Hope Creek 1
2Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
AUTOMATIC REACTOR SCRAM DUE TO LEAK ON SCRAM AIR HEADER
A finding was self-revealed because PSEG discovered an air leak at a soldered joint on the scram air header in September 2008, but did not enter the degraded condition in the corrective action program. As a result, PSEG did not evaluate the leak or take corrective actions prior to the joint separating, causing an automatic reactor scram. Following the event, PSEG repaired the affected joint, performed an extent-of-condition inspection of the corresponding joints on all other hydraulic control units, and placed this issue in the corrective action program.

This issue was more than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions. Specifically, by not identifying the air leak in the corrective action program, PSEG did not evaluate the degraded condition and its impact on the reliability of the scram air header. The inspectors determined that the finding was of very low safety significance (Green) based on a Phase I analysis. The finding increased the likelihood of a reactor scram, but did not contribute to the likelihood that mitigating equipment would not be available. The finding had a cross-cutting aspect in the area of problem identification and resolution because the station did not identify the scram air header leak completely, accurately, and in a timely manner commensurate with its safety significance. (P.1(a))

Inspection Report# : 2009003 *(pdf)*

Significance: G Sep 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADVERTENT FEEDWATER INJECTION THROUGH THE HIGH PRESSURE COOLANT INJECTION SYSTEM DUE TO AN INADEQUATE TEST PROCEDURE
A self-revealing, non-cited violation of Technical Specification 6.8.1, “Procedures and Programs,” was identified because, during performance of post-modification testing for the high pressure coolant injection (HPCI) feedwater injection valve, PSEG inadvertently injected feedwater into the reactor vessel through the HPCI and core spray systems. Specifically, PSEG did not ensure that the post-modification test procedure established a system configuration appropriate for the plant’s operating condition. This resulted in an unanticipated reactor pressure and power transient. PSEG’s corrective actions included revising the test procedure and re-performing the test.

The finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events cornerstone, and it affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, an inadequate procedure resulted in an injection of feedwater through the HPCI core spray injection valve, which caused a pressure and power transient. The finding screened as Green (very low safety significance) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding has a cross-cutting aspect in the area of human performance because PSEG did not define and effectively communicate expectations regarding procedural compliance, and PSEG personnel did not follow procedures. Specifically, PSEG did not adequately implement the new procedure review process defined by PSEG procedure AD-AA-102-1001, “Station Qualified Reviewer’s Guide,” and, as a result, did not identify the adverse impact of the sequence of valve operations specified by the test procedure. (H.4(b))

Inspection Report# : 2008004 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE WORK INSTRUCTIONS FOR IMPAIRING THE FLOOD PROTECTION FUNCTION OF THE SAFETY AUXILIARY COOLING SYSTEM WATER-TIGHT DOOR
The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” because safety auxiliary cooling system (SACS) water-tight door 4309A was blocked open without necessary compensatory measures, as a result of inadequate work instructions. Consequently, flood protection measures for the SACS system were degraded, which affected the capability of both SACS trains to perform their safety function during a flooding event. PSEG entered this issue into the corrective action program and promptly closed the water-tight door.

The issue was more than minor because it is associated with the external factors attribute of the Mitigating Systems cornerstone, and it affected the cornerstone objective of ensuring the capability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, not having the required flooding compensatory measures in place when the water-tight door 4309A was open affected the reliability and capability of the SACS system during a postulated internal flooding event. The inspectors used Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," to determine the significance of the finding. Based upon the finding not involving a loss of control or thermal margin, this finding does not require a quantitative assessment and screens as having very low safety significance (Green). This finding had a cross-cutting aspect in the area of human performance because PSEG did not define and effectively communicate expectations regarding procedural compliance, and PSEG personnel did not follow procedures. Specifically, PSEG did not adequately follow PSEG procedure CC-AA-201, “Plant Barrier Control Program,” to impair the water-tight door. (H.4(b))

Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNPLANNED HIGH PRESSURE COOLANT INJECTION UNAVAILABILITY DUE TO TROUBLESHOOTING
A self-revealing, non-cited violation of 10 CFR Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified because technicians did not have adequate work instructions for troubleshooting a high pressure coolant injection (HPCI) system instrumentation drawer. The instructions did not include appropriate steps to prevent or bypass a HPCI turbine trip signal, thereby leading to an unplanned period of unavailability of the HPCI system. PSEG’s corrective actions included providing communications to all supervisors on adequate technical rigor when preparing for troubleshooting and revising a reference document used for the work instructions.

The issue was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone, and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Specifically, the inadequate work instructions resulted in unplanned unavailability of the HPCI system. The finding was of very low safety significance (Green) based on a Phase 2 analysis. The finding had a cross-cutting aspect in the area of human performance because PSEG did not appropriately plan work activities by incorporating the need for compensatory actions. Specifically, PSEG’s work instructions did not incorporate the need for compensatory actions to preclude a HPCI turbine trip. (H.3(a))

Inspection Report# : 2009003 *(pdf)*

Significance: G Jan 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS FOR SUSCEPTIBILITY OF AIR ACCUMULATION IN THE A CONTROL AREA CHILL WATER SYSTEM
A self-revealing Green NCV of 10 CFR 50, Appendix B, Criteria XVI, "Corrective Actions," was identified for PSEG's failure to implement corrective actions to address an identified condition adverse to quality which resulted in multiple trips of the 'A' Control Area Chilled Water (CACW) pump. In December 2008, the 'A' CACW pump tripped due to loss of suction pressure due to air accumulation. The 'A' CACW pump has had historical issues with air accumulation resulting in pump trips resulting in a loss of the 'A' train of control room ventilation. In 2008, this pump tripped in February following maintenance, in July, and again in December. After each trip a significant amount of air was vented from the system. PSEG's apparent cause evaluation of the July 2008 trip appropriately identified that the trip was due to air accumulation while the system was in a standby configuration. The evaluation also identified that PSEG did not have a program to monitor for air accumulation as it did for other susceptible systems. However, effective corrective actions were not developed to address the susceptibility, the condition adverse to quality, and as a result the pump tripped again in December 2008. Subsequently, PSEG developed corrective actions which included a periodic venting of the system and proposed modifications to add additional vents to the system.

This finding is more than minor because it affects the equipment performance attribute of the Mitigating Systems Cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the 'A' train of Control Room Ventilation's reliability and availability were adversely impacted. This finding was determined to be of very low safety significance because the system was not unavailable for greater than its allowed TS outage time. The finding has a cross-cutting aspect in the area of problem identification & resolution (PI&R) and the aspect of problem evaluation (P.1.C) because PSEG did not thoroughly evaluate problems such that resolutions address causes and extent of conditions as necessary. Specifically, appropriate corrective actions were not developed to address system susceptibility to air accumulation, an identified condition adverse to quality.

Inspection Report# : 2009006 *(pdf)*

Significance: G Jan 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
NON-CONSERVATIVE EMERGENCY DIESEL GENERATOR TEST ACCEPTANCE CRITERIA
The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for PSEG's failure to ensure that emergency diesel generator (EDG) surveillance test (ST) procedures had appropriate acceptance criteria that incorporated the limits from applicable design documents. Specifically, PSEG did not provide EDG ST acceptance criteria associated with the differential pressure (D/P) across the EDG lube oil strainers which would ensure the ability of the EDGs to provide their safety function for the duration of its designed 24-hour mission time when the procedure was changed in 2002. As a result, from October 2008 to January 2009, the 'B' EDG was declared operable when, in fact, operability was indeterminate. PSEG's corrective actions included declaring the 'B' EDG inoperable, replacing the EDG lube oil strainer, revising the EDG ST procedures, and performing an extent of condition review.

The finding is more than minor because the performance deficiency is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems (EDGs) that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it represented the loss of the safety function of a single train for less than the Technical Specification allowed outage time. This finding was not assigned a cross-cutting aspect because the underlying cause was not indicative of current performance.

Inspection Report# : 2009006 *(pdf)*

Significance: G Jan 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES CONTRIBUTES TO EMERGENCY DIESEL GENERATOR INOPERABILITY
The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for PSEG's failure to adequately implement procedure requirements related to the maintenance and operation of the emergency diesel generators (EDGs). Specifically, between February 2008 and January 2009, operators repeatedly documented that the 'B' EDG LO strainer D/P was greater than 7 psid; however, they did not initiated a new notification (NOTF) as required by PSEG procedure HC.OP-ST-KJ-0002, "Emergency Diesel Generator 1BG400 Operability Test – Monthly." As a result, an out of specification system parameter was not re-screened for operability following a substantive change in this parameter resulting in the 'B' EDG being declared inoperable. PSEG's corrective actions included replacing the EDG lube oil strainer, revising procedures, and performing an extent of condition review.

The finding is more than minor because the performance deficiency is associated with the human performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems (EDGs) that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance based on a Phase 3 SDP evaluation based on a bounding case analysis considering the period of unavailability, a conservative estimate of time to failure, and operator recovery credit. The finding has a cross-cutting aspect in the area of Human Performance and the aspect of work practices, procedural compliance, in that PSEG personnel are to follow procedures [H.2.(b)]. Specifically, PSEG personnel did not follow procedure HC.OP-ST-KJ-0002, and write a NOTF each time EDG lube oil strainer D/P was greater than 7 psid.
Inspection Report# : 2009006 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Jan 30, 2009
Identified By: NRC
Item Type: FIN Finding
HOPE CREEK BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION
The inspectors concluded that Public Service Enterprise Group Nuclear, LLC (PSEG), in general, adequately identified, evaluated, and resolved problems; however, weaknesses were noted in the three areas of the corrective action program (CAP). Specifically, PSEG personnel typically identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with the safety significance. However, for one issue reviewed, PSEG repeatedly failed to write notifications for conditions adverse to quality as required by the surveillance procedure, resulting in a NRC-identified NCV. For most cases, PSEG appropriately screened issues for operability and reportability and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. However, for one issue reviewed, the inspectors identified an inadequate evaluation of a Technical Specification (TS) acceptance criteria change, resulting in an NRC- identified NCV. Corrective actions taken to address the problems identified in PSEG's corrective action process were typically implemented in a timely manner. However, for one issue reviewed, PSEG did not establish appropriate corrective actions to address a condition adverse to quality, resulting in a self-revealing NCV. The inspectors also concluded that, in general, PSEG adequately identified, reviewed, and applied relevant industry operating experience to Hope Creek Generating Station operations. In addition, based on those items selected for review by the inspectors, PSEG's audits and self-assessments were thorough and probing. Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employees concerns program issues, the inspectors did not identify any concerns that site personnel were not willing to raise safety issues nor did they identify conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : 2009006 *(pdf)*

Significance: SL-IV Dec 30, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY LICENSEE EVENT REPORT FOR A LOSS OF SAFETY FUNCTION OF THE CONTROL ROOM EMERGENCY FILTRATION SYSTEM
The inspectors identified a non-cited, Severity Level IV violation of 10 CFR 50.73(a)(1) for a failure to submit a licensee event report (LER) within 60 days after the discovery of an event requiring a report. On April 22, 2008, PSEG determined that both trains of the control room emergency filtration (CREF) system were inoperable, which is reportable as a loss of safety function of a system that is designed to mitigate the consequences of an accident. Additionally, operators entered Technical Specification 3.0.3 and commenced a plant shutdown, which is reportable as a condition prohibited by Technical Specifications. PSEG did not submit an LER for this event until October 17, 2008. PSEG's corrective actions included revising the applicable procedure for assessing whether an LER is required.

Traditional enforcement applies because a failure to report an event in a timely manner has the potential to impact the NRC's ability to perform its regulatory function. This violation was determined to be a Severity Level IV violation consistent with Section IV.A.3 and Supplement I.D of the NRC Enforcement Policy. The finding has a cross-cutting aspect in the area of problem identification and resolution, because PSEG did not properly evaluate a condition adverse to quality for reportability. Specifically, PSEG did not correctly evaluate the reportability of both trains of CREF being inoperable. As a result, PSEG failed to submit an LER in a timely manner. (P.1(c))

Inspection Report# : 2008005 *(pdf)*

Last modified : August 31, 2009