

# Salem 1

## 4Q/2009 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  Jul 10, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO ESTABLISH GOALS AND MONITOR FOR (a)(1) SERVICE WATER SYSTEM**

The inspectors identified a non-cited violation of very low safety significance of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," paragraph (a)(1), for PSEG's failure to monitor the performance of the service water system against established (a)(1) goals in a manner sufficient to provide reasonable assurance that the system was capable of fulfilling its intended function. PSEG also failed to take corrective action when system performance exceeded the (a)(1) unavailability goals. Specifically, PSEG failed to establish (a)(1) goals and monitor service water system performance from January 2008 through October 2008. Additionally, the inspectors identified a second example of this issue when PSEG failed to recognize that the service water system exceeded the new (a)(1) monitoring goals from April 2009 through June 2009. PSEG entered this issue into their corrective action program under notifications 20422672 and 20422673.

This finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone and affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). This finding is not suitable for evaluation using the SDP because the performance deficiency did not cause the degraded equipment performance. Findings for which the SDP does not apply may be Green or assigned a severity level after NRC management review. Per the guidance provided in Inspection Procedure 71111.12, this issue is considered to be a Category II finding and thus, per NRC management review, is considered to be Green. With respect to assigning a cross-cutting aspect to this finding, the inspectors determined that the most meaningful insight into PSEG's performance was a programmatic concern with the implementation of the maintenance rule program at Salem. PSEG acknowledged this programmatic concern, which included ownership and accountability issues, initiated a focused self-assessment of the maintenance rule program, and will assign corrective actions as appropriate. This insight is not aligned with the specific performance deficiency attributes defined in IMC 0305 and, as such, the inspectors have not assigned a cross-cutting aspect to this finding.

Inspection Report# : [2009007](#) (pdf)

**Significance:**  Jun 30, 2009

Identified By: Self-Revealing

Item Type: FIN Finding

#### **INADEQUATE MAINTENANCE OF THE 13 AUXILIARY FEEDWATER PUMP GOVERNOR**

A self-revealing finding of very low safety significance was identified because PSEG did not implement adequate preventive maintenance for the turbine driven auxiliary feedwater (AFW) pump speed governor. Consequently, the governor oil conditions degraded causing governor binding and speed oscillations that required the 13 AFW pump to be tripped during testing, resulting in unavailability of the 13 AFW pump. PSEG's corrective actions included replacement of the 13 AFW pump governor, increased oil sampling and oil replacement for the AFW pump governors, and a reduction in the governor replacement periodicity from 90 to 72 months.

This finding was more than minor because it was associated with the equipment performance attribute of the

Mitigating Systems cornerstone and because it affects the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the 13 AFW pump was unavailable for 46 hours following the oscillations observed during the quarterly surveillance test. The inspectors conducted a Phase 1 screening of the finding in accordance with IMC 0609, Attachment 0609.04, "Initial Screening and Characterization of Findings", and determined that the finding was of very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because decisions made associated with the preventive maintenance change occurred several years ago and were not reflective of current performance. The preventive maintenance change request process has been replaced with the equipment reliability process and the performance centered maintenance (PCM) process. PCM templates have operating experience and vendor recommendations integral to the template, not merely listed as procedure references, which was the case with previous equipment reliability procedures.

Inspection Report# : [2009003](#) (pdf)

**Significance:**  Feb 13, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO EVALUATE SPURIOUS OPERATION OF SAFETY INJECTION SIGNAL**

The team identified that PSEG failed to evaluate a single spurious operation of a safety injection signal during a main control room fire and its impact on the ability to achieve and maintain hot standby conditions. This finding was determined to be of very low safety significance (Green) and a NCV of the Salem Nuclear Generating Station, Unit Nos. 1 and 2 Operating License conditions 2.C.(5) and 2.C.(10) respectively, Fire Protection.

The team determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, PSEG did not ensure that post-fire operator manual actions subsequent to a single spurious operation of the safety injection signal during a main control room fire could be performed within sufficient time to achieve and maintain hot standby conditions. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, Fire Protection Significance Determination Process (SDP). This finding affected the completeness of the post-fire safe shutdown analysis. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because a technical evaluation of pressurizer level response to a spurious safety injection signal from a main control room fire concluded that pressurizer level would remain in the indicating range. The team determined that this finding had a cross cutting aspect in the area of problem identification and resolution because PSEG identified the issue on February 15, 2006 but never thoroughly evaluated the issue and its potential impact on the ability to achieve and maintain post-fire hot standby conditions. (P.1(c))

Inspection Report# : [2009006](#) (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

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

**Significance:** N/A Jul 10, 2009

Identified By: NRC

Item Type: FIN Finding

### **SALEM BIENNIAL PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION**

The inspectors concluded that Public Service Enterprise Group Nuclear, LLC (PSEG) was generally effective in identifying, evaluating, and resolving problems. PSEG personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. In most cases, PSEG appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that PSEG typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified one violation of NRC requirements in the area of effectiveness of corrective actions. The inspectors concluded that, in general, PSEG adequately identified, reviewed, and applied relevant industry operating experience to Salem Nuclear Generating Station (Salem) operations. In addition, based on those items selected for review by inspectors, PSEG's audits and self-assessments were thorough. Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues nor did they identify conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : [2009007](#) (*pdf*)

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