

# Salem 1

## 1Q/2007 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 23, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **12 CHILLER RENDERED UNAVAILABLE DUE TO INADEQUATE MAINTENANCE**

A self-revealing non-cited violation of Technical Specification 6.8.1 was identified when improper maintenance caused the 12 control area chiller to trip and remain unavailable for approximately 70 hours on July 15, 2006. Maintenance was incorrectly performed on a chiller unloader device that caused the chiller to overcool the chilled water system resulting in a valid automatic freeze-protection trip of the refrigerant compressor. PSEG repaired the chiller, verified that the other five chiller units were correctly maintained, trained maintenance technicians on the error, and are currently reviewing the maintenance procedure for enhancement opportunities.

The performance deficiency was determined to be more than minor because it rendered the 12 chiller unavailable for use. The performance deficiency was determined to be of very low risk significance (Green) by a Phase 3 analysis by a regional Senior Risk Analyst. The performance deficiency had a cross-cutting aspect in the area of human performance because PSEG personnel did not follow applicable maintenance procedures when performing maintenance on the 12 control area chiller unloader device.

Inspection Report# : [2007006 \(pdf\)](#)

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### Mitigating Systems

**Significance:**  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **15 SERVICE WATER PUMP UNAVAILABILITY**

A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because PSEG did not conduct maintenance in accordance with appropriate written procedures. Specifically, the pump packing was not adequately cooled during the PMT, damaging the 15 SWP.

The finding is more than minor because it impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, incorrectly performed maintenance reduced the availability of the 15 SWP. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase 1 screen and determined that this finding required a Phase 2 analysis because both the Initiating Event and Mitigating Systems Cornerstones were adversely impacted by the 15 SWP unavailability. Based upon the Risk-Informed Notebook for Salem Generating Station not containing a Loss of Service Water worksheet, the Senior Reactor Analyst (SRA) conducted a Phase 3 risk assessment and determined that the finding was of very low safety significance (Green).

The performance deficiency has a cross-cutting aspect in the area of human performance because PSEG did not effectively communicate human error prevention techniques. Maintenance technicians assigned to perform the post-maintenance test were unfamiliar with the task. The pre-job brief did not discuss in detail the application of external cooling water to the packing gland during packing break in. At the job site, maintenance technicians proceeded with the post-maintenance test in the face of uncertainty, resulting in equipment damage.

Inspection Report# : [2007002 \(pdf\)](#)

**G****Significance:** Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**INADEQUATE PROCEDURE IMPLEMENTATION FOR SCAFFOLD CONSTRUCTION**

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because PSEG did not adequately implement procedural controls for scaffold construction in safety-related areas. This performance deficiency had the potential to adversely impact the upper bearing cooling supply to five of the six Unit 2 service water (SW) pumps and three of the six Unit 1 SW pumps. Once identified, PSEG corrected the scaffold deficiencies.

The issue screened as more than minor based on NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues and Cross-Cutting Aspects," Example 4.a, because the inspectors identified multiple examples where there was not an engineering seismic impact evaluation to demonstrate no adverse effect on safety-related SW equipment. The finding was determined to be of very low safety significance (Green) because the performance deficiency was not a design deficiency or qualification deficiency; did not represent an actual loss of safety function of a system; did not represent an actual loss of safety function of a single train for greater than the Technical Specification allowed outage time; did not represent an actual loss of safety function of one or more non-Technical Specification trains of equipment; and did not screen as potentially risk significant due to seismic, flooding or a severe weather initiating event. This finding has a cross-cutting aspect in the area of human performance because PSEG personnel did not follow procedures.

Inspection Report# : [2006005](#) (*pdf*)

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## Barrier Integrity

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## Emergency Preparedness

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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

**Significance:** N/A Mar 23, 2007

Identified By: NRC

Item Type: FIN Finding

**SALEM BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION**

The inspectors concluded that the implementation of the corrective action program (CAP) at Salem was effective. Salem had a low threshold for identifying problems and entering them in the CAP. Once entered into the system, items were

screened and prioritized in a timely manner using established criteria. Items entered into the CAP were properly evaluated commensurate with their safety significance. Corrective actions were implemented in a timely manner. PSEG's audits and self-assessments were adequate, however, some self-assessment recommendations were not entered into the CAP. The inspectors observed that PSEG adequately identified, reviewed, and applied relevant industry operating experience through station programs. Based on interviews conducted during the inspection, workers at the site expressed freedom to enter safety concerns into the CAP.

Inspection Report# : [2007006 \(pdf\)](#)

**G**

**Significance:** Mar 23, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**FITNESS-FOR-DUTY (FFD) COLLECTION PERSONNEL COLLECTING FFD SAMPLES FROM CO-WORKERS**

The NRC identified a non-cited violation of 10 CFR 26, Appendix A, subpart B, 2.3 (1) when the inspectors observed PSEG's fitness-for-duty (FFD) collection technicians and security officers perform urine and breath collection on co-workers on March 21, 2007. PSEG implemented immediate corrective actions by stopping the practice of collection personnel performing urine and breath collections on other collection technicians, enhancing the station FFD procedures, and by conducting FFD testing of the affected individuals.

The performance deficiency was determined to be more than minor because, if left uncorrected, it would affect the integrity of the FFD program. The finding was determined to be of very low safety significance (Green) using the Physical Protection Significance Determination Process. The finding had a cross-cutting aspect in the area of Human Performance in that PSEG did not have FFD adequate procedures that ensured that the regulatory requirements prohibiting collectors from collecting samples from co-workers were followed.

Inspection Report# : [2007006 \(pdf\)](#)

**G**

**Significance:** Mar 23, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**FITNESS-FOR-DUTY (FFD) COLLECTORS LEAVING FFD SPECIMENS UNATTENDED**

The NRC identified a non-cited violation of 10 CFR 26, Appendix A, Subpart B, 2.4 (g) (20) when the inspectors observed PSEG's fitness-for-duty (FFD) collection technicians leaving split FFD urine specimens in unsealed aliquot tubes and sealed specimen containers in unattended work areas on March 21, 2007. The licensee implemented immediate corrective measures by capping and sealing FFD aliquot specimens, requiring that FFD donors witness the transfer of their FFD urine specimen to a laboratory technician through a chain-of-custody form, and by sampling an additional 25 percent of PSEG employees for a FFD test.

The performance deficiency was determined to be more than minor because, if left uncorrected, it could affect the integrity of the FFD program. The inspector determined that the finding was of very low safety significance (Green) using the Physical Protection Significance Determination Process. The finding had a cross-cutting aspect in the area of Human Performance in that PSEG failed to effectively communicate expectations regarding procedural compliance and personnel did not follow procedures.

Inspection Report# : [2007006 \(pdf\)](#)

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