Hope Creek 1
3Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2006
Identified By: Self-Revealing
Item Type: FIN Finding
INADVERTENT INSTRUMENT AIR COMPRESSOR TRIP
A self-revealing finding was identified when an operations work control supervisor caused an inadvertent trip of the 10K107 instrument air compressor. During a tagging operation on the 00K107 air compressor, the supervisor verified that a key would fit properly in the 00K107 air compressor uninterruptible power supply (UPS) by testing it in the in-service 10K107 air compressor UPS. When the supervisor removed the key, the 10K107 air compressor tripped resulting in an instrument air system transient. PSEG stopped all work activities to brief crews on the transient, proper use of human performance tools, and site procedures.

This performance deficiency is more than minor because it is associated with the configuration control and human performance attributes of the Initiating Events Cornerstone and affected the cornerstone's objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The inspectors completed a Phase 1 screening of the finding using Appendix A of Inspection Manual Chapter 0609, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and determined that a more detailed Phase 2 evaluation was required to assess the safety significance because the finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The finding was determined to be of very low safety significance based upon a Significance Determination Process Phase 2 evaluation. The performance deficiency had cross-cutting aspect in the area of human performance related to the work practices component in that the individual did not use human performance error prevention techniques and proceeded in the face of uncertainty.
Inspection Report# : 2006004*(pdf)*

Mitigating Systems

Significance: G Sep 30, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
'A' CORE SPRAY MINIMUM FLOW CHECK VALVE FAILURE
A self-revealing, non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified when the 'A' core spray pump minimum flow check valve remained open, resulting in 56 hours of unplanned unavailability of the 'A' core spray loop. PSEG did not implement corrective actions developed following a similar condition on the 'C' core spray check valve on November 12, 2004. PSEG's corrective actions included repairing the check valve, updating the check valve maintenance procedure, and creation of periodic preventative maintenance tasks to internally inspect the core spray pump minimum flow check valve.

This performance deficiency is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the finding to be of very low safety significance (Green), based on a Phase 1 SDP screening. The performance deficiency had a cross-cutting aspect in the area of problem identification and resolution in the corrective action program component in that the appropriate corrective actions to address the missing pin on the 'C' core spray minimum flow check valve were not implemented in a timely manner to prevent a similar failure in the 'A' core spray minimum flow check valve.
Inspection Report# : 2006004*(pdf)*

Significance: G Jun 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
CORRECTIVE ACTIONS TO PREVENT REPEAT FAILURES OF SERVICE WATER STRAINER OVERLOADS NOT IMPLEMENTED
Inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," when the 'A' service water strainer was rendered unavailable on April 18, 2006. On November 25, 2004, the 'C' service water strainer backwash arm motor experienced elevated running current and multiple thermal overload trips. PSEG performed design change and corrective maintenance activities to increase the size of the thermal overloads for the 'C' strainer motor. This condition adverse to quality was not entered into PSEG's corrective action program (CAP) for evaluation and extent of condition review. On April 18, 2006, PSEG experienced elevated running current and multiple thermal overload trips on the 'A' strainer motor which resulted in unplanned unavailability. PSEG's corrective actions included corrective maintenance to increase the size of the thermal overloads on the 'A', 'B', and 'D' strainer motors and evaluations of the elevated motor currents and the CAP oversight issue.

This performance deficiency is more than minor because it is associated with the equipment performance attribute and affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operation Significance Determination Process," the inspectors conducted a Phase 1 SDP screening and determined that, since adequate mitigation capability was maintained and a quantitative assessment was not required, the finding was of very low safety significance (Green). The performance deficiency had a cross-cutting aspect in the area of problem identification and resolution because PSEG did not evaluate and implement corrective action for a condition adverse to quality.
Inspection Report# : 2006003*(pdf)*

Significance: G Jun 30, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
LOSS OF SSHUTDOWN REACTOR PRESSURE VESSEL LEVEL INDICATION
A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when the single source of shutdown reactor water level indication was rendered inaccurate during reactor vessel reassembly. PSEG's refueling maintenance procedure directed the installation of blank flanges on all reactor vessel head penetrations during reactor disassembly. This resulted in the reactor being placed in an unvented condition when the head was reinstalled on the vessel which caused the shutdown reactor water level indication to be inaccurate and invalid. PSEG's corrective actions included changes to the refueling maintenance procedures to install vented flanges and changes to the integrated operations procedures to ensure that the reactor is vented prior to changing vessel level in Operational Condition 4 or 5.

This performance deficiency is more than minor because it is associated with the equipment performance attribute and affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609, Appendix G, "Shutdown Operation Significance Determination Process," the inspectors conducted a Phase 1 SDP screening and determined that, since adequate mitigation capability was maintained and a quantitative assessment was not required, the finding was of very low safety significance (Green). The performance deficiency had a cross-cutting aspect in the area of human performance because PSEG did not provide adequate procedure resources to prevent the loss of all shutdown range reactor water level indication.
Inspection Report# : 2006003*(pdf)*

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS FOR SERVICE WATER PUMP PACKING
The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for PSEG's failure to implement corrective actions for a condition adverse to quality involving inadequate procedure guidance

for service water pump packing replacement. This resulted in a degraded condition on the 'B' service water pump packing assembly that was identified by the inspectors on February 13, 2006. PSEG's corrective actions included tightening the packing and revising maintenance procedures.

The 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. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as risk significant due to external events. The finding had a cross-cutting aspect in the area of problem identification and resolution because PSEG did not identify that corrective actions were not implemented correctly during a corrective action effectiveness review.
Inspection Report# : 2006002*(pdf)*

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY CONDITIONS ADVERSE TO QUALITY ON 'D' SERVICE WATER STRAINER
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," when the ‘D’ service water strainer was rendered unavailable for 49 hours on November 6, 2005. On May 23, 2005, PSEG technicians reassembled the ‘D’ service water strainer with the backwash arm off-center and a packing gland machined from its original size to allow assembly. The resulting non-conforming condition was not entered into PSEG’s corrective action program. The absence of this documentation and evaluation led to the reuse of the machined gland, which resulted in a packing leak and the unavailability of the 'D' service water strainer in November 2005. PSEG initiated actions to address the problem associated with not entering the non-conforming condition into the corrective action program.

This performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems and Initiating Events cornerstone objectives and affected both cornerstone objectives. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase 1 SDP screening and determined a more detailed Phase 2 evaluation was required to assess the safety significance, because the finding affected two cornerstones. The inspectors determined that the finding was of very low safety significance (Green). The performance deficiency had a cross-cutting aspect in the area of problem identification and resolution because PSEG did not identify a condition adverse to quality by entering the issue into the corrective action program.
Inspection Report# : 2006002*(pdf)*

Significance: G Mar 31, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTION RESULTS IN UNAVAILABILITY OF THE 1AK400 CONTROL ROOM CHILLER
A self-revealing, non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, “Corrective Action," was identified when the guide vane pivot arm on the 'A' control room chiller was discovered to be operating incorrectly in May 2005, rendering the chiller unable to perform its design function. PSEG corrective actions included modifying applicable procedures and providing training to maintenance technicians.

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 to ensure the availability, reliability, and capability of systems that respond to initiating events. The improper use of setscrews on the 'A' control room chiller guide vane arms resulted in the chiller not being able to perform its design function and unplanned unavailability of the chiller for about 85 hours to implement repairs. The inspectors completed a Phase 1 screening using Appendix A of Inspection Manual Chapter (IMC) 0609, “Determining the Significance of Reactor Inspection Findings for At-Power Situations,” and determined that the performance deficiency was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single

train greater than its technical specification allowed outage time, and did not screen as risk significant due to external events.
Inspection Report# : 2006002*(pdf)*

Significance: G Dec 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
HIGH PRESSURE COOLANT INJECTION MINIMUM FLOW VALVE DEGRADED CONDITION
The team identified an NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for failure to properly evaluate and correct a condition adverse to quality associated with the high pressure coolant injection (HPCI) system minimum flow valve. This condition was an improperly adjusted motor operated valve limit switch that allowed the minimum flow valve to open under test conditions, but still indicate shut. The anomaly with the minimum flow valve first occurred in January 2005, but it was insufficiently evaluated without any work performed. This problem led to unplanned unavailability of HPCI to troubleshoot and correct the limit switch problem when it repeated in September 2005. PSEG entered this issue into the corrective action program.

The finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase 1 SDP screening and determined the issue to be of very low safety significance (Green). The finding was not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, and did not screen as potentially risk significant due to external events. The performance deficiency had a problem identification and resolution cross-cutting aspect, in that engineering personnel missed a prior opportunity to identify the incorrectly set limit switch in January 2005.
Inspection Report# : 2005007*(pdf)*

Barrier Integrity

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
VACUUM BREAKER MECHANICAL ENVIRONMENTAL QUALIFICATION IMPLEMENTATION
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," in that work performed in April 2000 and October 2001 for the 'A' through 'H' suppression pool to drywell vacuum breakers did not include instructions with appropriate acceptance criteria. The licensee entered the deficiency into their corrective action program, performed an extent of condition review on the remaining seven suppression pool to drywell vacuum breakers, enhanced maintenance procedures, and provided training to maintenance technicians on testing and overhaul of these valves.

This finding was more than minor because the performance deficiency was associated with the procedure quality attribute of the containment barrier integrity cornerstone and affected the cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide release. Specifically, vacuum breaker sub-components were not replaced or refurbished in intervals evaluated and specified in the mechanical equipment qualification program. The inspectors completed a Phase 1 screening using Appendix A of Inspection Manual Chapter 0609, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and determined the safety significance of the issue was of very low risk (Green) because it did not represent an actual open pathway in the physical integrity of reactor containment or result in an actual reduction in defense-in-depth for the atmospheric control or hydrogen control of the reactor containment.
Inspection Report# : 2005005*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
DEFICIENCY IN ACCESS CONTROL TO RADIOLOGICAL AREAS
A self-revealing non-cited violation of 10 CFR 20.1501, “Surveys and Monitoring: General”, was identified when a worker’s electronic dosimeter alarmed due to dose rates in the ‘A’ steam jet air ejector (SJAE) room exceeding the preset alarm setpoint. During power ascension at the end of the refueling outage, the worker entered the ‘A’ SJAE room and received a dose rate alarm due to the presence of dose rates in excess of 100 millirem per hour measured 30 centimeters from the source of radiation although the rooms were not identified, posted or controlled as a high radiation area. Changing radiological conditions caused by changes in reactor power level and increased steam flow in the plant required that a new radiological survey of the ‘A’ SJAE room be conducted in accordance with 10 CFR 20.1501 to support compliance with 10 CFR 20.1201, “Occupational Dose Limits for Adults,” and plant technical specification 6.12.1, prior to personnel entry. PSEG’s corrective actions included implementing process controls requiring the posting of select steam affected areas upon reactor criticality.

The failure to survey an area subject to changing radiological conditions in accordance with 10 CFR 20.1501 to ensure compliance with the requirements of 10 CFR 20.1201, and to accurately brief workers entering a posted high radiation area (Plant Technical Specification 6.12) on the radiological conditions was determined to be a performance deficiency and a finding. The finding is more than minor because it is associated with the occupational radiation safety cornerstone attribute of exposure control and affected the cornerstone objective of providing adequate protection of workers from exposure to radiation. Because the performance deficiency involved a worker entering an uncontrolled high radiation area, the finding was evaluated using Inspection Manual Chapter (IMC) 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process.” The inspectors determined that the finding was of very low safety significance (Green), because it did not involve (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for an overexposure, or (4) an impaired ability to assess dose. The performance deficiency had a cross-cutting aspect related to human performance. Specifically, PSEG did not correctly coordinate surveys and postings of the ‘A’ SJAE rooms following reactor criticality and startup.
Inspection Report# : 2006003*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : December 21, 2006