

# Salem 1

## 3Q/2005 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Sep 30, 2005

Identified By: Self-Revealing

Item Type: FIN Finding

#### **UNAVAILABILITY OF STATION BLACK-OUT AIR COMPRESSOR DUE TO INCOMPLETE PREVENTATIVE MAINTENANCE**

A self-revealing finding was identified for failure to implement corrective actions to create a preventive maintenance task to clean lube oil coolers on the station black-out air compressor (SBOAC). As a result, the SBOAC tripped due to a high air outlet temperature condition during a monthly performance test on August 14, 2005. PSEG entered the failure to perform necessary preventive maintenance into their corrective action program for resolution. The finding was not a violation of NRC requirements because it pertained to non-safety related equipment. The cause of the finding is related to the cross-cutting element of problem identification and resolution.

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 availability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase 1 Significance Determination Process (SDP) screening and determined that the safety function of the SBOAC, which is risk significant per 10 CFR 50.65, was lost for greater than 24 hours. This required that a Phase 2 SDP analysis be performed. Because the Salem Risk-Informed Inspection Notebook did not consistently describe the SBOAC, the regional Senior Reactor Analyst conducted a Phase 3 SDP analysis and determined the issue to be of very low safety significance.

Inspection Report# : [2005004\(pdf\)](#)

**Significance:**  May 02, 2005

Identified By: NRC

Item Type: FIN Finding

#### **COMPONENT COOLING WATER CONFIGURATION CONTROL DEFICIENCY**

The team identified a finding of very low safety significance because PSEG did not properly follow its procedural guideline for conducting an apparent cause evaluation (ACE) in response to a component cooling water configuration control problem that caused the 11 residual heat removal heat exchanger to be inoperable.

This finding is more than minor because it is associated with the Mitigating Systems cornerstone's configuration control attribute and affected the cornerstone's objective to ensure the availability and reliability of systems that respond to initiating events. This finding was of very low safety significance (Green) based on a Phase 1 SDP, 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 initiating events (seismic, flooding, or severe weather). The performance deficiency had a human performance cross cutting aspect. The individuals performing the ACE did not follow the site procedural guidelines for the conduct of the ACE.

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

**Significance:**  May 02, 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:** Mar 31, 2005

Identified By: Self-Revealing

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\(pdf\)](#)

**G**

**Significance:** Mar 31, 2005

Identified By: Self-Revealing

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\(pdf\)](#)

**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-Revealing

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\(pdf\)](#)

## Barrier Integrity

**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**15 CONTAINMENT FAN COIL UNIT INOPERABLE DUE TO CONFIGURATION CONTROL ERROR**

A self-revealing finding was identified when the 15 containment fan coil unit (CFCU) failed to start in high speed on May 24, 2005. PSEG determined that charging spring toggle switches on the high and low speed CFCU breakers were mis-positioned during a surveillance test on May 18, 2005. The configuration control error rendered the CFCU inoperable for 160 hours. The finding 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. This finding was more than minor because it was associated with the structure, system, or component performance attribute of the barrier integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that containment barriers protect the public from radio nuclide releases caused by accidents or events. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors were directed to IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," because the finding represented an actual loss of defense-in-depth of a system that controls containment pressure. The finding was determined to be of very low safety significance (Green) because the Salem Units include a large, dry containment, and containment fan coil unit failures do not significantly contribute to large early release frequency (LERF). The performance deficiency had a human performance (personnel) cross cutting aspect.

Inspection Report# : [2005003\(pdf\)](#)

**G****Significance:** Jun 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**FAILURE TO PROPERLY INSPECT SILT BUILD-UP IN THE 12 SERVICE WATER ACCUMULATOR LINE**

A self-revealing finding was identified when a portion of the 12 service water accumulator outlet line was found nearly full of silt. Established corrective actions to inspect for silt on an eighteenth-month frequency were inappropriately deferred in April 2004. This finding was a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Actions."

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 violation of NRC requirements. The finding was more than minor because it was associated with the structure, system, or component (SSC) performance attribute of the barrier integrity cornerstone and affected the objective to provide reasonable assurance that containment barriers protect the public from radio nuclide releases caused by accidents or events. The inspectors determined that the finding was of very low safety significance (Green) using Inspection Manual Chapter (IMC) 0609, Appendix H, "Containment Integrity Significance Determination Process," because the CFCUs are not important to large early release frequency, in that, the Salem units have large dry containments and the CFCUs only impact late containment failure and source terms. The performance deficiency had problem identification and resolution (evaluation and corrective action) cross cutting aspects.

Inspection Report# : [2005003\(pdf\)](#)

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## Emergency Preparedness

**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**INDEPENDENT QUALITY ASSURANCE AUDIT TO ASSESS ALL ELEMENTS OF THE EMERGENCY PREPAREDNESS PROGRAM WAS NOT COMPLETED AS REQUIRED BY 10 CFR 50.54(t)**

The inspectors identified that PSEG did not complete an independent quality assurance audit to assess all elements of the emergency preparedness program as required by federal regulations. The finding was determined to be a non-cited violation 10 CFR 50.54(t), "Conditions of Licenses."

Traditional enforcement does not apply because the finding did not have any actual safety consequence 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 all attributes of the emergency preparedness cornerstone and affected the objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The inspectors determined that the finding was of very low safety significance (Green) using Appendix B of Inspection Manual Chapter 0609, "Emergency Preparedness Significance Determination Process, Sheet 1, Failure to Comply," because it did not constitute a failure to meet an Emergency Preparedness planning standard or risk significant planning standard.

Inspection Report# : [2005003\(pdf\)](#)

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

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

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## Miscellaneous

G**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: FIN Finding

**FAILURE TO IMPLEMENT THE EXECUTIVE REVIEW BOARD PROCESS**

The inspectors identified a finding for several lapses in the use of the Executive Review Board (ERB) process. This finding involved not properly implementing a corrective action which had been intended to improve management effectiveness in detecting and preventing retaliation and the creation of a chilling effect. This finding was not a violation of regulatory requirements.

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 if left uncorrected, it would lead to the potential for retaliation and a chilled work environment. This finding was of very low safety significance (Green), based on management review, because there was no direct impact on human performance or equipment reliability. The performance deficiency had problem identification and resolution (corrective action) and safety conscious work environment cross cutting aspects.

Inspection Report# : [2005003\(pdf\)](#)**Significance:** N/A May 02, 2005

Identified By: NRC

Item Type: FIN Finding

**SALEM AND HOPE CREEK PROBLEM IDENTIFICATION AND RESOLUTION BIENNIAL INSPECTION**

The team determined that, in general, problems were adequately identified, evaluated and corrected. However, the team noted that PSEG's implementation of their corrective action program was inconsistent. The team identified weaknesses in each of the three fundamental areas: problem identification, evaluation, and the effectiveness of corrective actions. The team identified six findings in which PSEG did not properly evaluate and correct conditions adverse to quality. Several staff interviews were conducted during the inspection. The team identified no new safety conscious work environment issues.

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

Last modified : November 30, 2005