

Salem 2

2Q/2005 Plant Inspection Findings

Initiating Events

G**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

THROUGH-WALL LEAKAGE IN REACTOR COOLANT SYSTEM INSTRUMENT TUBING

The inspectors identified a non-cited violation, in that, corrective actions established in July 1998 to identify, clean, and inspect Unit 2 reactor coolant system (RCS) instrument tubing were not implemented. Because these corrective actions were not implemented, four through-wall cracks were identified in RCS instrument tubing in April 2005. 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 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 initiating events cornerstone and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shut down as well as power operations. 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." It is expected that a tubing crack would result in an increase in RCS leakage, and operators would take action prior to exceeding Technical Specification limits for RCS leakage. Therefore, assuming worst case degradation, the finding would not result in exceeding the Technical Specification limit for identified RCS leakage and would not have likely affected other mitigation systems resulting in a total loss of their safety function. The performance deficiency had a problem identification and resolution (corrective action) cross cutting aspect.

Inspection Report# : [2005003\(pdf\)](#)**G****Significance:** Dec 31, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

SALEM UNIT 2 AUTOMATIC REACTOR TRIP ON SEPTEMBER 9, 2004

A self-revealing finding was identified when the Salem Unit 2 reactor automatically tripped on September 9, 2004, in response to a generator protection trip. PSEG failed to incorporate vendor recommended daily and weekly inspections of the Salem Unit 2 exciter brushes. A brush failure resulted in a generator protection trip. The finding was not a violation of NRC requirements, in that the performance deficiency occurred on a non-safety related system.

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 is greater than minor because it affected the equipment performance attribute and impacted the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability. 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 finding to be of very low safety significance (Green). The finding screened to Green because the issue did not involve a loss-of-coolant accident or external event initiator, and mitigation equipment was also not involved.

Inspection Report# : [2004005\(pdf\)](#)**G****Significance:** Sep 30, 2004

Identified By: Self Disclosing

Item Type: FIN Finding

SALEM UNIT 2 MANUAL REACTOR TRIP ON JULY 15, 2004

A self-revealing finding was made apparent when Salem Unit 2 was manually tripped on July 15, 2004, by control room operators for a 23 steam generator feedwater regulating valve malfunction. The reactor trip was preceded by a low steam generator water level automatic reactor trip on July 13, 2004, for the same equipment malfunction. Corrective actions prior to the July 15, 2004, trip were not adequate to prevent recurrence of this problem. The finding was not a violation of NRC requirements, in that the performance deficiencies occurred on non-safety related systems.

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 is greater than minor because it affected the equipment reliability attribute and had an impact on the objective of the Initiating Events and Mitigating Systems Cornerstones. In accordance with Inspection Manual 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations,"

the inspectors conducted a Phase 2 SDP evaluation of the significance of the performance deficiency and determined the finding was of very low safety significance.

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

Mitigating Systems

Significance:  Jun 30, 2005

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

UNAVAILABILITY OF 22 CHARGING PUMP DUE TO DISCHARGE CHECK VALVE LEAKAGE

A self-revealing finding was identified when the 22 charging pump was rendered unavailable to repair a degraded discharge check valve. Corrective actions from a similar occurrence on Unit 1 in June 2004 were not implemented in a timely manner to prevent recurrence. 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 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. 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 not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of system safety function, did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, and was not screened as potentially risk significant from external events. The performance deficiency had a problem identification and resolution (corrective actions) cross cutting aspect.

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

Significance:  Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

REACTOR SUMP ROOM DOOR DESIGN DEFICIENCY

The inspectors identified a non-cited violation, in that, the Unit 2 reactor sump room door was contrary to plant design. The configuration discrepancy reduced the available margin to identify and isolate a postulated service water leak from a containment fan coil unit prior to flooding safety-related equipment during loss-of-coolant accident conditions. The finding was a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control."

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 design control 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 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 a design control deficiency that did not result in a loss of function.

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

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\(pdf\)](#)

Significance:  May 02, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

DEFICIENT CONTROL AREA CHILLER CONTROLS

The team identified non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for failure to implement timely and effective corrective actions following repetitive failures of the control area chillers due to a deficient temperature control system.

The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone. This finding affected the cornerstone objective, in that it reduced the availability and reliability of a system that responds to initiating events. The finding was determined to be of very low safety significance (Green) based upon a SDP Phase 1 analysis, 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 problem identification and resolution (corrective actions) cross cutting aspect.

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

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\(pdf\)](#)

Significance:  Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

TRASH RACK BIOFOULING CAUSES FAILURE OF NUMBER 26 SERVICE WATER PUMP

A self-revealing finding was identified when the 26 service water pump was rendered inoperable due to biological fouling of the suction trash rack on September 22, 2004. A large amount of biological growth had previously been identified on the trash rack during an inspection on August 2, 2004; however, PSEG did not clean the trash rack following the inspection. The finding was determined to be a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action."

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 equipment availability attribute of the mitigating systems cornerstone objective to maintain 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 that a Phase 2 evaluation was required because the performance deficiency degraded both the initiating event and mitigating systems cornerstones. However, the inspectors were unable to evaluate the finding using Phase 2, because the Risk-Informed Inspection Notebook for Salem Generating Station did not evaluate loss of service water initiating events. The Region 1 Senior Reactor Analyst (SRA) conducted a Phase 3 analysis which determined that the finding was of very low safety significance (Green).

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

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

Significance:  Jun 30, 2005
Identified By: NRC

Item Type: NCV NonCited Violation

CONTAINMENT CLOSURE REQUIREMENTS NOT SATISFIED

The inspectors identified a non-cited violation for a failure to accomplish containment closure precautions in accordance with established procedures when the outage equipment hatch was blocked with a Sea-Van container during Unit 2 core alterations without a ready overhead crane. This 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 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 human 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. In accordance with IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," the inspectors conducted a Phase 1 SDP screening using checklist 4 and determined the finding to be of very low safety significance (Green). The finding did not increase the likelihood of a loss of RCS inventory, did not degrade the ability to terminate a leak path or add RCS inventory when needed, and did not degrade the ability to recover decay heat removal systems once lost. The performance deficiency had a human performance (personnel) cross cutting aspect.

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

Emergency Preparedness

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\(pdf\)](#)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

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

Miscellaneous

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 : August 24, 2005