Hope Creek 1
3Q/2013 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Preventive Maintenance Replacement Schedule for Tyco/Agastat General Purpose Control Relays
A self-revealing Green NCV of Technical Specifications (TS) 6.8.1, "Procedures," was identified because PSEG failed to establish an appropriate preventive maintenance (PM) schedule for Tyco/Agastat General Purpose (GP) control relays. Specifically, the evaluation PSEG performed to revise the relay replacement periodicity from 22 years to 40 years neither adequately addressed available relay references nor all applicable failure mechanisms. As a result, high pressure coolant injection (HPCI) failed to respond to logic system actuation signals during surveillance testing on April 8, 2013. PSEG's immediate corrective actions included replacing failed relays and placing the issues in the corrective action program (CAP). Additionally, PSEG plans to revise the replacement frequency and to replace other Tyco/Agastat GP control relays of high safety significance, as identified in their extent of condition review.

This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure of a control relay caused the HPCI system to fail to automatically actuate during testing, and the HPCI system was unexpectedly declared inoperable. The inspectors evaluated the finding in accordance with IMC 0609, "Significance Determination Process," issued June 2, 2011, and determined the finding is of very low safety significance (Green) following a detailed risk evaluation. No cross-cutting aspect was assigned to this finding because PSEG decisions made with regard to evaluating the PM replacement periodicity were made more than 3 years ago and a PM Ownership Committee has since been created to review PM change evaluations; therefore, this performance deficiency is not reflective of current plant performance. (Section 4OA3)

Inspection Report# : 2013003 *(pdf)*

Significance: G Apr 05, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Post-Fire Safe Shutdown Procedures
The team identified a Green, Non-Cited Violation (NCV) of License Condition 2.C(7) of the Hope Creek operating license, in that the procedures for shutting down the plant in response to a fire in the cable spreading room, control equipment room, or control room were not adequate. Specifically, the alternative (remote) post-fire safe shutdown procedures were not adequate 1) to prevent overfilling of the reactor vessel following a spurious, fire-induced start of High Pressure Coolant Injection (HPCI)

or 2) to ensure that cooling water is provided to the Emergency Diesel Generators (EDG) prior to overheating. Corrective actions included initiating revisions to the safe shutdown procedures and entering this issue into the corrective action program (CAP) as notifications 20600413 and 20601659.

The finding was more than minor because it affected the procedure quality attribute associated with the mitigating systems cornerstone as related to the objective of ensuring the reliability and availability of mitigating systems under postulated fire safe shutdown conditions. The finding screened as very low safety significance (Green) based upon IMC 0609, Appendix F, "Fire Protection Significance Determination Process," Attachment 1, "Fire Protection SDP Phase 1 Worksheet," because the procedural inadequacies would not have prevented the ability of the operators to safely shutdown the plant in a fire event. The team determined that operators had adequate operator training, there was operable detection/suppression systems in the fire areas of concern, there was no/limited ignition sources in the fire areas of concern, there was adequate administrative controls of transient combustibles and ignition sources, and the control room was continually manned. The inspectors determined that the finding has a cross-cutting aspect in the area of Human Performance, Resources, because PSEG did not provide complete and accurate procedures. Specifically the safe shutdown procedures were not adequate to prevent overfilling the reactor vessel or overheating the EDGs [H.2(c)] (Section 1R05.05).
Inspection Report# : 2013008 *(pdf)*

Significance: G Mar 31, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
A Technical Specification Surveillance Procedure for Remote Shutdown Panel Instrumentation was Inadequately Established and Implemented
A self-revealing NCV of very low safety significance of technical specification (TS) 6.8.1 and TS 3.3.7.4 resulted because PSEG did not properly perform the monthly channel check required by TS surveillance requirement (SR) 4.3.7.4.1 to demonstrate operability of the remote shutdown system instrumentation and controls. Specifically, operators that performed PSEG procedure HC.OP-ST.SV-0001 did not identify that the reactor core isolation cooling (RCIC) turbine bearing oil pressure low indication was inoperable and, as a result, PSEG did not take the action required within the TS allowed outage time. PSEG's immediate corrective actions included entering the issue into their corrective action program as notifications 20567832 and 20567743, replacing the failed relay and initiating an apparent cause evaluation (ACE).
This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, when tested, the RCIC turbine bearing oil pressure low indication on the remote shutdown panel (RSP) was inoperable, and this condition went undetected for approximately one month. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency was not a design or qualification deficiency, did not involve an actual loss of safety function, did not represent actual loss of a safety function of a single train for greater than its TS allowed outage time, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event. The NRC determined the finding had a cross-cutting aspect in the human performance area associated with work practices - procedural compliance, because PSEG did not ensure that personnel work practices support human performance, in that, a licensed reactor operator (RO) incorrectly documented HC.OP-ST.SV-0001 as satisfactory when it was not. Additionally, the senior reactor operator (SRO) that reviewed the test did not identify the procedure performance

error. (H.4(b)) (Section 4OA3.2)

Inspection Report# : 2013002 *(pdf)*

Significance: G Dec 31, 2012
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Procedures to Ensure Cables Within the Scope of the Cable Monitoring Program Do Not Remain Submerged
The inspectors identified a Green finding for failure to follow the PSEG procedure (ER-AA-3003) for the cable monitoring and aging management of medium and low voltage cables at PSEG nuclear plants. Specifically, Hope Creek Generating Station did not perform adequate inspections to ensure cables were kept clear of water that could submerge cables, and to implement adequate corrective actions to eliminate the condition. The issue was entered into PSEG's corrective action program as notification 20588385.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, extended submergence of the non-safety related power cables supplying the offsite power transformers could lead to cable failure and cause an event that affects the availability, reliability, and capability of systems relying, in part, on power from these transformers. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, this finding was determined to be of very low safety significance because it did not represent an actual loss of system and/or function. This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action component, because PSEG did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the development of, and the frequency assigned to, cable vault inspections for non-safety related cables within the scope of 10 CFR 50.65 was insufficient to ensure that cables did not remain submerged.

Inspection Report# : 2012005 *(pdf)*

Barrier Integrity

Significance: G Feb 15, 2013
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Conduct Maintenance on the CR HVAC System in Accordance with the Procedure
A self-revealing, Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because PSEG failed to perform maintenance on the A control room air conditioning train in accordance with the documented procedure steps. Specifically, PSEG personnel failed to follow the maintenance procedure as written by stopping and restarting the A control room ventilation train prior to completing the monitoring period and obtaining the tuning parameters required by the procedure. PSEG's corrective actions included entering this issue into its corrective action program as notification 20575256, conducting an apparent cause investigation, restoring the system to an operable status, conducting a training needs analysis, and revising the maintenance procedure.

This finding is more than minor because it is associated with the human performance attribute of the barrier integrity

cornerstone, and affected the cornerstone objective of maintaining the radiological barrier functionality of the control room. 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," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency represents a degradation of only the radiological barrier function provided for the control room. This finding has a cross-cutting aspect in the area of human performance, work control, because PSEG did not appropriately control work activities by incorporating actions to address the need for work groups to communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance. Specifically, maintenance personnel did not communicate to operations personnel that the maintenance activity was not completed or that the A control room ventilation should not be stopped and restarted. (H.3(b)) (Section 4OA2.1.c (1))

Inspection Report# : 2013007 *(pdf)*

Significance: G Feb 15, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Timely Corrective Action for an Identified Design Deficiency with the CR HVAC System
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because PSEG failed to promptly correct a design deficiency in the control room chilled water circulating low flow pump trip logic. Specifically, PSEG failed to take timely action to develop and implement a modification to add a 10-second time delay to the pump trip logic. PSEG's corrective actions included entering this issue into their corrective action program as notification 20567269, conducting an apparent cause investigation, and developing and implementing design change packages to modify the low flow control room air conditioning chilled water circulating pump trip logic.
This finding is more than minor because it is associated with the systems, structures, and components (SSC) and barrier performance attribute of the barrier integrity cornerstone, and affected the cornerstone objective of maintaining the radiological barrier functionality of the control room. 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," issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency represents a degradation of only the radiological barrier function provided for the control room. This finding does not have a cross-cutting aspect associated with it because, although the performance deficiency occurred within the last three years, the performance characteristic associated with the untimely corrective action for this deficiency is not indicative of PSEG's current performance. PSEG demonstrated improved performance in response to trips of the A control room ventilation in June and July 2012 caused by chilled water pump low flow by taking timely corrective action to develop and implement a design change package for the modification to the low flow trip logic that had been identified in 2011. PSEG also identified an additional deficiency in the low flow trip logic and took timely action to correct it in mid-2012. Additionally, since PSEG identified that a modification to the low flow pump trip logic was necessary, PSEG has implemented a new station process in the fall of 2012, ER-AA-2001-1001, "Evaluation of Equipment Reliability Strategies," to evaluate the timeliness, effectiveness, and mitigating actions of proposed strategies developed for equipment reliability based on risk significance. Based on demonstrated improved performance in recent months as well as this new station process, which would have increased the priority and accelerated the implementation of these modifications, it is unlikely that this performance deficiency would occur again under similar circumstances. (Section 4OA2.1.c(2))

Inspection Report# : 2013007 *(pdf)*

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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