

Hope Creek 1 2Q/2004 Plant Inspection Findings

Initiating Events

Significance: G Mar 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURAL GUIDANCE RELATED TO ELECTRICAL CONNECTOR CONTRIBUTES TO CAUSE OF REACTOR SCRAM

A self-revealing finding occurred on January 12 when the primary containment isolation system (PCIS) actuated during a sensor calibration on the reactor building exhaust (RBE) radiation monitoring system (RMS). The operators manually scrambled the reactor when two main steam isolation valves drifted off their full open positions due to a PCIS isolation. An evaluation determined that the PCIS actuated due to an inadequately made-up electrical connection to an RBE RMS detector. This finding was determined to be a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings."

This finding was more than minor because it affected the procedure quality attribute of the initiating events cornerstone. The finding was of very low safety significance because the inadequate procedure or work instruction guidance did not contribute to a primary or secondary system loss of coolant accident initiator, did not increase the likelihood of a fire or flooding condition, and did not contribute to a loss of mitigation equipment functions.

Inspection Report# : [2004002\(pdf\)](#)

Significance: G Dec 31, 2003

Identified By: NRC

Item Type: FIN Finding

INADEQUATE DESIGN CONTROL AND MAINTENANCE RESULTS IN UNRELIABLE RFPT OPERATION

An inadequate design change and incorrect calibration of an oil control switch reduced the reliability of the reactor feedwater pumps, such that a second pump did not remain in operation following the September 19, 2003 electrical transient. The reactor automatically scrambled on the resulting low reactor level. A self-revealing finding was identified, which did not involve a violation of regulatory requirements.

This finding was more than minor, because it affected the equipment performance attribute of the initiating events cornerstone. The finding is of very low safety significance, because mitigation systems were available and operators could have recovered the unavailable equipment.

Inspection Report# : [2003006\(pdf\)](#)

Significance: G Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO CORRECTLY TRANSLATE DESIGN BASIS FOR SAFETY RELIEVE VALVE LEAKAGE LIMITS INTO PROCEDURE REQUIREMENTS

The inspectors identified that incorrect engineering analyses enabled an operating procedure to contain incorrect, non-conservative limits for shutting down the reactor when excessive safety relief valve (SRV) leakage exists. The finding was a non-cited violation of 10 CFR 50, Appendix B, Criterion III, Design Control.

This finding was greater than minor, because it affected the initiating events cornerstone attribute of procedure adequacy. The inaccurate engineering analyses could have resulted in PSEG operating an SRV that could have opened prior to its setpoint being reached, causing a reactor pressure transient.

The finding was of very low safety significance, because it did not increase the likelihood of a primary or secondary system loss of coolant accident initiator, did not contribute to a combination of a reactor trip and loss of mitigation equipment function, and did not increase the likelihood of a fire or internal/external flood.

Inspection Report# : [2003006\(pdf\)](#)

Significance: G Dec 12, 2003

Identified By: NRC

Item Type: FIN Finding

ELECTRO-HYDRAULIC CONTROL OIL LEAK RESULTS IN MANUAL SCRAM

PSEG failed to promptly evaluate and correct deficiencies associated with the No. 4 combined intermediate valve (CIV) actuator resulting in an operational transient (manual reactor scram).

This self-revealing finding did not represent a violation of NRC regulatory requirements, in that the performance deficiencies occurred on a nonsafety-related system. The finding is greater than minor because it had an actual impact on plant stability as it caused a manual reactor scram. The finding is of

very low safety significance (Green) because, although it caused a reactor scram it did not contribute to a primary or secondary system loss of coolant accident initiator, did not contribute to a loss of mitigation equipment functions, and did not increase the likelihood of a fire or internal/external flood.
Inspection Report# : [2003007\(pdf\)](#)

Mitigating Systems

Significance: **G** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CORRECTIVE ACTION FOR STATION SERVICE WATER SYSTEM TRAVELING WATER SCREEN SUPPORTS

The inspectors determined that corrective actions were not identified and tracked to address corrosion of station service water system (SSWS) traveling screen seismic class 1 support structures and spray pipe supports that was documented in PSEG condition monitoring reports. This finding was determined to be of very low safety significance and a violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action."

Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements. This finding was more than minor because it would have become a more significant safety concern in that the seismic class 1 supports were projected to degrade to the point that the safety function would not have been maintained prior to the next inspection. The finding was determined to be very low safety significance because it was not a design deficiency, did not result in an actual loss of safety function, and did not screen as potentially risk significant due to external conditions such as a seismic event. The traveling screen supports had not degraded such that a loss of service water traveling screen safety function would occur during a seismic event.

Corrective actions were initiated to replace required support components.

Inspection Report# : [2004003\(pdf\)](#)

Significance: **G** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CORRECTIVE ACTIONS FOR A STATION SERVICE WATER SYSTEM STRAINER

A self-revealing finding was identified regarding inadequate corrective actions when the A SSWS strainer motor breaker tripped open due to a thermal overload on February 23, 2004 during increased grass loading from the river intake. The finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements. The finding was more than minor because it was associated with the mitigating systems cornerstone attribute for equipment performance and affected the objective to ensure the availability and reliability of the A SSWS pump and strainer train. This issue also impacted the initiating events cornerstone because unavailability of one train of SSWS increased the likelihood of a loss of service water (LOSW) event. The finding was determined to be of very low safety significance based upon a SDP Phase 3 analysis.

Corrective actions were taken to repair the A SSWS strainer.

Inspection Report# : [2004003\(pdf\)](#)

Significance: **G** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE ADHERENCE FOR REACTOR CORE ISOLATION COOLING TURBINE BEARING OIL LEVEL

The inspectors identified that RCIC turbine bearing site glass oil level was not maintained in accordance with the applicable operating procedure requirements. Minimum and maximum level markings were not visible, and when re-established, oil level appeared to be high. The finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings."

Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements. The finding was more than minor because the high oil level condition could have impacted the ability of the RCIC system to perform its function. This affected the equipment performance attribute of the mitigating systems cornerstone objective to maintain the reliability of the RCIC pump. The finding was determined to be of very low safety significance because the performance deficiency was not a design or qualification deficiency, did not result in an actual loss of safety function based on prior successful surveillance tests, and the finding was not screened as potentially risk significant for external events. Corrective actions were taken to re-establish bearing site glass oil level markings and revise procedure requirements for consistency.

Inspection Report# : [2004003\(pdf\)](#)

Significance: **G** Jun 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE EMERGENCY DIESEL GENERATOR LOCKOUT RELAY TESTING

The inspectors identified that emergency diesel generator (EDG) lockout features were not tested in accordance with requirements. This finding was determined to be a non-cited violation of Technical Specification 4.8.1.1.2.h.14 (a, b, and c), which requires a verification that the EDG lockout features prevent EDG starting only when required. PSEG had not performed this surveillance at least once per 18 months for lockout relays 86R, 86B, and 86F associated with all four EDGs as required by the technical specifications.

Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements. The finding was more than minor because the required surveillance had not been performed within the required periodicity. Also, the condition could have affected the equipment performance attribute and the availability, reliability, and capability objective of the mitigating systems cornerstone. This finding was determined to be of very low safety significance because subsequent testing verified the lockout features and the associated EDGs were operable and capable of performing their intended function.

Inspection Report# : [2004003\(pdf\)](#)



Significance: Jun 24, 2004

Identified By: NRC

Item Type: FIN Finding

FAILURE TO CONDUCT HOPE CREEK SIMULATOR TESTING IN ACCORDANCE WITH ANSI/ANS 3.5-1993

The inspectors identified that simulator performance testing on the Hope Creek simulator did not meet the standards as specified in ANSI/ANS 3.5-1993 in that: (1) "best estimate" data for the simulator testing was not used; (2) a required annual simulator transient test was not performed, and; (3) simulator test documentation did not include an evaluation and validation of test results.

This finding is more than minor because it affects the human performance (human error) attribute of the mitigating systems cornerstone. Improperly conducted simulator testing brings simulator fidelity into question. The finding is of very low safety significance (Green) because the discrepancy did not have an adverse impact on operator actions such that safety related equipment was made inoperable during normal operations or in response to a plant transient.

Inspection Report# : [2004007\(pdf\)](#)



Significance: Jun 24, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE OF THE HOPE CREEK SIMULATOR TO DEMONSTRATE EXPECTED PLANT RESPONSE TO TRANSIENT CONDITIONS

A self-revealing Green Non-Cited Violation (NCV) of 10CFR55.45(c)(1) was identified. It involved the failure of the Hope Creek simulator to correctly replicate the plant's response to a Primary Containment Isolation Signal (PCIS) isolation of the Primary Containment Instrument Gas (PCIG) system that results in MSIVs drifting closed.

This finding is more than minor because it affected the human performance (human error) attribute of the mitigating systems cornerstone. Not correctly replicating the plant's response on the simulator provides the potential for negative operator training. The finding is of very low safety significance (Green) because the discrepancy did not have an adverse impact on operator actions such that safety related equipment was made inoperable during normal operations or in response to a plant transient.

Inspection Report# : [2004007\(pdf\)](#)



Significance: Mar 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER CONTROL OF TRANSIENT COMBUSTIBLES IN CORE SPRAY ROOM

The inspectors identified that transient combustible control requirements were not met during a maintenance activity in the A core spray pump room because engineering approval had not been provided for storing oil, and the oil drum was stored in a location different than specified in the transient combustible permit. This finding was determined to be a non-cited violation of Hope Creek Technical Specification 6.8.1, "Procedures and Programs."

The finding was more than minor because the quantity of combustible material stored was greater than assumed in the fire hazards analysis limits. The finding affected the human performance attribute of the mitigating systems cornerstone. The finding was determined to be of very low risk significance because it did not result in an impairment or degradation of fire protection features or defense in depth elements.

Inspection Report# : [2004002\(pdf\)](#)



Significance: Mar 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE OPERABILITY EVALUATIONS FOR THE B EMERGENCY DIESEL GENERATOR LOAD WANDERING PROBLEM

The inspectors identified two instances where the basis was not supported with correct information for concluding the B emergency diesel generator (EDG) remained operable with a load wandering condition. The finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings."

This finding was more than minor because the issues affected the equipment performance attribute of the mitigating systems cornerstone objective to maintain the B EDG reliable. The finding was determined to be of very low safety significance for mitigation systems because the finding is a

qualification deficiency confirmed not to result in a loss of EDG safety function.

Inspection Report# : [2004002\(pdf\)](#)

G

Significance: Mar 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE IDENTIFICATION OF DEGRADED PIPE INSULATION IN DRYWELL

The inspectors determined that PSEG did not adequately identify drywell pipe insulation deficiencies during a December 2003 plant outage such that the inspectors observed additional deficiencies during a March 2004 plant outage that required correction. Additionally, the inspectors identified problems with an evaluation performed on the use of tape on drywell piping insulation. This finding was determined to be a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action."

The finding was more than minor because it affected the design control attribute of the mitigating systems cornerstone objective to maintain mitigation equipment reliable. The finding was determined to be of very low safety significance because the finding is a design deficiency confirmed not to result in a loss of safety function.

Inspection Report# : [2004002\(pdf\)](#)

G

Significance: Mar 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PROCEDURE ADHERENCE DURING TEMPORARY MODIFICATION ON 125 V DC BATTERY ROOM

The inspectors identified temporary modification instructions were not followed for controlling battery room temperatures. This impacted the reliability of 125 VDC safety-related batteries because room temperatures decreased to a temperature outside the specified band. The finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings."

This configuration control issue was more than minor because it affected the mitigating systems cornerstone objective of maintaining the reliability of the 1BD411 125 VDC battery capacity. The finding was of very low safety significance because it did not result in the safety-related batteries being declared inoperable.

Inspection Report# : [2004002\(pdf\)](#)

G

Significance: Mar 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROPERLY TRANSLATE DESIGN BASES REQUIREMENTS INTO PLANT PROCEDURES FOR UNDER VOLTAGE RELAY RESET SETPOINTS

The inspectors identified that the acceptance criteria for 4.16 kv vital bus under-voltage relay reset setpoints used in calibration procedures did not ensure successful fast bus transfer to the redundant offsite power source if the first offsite source was unavailable. The finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control."

This finding was more than minor because it affected the design control attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of electrical systems to prevent undesirable conditions. The finding was of very low safety significance because the degraded voltage relays had been set with sufficient margins to avoid a loss of electrical distribution function.

Inspection Report# : [2004002\(pdf\)](#)

G

Significance: Dec 31, 2003

Identified By: NRC

Item Type: FIN Finding

INEFFECTIVE IDENTIFICATION OF FEEDWATER SETDOWN SETPOINT FUNCTION

The inspectors identified a finding on a feedwater system workaround condition regarding the digital feedwater control system setdown function but one which did not involve a violation of regulatory requirements.

This finding was greater than minor, because it affected the design control attribute of the mitigating systems cornerstone. This finding is of very low risk significance, because it is a design deficiency confirmed not to result in loss of function. While the setdown setpoint function has not likely operated correctly since the system was installed, there has not been a loss of feedwater function due to this problem, and operator training and procedures provide for operating RFPs in manual mode where the setdown function is not used.

Inspection Report# : [2003006\(pdf\)](#)

G

Significance: Dec 31, 2003

Identified By: NRC

Item Type: FIN Finding

INEFFECTIVE RESOLUTION OF FEEDWATER SYSTEM WORKAROUND CONDITION

The inspectors determined a self-revealing finding regarding ineffective corrective actions to address an inadvertent feedwater heater isolation workaround condition that occurred after scrams from full power. The finding did not involve a violation of regulatory requirements.

This finding was greater than minor, because feedwater system is a mitigating system and the finding is associated with the design control attribute of the mitigating systems cornerstone. The finding is of very low risk significance, because it is a design deficiency confirmed not to result in loss of function. While manual action was required it has not resulted in loss of feedwater flow.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

IMPROPER REACTIVATION OF LIMITED SENIOR REACTOR OPERATOR

The inspectors identified a non-cited violation when PSEG did not properly reactivate three limited senior reactor operator (LSRO) licenses prior to their involvement in refueling activities during the April 2003 refueling outage. This resulted in these individuals supervising fuel handling operations without being correctly verified as proficient to do so.

This finding was greater than minor, because it resulted in LSROs performing fuel movement while not in compliance with their license conditions regarding reactivation. This finding is of very low safety significance, because it is administrative in nature and the operators were otherwise current in requalification.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Dec 12, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

RESIDUAL HEAT REMOVAL SYSTEM MINIMUM FLOW VALVE CYCLING

The team identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Actions, for PSEG's failure to promptly address conditions adverse to quality concerning RHR minimum flow valve undesired cycling during RHR pump starts and erroneous RHR trip unit signals.

The finding was more than minor because it potentially affected the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events (i.e., loss of coolant accidents). The finding was associated with the attributes of equipment performance (RHR system availability and reliability). The finding was of very low safety significance (Green), because the problems did not result in a loss of the RHR system function.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Dec 12, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE CORRECTIVE ACTIONS ON THE B CONTROL AREA ROOM CHILLER

PSEG failed to adequately implement identified corrective actions for a B control area chiller problem which resulted in a subsequent chiller trip when operators placed it in service.

The team identified a non-cited violation of 10 CFR Part 50, Appendix B Criterion XVI, Corrective Actions, for this performance deficiency. This self-revealing finding was considered to be more than minor because it affected the Mitigating System cornerstone and was associated with the availability and reliability of the control area chiller. The finding was reviewed using a Phase 3 analysis and determined to be of very low risk significance based on reasonable assumptions which indicated the predicted increase in the core damage frequency (CDF) was negligible.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Sep 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN COMPENSATORY FIRE WATCH WITH C EMERGENCY DIESEL GENERATOR CO2 FIRE PROTECTION SYSTEM AUTOMATIC START FUNCTION INOPERABLE

The inspectors determined that ineffective work control regarding the automatic fire suppression system (carbon dioxide-CO2) for the C EDG had resulted in the CO2 system being unnecessarily out of service for weeks, compensatory measures being terminated prior to the CO2 system's return to service, and control of transient combustibles being inadequate. These performance issues are violations of Hope Creek Technical Specification 6.8.1 to correctly implement fire protection program procedures. Additionally, these performance issues have a problem identification aspect, because PSEG operators did not initiate a corrective action notification when initial problems with the C EDG fire impairment were identified.

This finding is more than minor, because it adversely affects the mitigating system cornerstone attribute to maintain the availability of the C EDG room fire protection equipment. The finding is of very low risk significance, because the three hour fire barriers separating the B and D EDGs from the C EDG room were not affected and remained capable of ensuring the B and D EDGs were available for plant safe shutdown in the event of a fire in the C EDG room.

Inspection Report# : [2003005\(pdf\)](#)

W
Significance: Sep 27, 2003
Identified By: NRC
Item Type: VIO Violation

MAINTENANCE EFFECTIVENESS ON "A" STATION SERVICE WATER SYSTEM TRAVELING SCREEN

(By letter dated May 10, 2004, Final Significance Determination for a White Finding and Notice of Violation, EA-04-086 was issued)

A self-revealing finding occurred when the A SSWS traveling screen failed and PSEG determined that improper cutting of a key without procedure guidance had been a contributing cause. The inspectors identified an additional problem that contributed to the failure in that applicable maintenance procedures had not been used to set traveling chain tension and screen level. This performance issue was determined to have potential safety significance greater than very low safety significance, based on preliminary risk assessments that considered the associated pump unavailable while the traveling screen was inoperable.

Inspection Report# : [2003005\(pdf\)](#)

Inspection Report# : [2003006\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Last modified : September 08, 2004