

Salem 1

1Q/2005 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

MAINTENANCE PRACTICES RENDER A PROTECTION INSTRUMENT INOPERABLE

A self-revealing non-cited violation was identified when the 11 steam generator steam flow protection channel 1 instrument failed downscale due to an open instrument equalizing valve. The equalizing valve was left partially open at the conclusion of calibration activities contrary to procedure requirements. This 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. This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance (Green) using a Phase 1 screening in Appendix A of Inspection Manual Chapter 0609, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The finding was considered to not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, because only one instrument in engineered safety feature (ESF) channel 1 was affected. The 11 steam generator steam line flow channel 2 remained operable as well as other channel 1 ESF signals from low pressurizer pressure, steam line differential pressure, and containment high-high pressure. The finding was also not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function, and was not screened as potentially risk significant from external events. The performance deficiency had a human performance (personnel) cross cutting aspect.

Inspection Report# : [2005002\(pdf\)](#)

Significance:  Mar 31, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

13 AUXILIARY FEEDWATER PUMP STEAM ADMISSION VALVE REPEAT MALFUNCTIONS

A self-revealing, non-cited violation was identified on October 16, 2004, when the 13 auxiliary feedwater pump steam admission valve (1MS132) position indication malfunctioned and the valve stem rotated. Inadequate problem evaluation resulted in recurrent 1MS132 valve issues and the 13 auxiliary feedwater (AFW) pump being unnecessarily unavailable in July 2004 and October 2004. Specifically, the 1MS132 had exhibited stem rotation on three previous occasions, and PSEG did not evaluate the root cause of the valve rotational forces. PSEG also did not evaluate a loose actuator stem nut in July 2004. This 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. This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Senior Reactor Analysts determined that the finding was of very low safety significance (Green) using a Phase 3 analysis. The performance deficiency had a problem identification and resolution (evaluation) cross cutting aspect.

Inspection Report# : [2005002\(pdf\)](#)

Significance:  Mar 18, 2005

Identified By: NRC

Item Type: FIN Finding

COMPONENT COOLING WATER COFIGURATION CONTROL DEFICIENCY

The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for PSEG's failure to take adequate corrective action to address recurring challenges to standby service water (SW) pumps due to silting and debris in the out of service strainers.

The finding was more than minor because it affected the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The finding was associated with the attribute of equipment performance (SW system availability and reliability). This issue also impacted the Initiating Events cornerstone because unavailability of one train of SW 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 2 analysis. The performance deficiency had a problem identification and resolution (corrective actions) cross cutting aspect.

Inspection Report# : [2005007\(pdf\)](#)

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Significance: Mar 18, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

UNTIMELY PROBLEM RESOLUTION FOR REPEAT FAILURES OF 125VDC BATTERY CHARGERS

The team identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for ineffective and untimely corrective action associated with the 1C1 125VDC battery charger. NRC inspection report 05000272, 05000311/2004004, documented several previous battery charger failures, but timely corrective actions were not implemented to eliminate the identified defective condition for all battery chargers of identical design and like vintage. Consequently, the failure of another battery charger occurred on November 16, 2004.

This finding was more than minor because it was associated with the equipment performance attribute, and it affected the Mitigating Systems cornerstone objective to ensure the capability and reliability of systems that respond to initiating events. The finding was of very low safety significance based upon a Phase 1 SDP, because the finding was not a design deficiency, it did not result in an actual loss of safety function, and it did not screen as potentially risk significant for externally initiating events (seismic, flooding, or severe weather). The performance deficiency had a problem identification and resolution (corrective actions) cross cutting aspect.

Inspection Report# : [2005007\(pdf\)](#)

G

Significance: Dec 31, 2004

Identified By: NRC

Item Type: FIN Finding

REPEAT UNAVAILABILITY OF THE GAS TURBINE DUE TO CONTROL SYSTEM FAULTS

The inspectors identified a failure to implement effective corrective actions following repetitive failures of the gas turbine control system. The finding was not a violation of NRC requirements because it pertained to non-safety related equipment.

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 equipment performance attribute of the mitigating systems cornerstone. This finding affected the mitigating cornerstone objective, in that, it reduced the availability and reliability of a system that responds to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance based upon a SDP Phase 3 analysis.

Inspection Report# : [2004005\(pdf\)](#)

G

Significance: Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

MAINTENANCE PRACTICES RENDER AUXILIARY FEEDWATER PUMP INOPERABLE

A self-revealing finding was identified when tubing on a temporary test gauge ruptured from being over-pressurized and sprayed the inside of the 13 turbine driven auxiliary feedwater (TDAFW) pump panel with water resulting in pump unavailability. This finding involved inadequate procedural adherence and was 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 it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to maintain the availability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance using the Phase 1 screening in Appendix A of Inspection Manual Chapter 0609, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The finding represented a loss of safety function of a single train of auxiliary feedwater for less than the technical specification allow outage time. The finding was also not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function, and was not screened as potentially risk significant from external events.

Inspection Report# : [2004005\(pdf\)](#)

G

Significance: Dec 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

INCORRECT TEMPORARY MODIFICATION INSTALLATION

The inspectors identified a failure to properly translate temporary modification (TM) instructions into the associated work order. As a result, incorrect sealant was applied around seven floor drain covers in Salem Unit 1 and Unit 2 auxiliary buildings. The covers protected safety-

related systems, structures, and components in mild areas of the auxiliary building from being exposed to the harsh environment (higher temperature and humidity) associated with a main steam line break. The finding was determined to be a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings."

Traditional enforcement does not apply because the issue did not have any actual safety consequence or potential for impacting the NRC's regulatory function and was not the result of any willful violations of NRC requirements. The finding was more than minor because it was associated with the design control attribute of the mitigating systems cornerstone and affected the objective to maintain the reliability and availability of systems that respond to initiating events to prevent undesirable consequences in the auxiliary building from being exposed to a harsh environment. In accordance with Inspection Manual 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). The finding screened to Green because the issue was a qualification deficiency confirmed not to result in a loss of function.
Inspection Report# : [2004005\(pdf\)](#)

Significance:  Sep 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

UNTIMELY PROBLEM RESOLUTION FOR 125VD.C. BATTERY CHARGER FAILURES

A self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was made apparent when the 1A1 125Vdc battery charger malfunctioned to a reduced charging capacity. The 1C1 and 2C1 battery chargers failed about three months prior, but corrective actions were not implemented to eliminate the identified defective condition for all battery chargers of identical design and like vintage.

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 was associated with the equipment performance attribute, and it affected the mitigating systems cornerstone objective to ensure the capability of systems that respond to initiating events. The inspectors determined that the finding was of very low safety significance using the Phase 1 SDP because the finding was not a design or qualification deficiency; it did not represent an actual loss of safety function of a single train for greater than the technical specification allowed outage time; and it did not screen as potentially risk significant for externally initiated core damage accident sequences.

Inspection Report# : [2004004\(pdf\)](#)

Significance:  Sep 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INCORRECT ASSEMBLY OF 1SW26

A self-revealing finding was identified regarding inadequate procedure guidance and deficient maintenance practices when the Unit 1 turbine building service water isolation valve failed to close on June 2, 2004. 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 it was associated with the equipment performance attribute, and it affected the Initiating Events, Mitigating Systems, and Barrier Integrity Cornerstone objectives. The finding was determined to be of very low safety significance based upon a SDP Phase 3 analysis.

Inspection Report# : [2004004\(pdf\)](#)

Significance:  Jun 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

INADEQUATE FME FOULS 12A AND 12B COMPONENT COOLING HEAT EXCHANGERS

A self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was made apparent when foreign material, plywood and duct tape, was identified within the 12A and 12B component cooling heat exchanger service water inlet boxes.

This finding was more than minor because it was associated with the equipment performance attribute, and it affected the mitigating systems cornerstone objective. The inspectors determined that the finding was of very low safety significance (Green) using the Phase 1 SDP because the as-found heat exchanger performance data demonstrated that the heat exchangers were marginally impacted by the foreign material; and thus, the foreign material did not increase the likelihood of a loss of component cooling water event or result in the loss of safety function of the component cooling heat exchangers in any internally or externally initiated core damage accident sequences.

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

Significance:  Jun 30, 2004

Identified By: Self Disclosing
Item Type: NCV NonCited Violation

INCORRECT ASSEMBLY OF 1MS132

A self-revealing non-cited violation of Technical Specification (TS) 6.8.1.a was made apparent for failure to properly perform maintenance in accordance with written procedures for the 13 turbine-driven auxiliary feedwater pump steam admission valve (1MS132). Maintenance technicians added lubricant, not specified by work instructions, to the valve and actuator stems which prevented the stem block from achieving adequate coupling with the stems.

This issue was more than minor because it was associated with the equipment performance attribute, and it affected the Mitigating Cornerstone objective. The inspectors determined that the finding was of very low safety significance (Green) using the Phase 1 SDP because the finding was not a design or qualification deficiency; it did not represent an actual loss of safety function of a single train for greater than the TS allowed outage time; and it did not screen as potentially risk significant for externally initiated core damage accident sequences.

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

G

Significance: Jun 30, 2004

Identified By: Self Disclosing
Item Type: NCV NonCited Violation

DESIGN MODIFICATION RESULTING IN FAILURE OF 12SW17 TO OPEN

A self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was made apparent for failure to incorporate adequate instructions to adjust the open torque switch bypass setting on the 12 nuclear service water header crosstie valve, 12SW17, into the design change package which modified the valve from a limit seated, soft seated butterfly valve to a torque seated, hard seated butterfly valve.

This issue was more than minor because it was associated with the equipment performance attribute, and it affected the Mitigating Cornerstone objective. The inspectors determined that the finding was of very low safety significance (Green) using the Phase 1 SDP because the finding was a design deficiency that resulted in a loss of function of a single train for less than the TS allowed outage time; and it did not screen as potentially risk significant for externally initiated core damage accident sequences.

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

G

Significance: Jun 30, 2004

Identified By: Self Disclosing
Item Type: NCV NonCited Violation

INADEQUATE 13 AUXILIARY FEEDWATER PUMP INSPECTION INSTRUCTIONS

A self-revealing non-cited violation of Technical Specification 6.8.1.a was made apparent for failure to establish maintenance instructions appropriate to the circumstances for preventive maintenance performed on the 13 turbine-driven auxiliary feedwater pump overspeed trip mechanism. Consequently, PSEG personnel did not identify wear on the overspeed trip device tappet nut which resulted in the 13 turbine-driven auxiliary feedwater pump tripping during surveillance testing on March 30, 2004.

This issue was more than minor because it was associated with the equipment performance attribute, and it affected the Mitigating Systems Cornerstone objective. The inspectors determined that the finding was of very low safety significance (Green) using the Phase 1 SDP because the finding was not a design or qualification deficiency; it did not represent an actual loss of safety function of a single train for greater than the TS allowed outage time; and it did not screen as potentially risk significant for externally initiated core damage accident sequences.

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

G

Significance: Jun 30, 2004

Identified By: Self Disclosing
Item Type: NCV NonCited Violation

FAILURE OF 25 TRAVELING WATER SCREEN DUE TO INADEQUATE LUBRICATION

A self-revealing non-cited violation of TS 6.8.1.a was identified for failure to establish maintenance instructions appropriate to the circumstances for preventive maintenance performed on the 25 service water traveling water screen (TWS) which resulted in the subsequent failure of the 25 TWS due to inadequate lubrication of the head shaft bearing.

This finding was more than minor because it was associated with the equipment performance attribute, and it affected the Initiating Event and Mitigating System Cornerstone objectives. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the Region I SRA conducted a Phase 3 SDP analysis of the significance of the performance deficiency and determined the finding was of very low safety significance (Green). In this analysis, the SRA assumed that the 25 TWS was out-of-service for 177 hours and that the loss of service water (LOSW) initiating event frequency increased during this time because of lost redundancy in the service water trains as a result of the performance deficiency. The SRA determined that the increase in core damage frequency due to internally initiated events was in the low E-8 range.

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

G**Significance:** Jun 24, 2004

Identified By: NRC

Item Type: FIN Finding

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

The inspectors identified that simulator performance testing on the Salem 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) some (4 of the 11 required) annual simulator transient tests were 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\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

Last modified : June 17, 2005