Trip

The inspectors determined there was a self-revealing Green non-cited violation (NCV) of Technical Specification (TS) 6.8.1.c, "Surveillance and test activities of safety-related equipment," when PSEG did not establish adequate procedures for restoring service water (SW) to a drained section of discharge piping from the containment fan coil unit (CFCU) following surveillance test activities. Consequently, during restoration of SW to 22 CFCU following testing on August 31, 2016, refilling the voided SW piping created a pressure pulse sufficient to extrude the motor cooler cover plate spacer gasket inside primary containment, resulting in leakage that caused a 21 reactor coolant pump (RCP) cable fault and subsequent reactor trip. PSEG entered the issue in the corrective action program (CAP), performed a root cause evaluation (RCE), and revised applicable procedures for filling and venting SW to the CFCUs on September 19, 2016.

This issue was more than minor since it was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely impacted its objective to limit the likelihood of events that upset plant stability and challenge critical safety functions. Using IMC 0609, Attachment 4 and Appendix A, Exhibit 1, the inspectors determined that this finding was of very low safety significance, or Green, since mitigating equipment relied upon to transition the plant to stable shutdown remained available. The finding had a cross cutting aspect in the area of Problem Identification and Resolution, Evaluation, because PSEG did not thoroughly evaluate previous CFCU motor cooler gasket leaks such that the resolution addressed the cause.

Inspection Report# : 2016004 (*pdf*)

Mitigating Systems

Significance: G Jul 14, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Design Verification that Inter-Cabinet Bolts were Installed Between SEC and Bailey Cabinets

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," because between May 1995 to July 2017, PSEG did not verify that bolts, or other suitable connections, were installed to connect the safeguard equipment control (SEC) cabinets to the Bailey termination cabinets to satisfy the Seismic Qualification Utilities Group (SQUG) recommended method to resolve effects of potential cabinet interaction during a seismic event. PSEG's immediate corrective actions included initiating several corrective action notifications (NOTFs) to evaluate operability, extent-of-condition, and long-term resolution.

This issue is more than minor because it is associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected its objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, PSEG performed a SQUG evaluation in response to unresolved safety issue (USI) A-46, "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors," and submitted the results to the NRC detailing a potential for SEC cabinet seismic interaction with the adjacent Bailey termination cabinet. The evaluation results recommended bolting the SEC cabinet to the Bailey cabinet to eliminate the interaction. However, PSEG did not ensure and verify that the SQUG recommended bolts were installed, which resulted in a reasonable doubt on the operability of the SEC to reliably perform its intended function during and following a design basis seismic event. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The SDP for Findings At-Power," the team determined that this finding was Green because it was a design deficiency that potentially affected the design or qualification of a mitigating system, however, the mitigating system maintained its operability. The team determined there was no cross-cutting aspect associated with this finding since it was not representative of current PSEG performance.

Inspection Report# : 2017007 (*pdf*)

Significance: G Jul 14, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate PM for the EDG Room Ventilation System

The team identified a Green non-cited violation of Technical Specification (TS) 6.8.1, "Procedures and Programs," because since January 2007, PSEG did not establish an appropriate preventive maintenance (PM) schedule for the emergency diesel generator (EDG) ventilation dampers. Specifically, PSEG cancelled a pre-existing 36-month lubrication/clean/inspect PM in 2007 but failed to add the lubrication task to an existing 6-year damper PM as intended. As a result, since January 2007, the intended lubrication PM was cancelled for the inlet, recirculation, and exhaust ventilation dampers on all six Unit 1 and Unit 2 EDG ventilation systems. PSEG's immediate corrective actions included initiating a corrective action NOTF to address the PM inadequacy and extent-of-condition.

The issue is more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the removal of the EDG ventilation damper lubrication PM had the potential to adversely impact EDG reliability. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The SDP for Findings At-Power," the team determined that this finding was Green because it was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent the actual loss of a safety function of a single train for greater than its TS allowed outage time, and did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in PSEG's Maintenance Rule

program for greater than 24 hours. The team determined there was no cross-cutting aspect associated with this finding since it was not representative of current PSEG performance.

Inspection Report# : 2017007 (*pdf*)

Significance: G Jul 14, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Corrective Action Regarding Missed Periodic Inspections of 2C EDG AVR Card

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because between April 2008 and July 2017, PSEG failed to promptly identify and correct a condition adverse to quality associated with an automatic voltage regulator (AVR) card installed in the 2C EDG. Specifically, PSEG corrective actions in response to a 2007 MPR Associates Part 21 report did not ensure that the 2C EDG was not susceptible to undesired voltage fluctuations associated with an aged-related defect in the installed AVR card. PSEG's immediate corrective actions included initiating a corrective action NOTF to evaluate operability and prioritize scheduling AVR card replacement.

The issue is more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, without further inspection of the 2C EDG AVR card solder joints, cracks could form in the solder joint connections resulting in undesired voltage fluctuations and potentially preclude the 2C EDG from performing its safety function. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The SDP for Findings At-Power," the team determined that this finding was Green because it was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent the actual loss of a safety function of a single train for greater than its TS allowed outage time, and did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in PSEG's Maintenance Rule program for greater than 24 hours. The team determined the finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Self Assessment, because PSEG did not conduct self-critical and objective assessments of its programs and practices. Specifically, PSEG's pre-inspection self-assessment in May 2017 reviewed PSEG's corrective actions for the MPR Associates Part 21 Report, but did not identify the missed periodic refueling cycle inspections of the 2C EDG AVR card.

Inspection Report# : 2017007 (*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 : November 29, 2017

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