

## Salem 2

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### Initiating Events



**Significance:** May 11, 2002

Identified By: Licensee

Item Type: NCV NonCited Violation

**INADEQUATE IMPLEMENTATION OF PROCEDURES CONTROLLING REACTOR COOLANT SYSTEM COOLDOWN RATE**

Technical Specification 6.8.1.a requires that written procedures be established, implemented and maintained covering the applicable procedures recommended by Appendix "A" of Regulatory Guide (RG) 1.33, Revision 2, February 1978. RG 1.33 requires general plant operating procedures for hot standby to cold shutdown. Salem operations procedure S2.OP-IO.ZZ-0006(Q), "Hot Standby to Cold Shutdown," step 3.6.3 provides precautions and limitations to determine RCS temperature and pressure at least once per 30 minutes with a maximum cooldown rate of 100°F in any one hour. Contrary to the above, PSEG Nuclear inadequately implemented S2.OP-IO.ZZ-0006(Q) and inadequately determined that RCS temperature was within limits with a maximum cooldown of 100°F in any one hour period when the RCS temperature change exceeded the 100°F limit between 0150 and 0219 hours with a maximum temperature drop of 127°F in a one hour period. This issue was placed into PSEG Nuclear's correction action program as notification 20095802.

Inspection Report# : [2002004\(pdf\)](#)



**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO FOLLOW PROCEDURES AND PERFORM AN ADEQUATE POST-TRIP REVIEW FOLLOWING THE PRESSURIZER SPRAY VALVE FAILURE, REACTOR TRIP AND SAFETY INJECTION EVENT**

Operating procedures did not provide adequate guidance to operators during their response to a stuck open pressurizer spray valve event that resulted in an automatic reactor trip and safety injection. The instructions which existed regarding the valve, including stopping reactor coolant pumps and isolating control air, conflicted with actions needed to address the event. However, PSEG Nuclear did not identify the procedural deficiencies during the post-trip review of the event as specified by the post-trip review procedure. The failure to identify and evaluate these procedural deficiencies was a non-cited violation. This finding was evaluated using the SDP and determined to be of very low risk significance, because the procedural deficiencies did not prevent the operators from controlling plant pressure during the event.

Inspection Report# : [2001012\(pdf\)](#)

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### Mitigating Systems



**Significance:** Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**PSEG FAILED TO MAINTAIN COMPLETE AND ADEQUATE MAINTENANCE RECORDS**

A non-cited violation of Technical Specification 6.10.1.b was identified for failure to maintain quality records of principal maintenance activities performed on the 1PR2 valve and on the 22 containment fan cooling unit. This finding was similar to a non-cited violation identified in Inspection Report 2001-12 and indicated that previous actions to correct this problem had not been effective. This finding was greater than minor since it impacted the inspectors ability to independently assess the condition of these components following maintenance activities. This finding was of very low significance because the components performed properly during the post-maintenance testing.

Inspection Report# : [2002009\(pdf\)](#)



**Significance:** Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**SHUTDOWN COOLING LOOP INOPERABLE AND LESS THAN 3 FEET OF WATER ABOVE THE FUEL**

A non-cited violation of Technical Specification 6.8.1 was identified for failure to establish and implement adequate procedures prior to the removal of the 11 CC pump room cooler fan from service for maintenance. This finding was greater than minor since it resulted in a condition

where the two operable residual heat removal systems were not available when the reactor cavity water level was less than twenty-three feet above the top of the fuel as required by TS 3.9.8.2. The finding was evaluated by Regional and NRR Senior Reactor Analysts and determined to be of very low significance since the 11 CC pump remained functional during the period of time when the fan was out of service without the necessary compensatory measures.

Inspection Report# : [2002009\(pdf\)](#)

G

**Significance:** Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**PSEG NUCLEAR FAILED TO PROPERLY MAINTAIN ROOM ISOLATION BARRIERS AND IMPROPERLY IMPLEMENTED A MODIFICATION TO THE SWITCHGEAR PENETRATION AREA VENTILATION SYSTEM**

An unresolved item was identified in Inspection Report 2002-07 for failure to properly maintain the automatic fire suppression system in six safety-related electrical areas as required by the fire protection program. The item remained unresolved to complete the risk assessment. A non-cited violation was identified in this report for failure to maintain the fire protection program as discussed above as required by License Conditions 2.C.5 (Unit 1) and 2.C.10 (Unit 2). The finding adversely impacted fire suppression equipment capability, affecting the reactor safety mitigating system cornerstone objectives, and therefore was greater than minor. The finding was determined to be of very low significance due to the multiple trains of mitigating systems which would survive postulated fire events.

Inspection Report# : [2002007\(pdf\)](#)

Inspection Report# : [2002009\(pdf\)](#)

G

**Significance:** Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**PSEG FAILED TO TAKE ADEQUATE CORRECTIVE ACTIONS FOR A 2001 DILUTION EVENT ON THE UNIT 2 SAT AND FAILED TO PRECLUDE REPEATING THE EVENT ON UNIT 1 SAT**

PSEG Nuclear failed to identify the adverse consequences associated with a Unit 1 containment spray additive tank (SAT) increasing level trend that occurred over a several month period. This resulted in dilution of the Unit 1 SAT sodium hydroxide (NaOH) below the TS required minimum concentration value. The inspectors determined that the failure to take adequate corrective actions to preclude repetition of a significant condition adverse to quality constituted a violation of 10 CFR 50 Appendix B, Criterion XVI. Specifically, PSEG Nuclear failed to take adequate corrective actions for a 2001 dilution event on the Unit 2 SAT and failed to preclude repeating the event on the Unit 1 SAT. The risk significance of this finding was very low because the tank concentration was below the TS limit, but was above the minimum calculated NaOH concentration of 28 percent required for the SAT to perform its accident mitigation function. This very low risk violation has been entered into PSEG Nuclear's corrective action program as notification 20101881 and is being treated as a non-cited violation consistent with the NRC's enforcement policy

Inspection Report# : [2002007\(pdf\)](#)

G

**Significance:** Jun 29, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**PSEG NUCLEAR FAILED TO ADEQUATELY EVALUATE PREVENTIVE MAINTENANCE ACTIVITIES**

A violation of 10 CFR 50.65(a)(3) dispositioned as a non-cited violation was identified because PSEG Nuclear failed to ensure that the objective of preventing failures through maintenance was appropriately balanced against the objective of minimizing unavailability due to monitoring or preventive maintenance. PSEG Nuclear failed to adequately evaluate PM activities for the 22 charging pump, failed to take into account industry-wide operating experience, and failed to ensure that the objective of preventing failure of the 22 CVC pump through maintenance was appropriately balanced against the goal of minimizing unavailability due to preventive maintenance. The cross-cutting aspects of this issue related to problem identification and resolution contributing causes were discussed in NRC Inspection Report 50-272 & 311-2001-012. The risk associated with the failure of the 22 charging pump was determined to be of very low safety significance because the mitigating functions that relied upon a high pressure injection pump were not lost since the redundant high pressure injection pump and both safety injection pumps remained operable during the period of time that the 22 CVC pump was unavailable.

Inspection Report# : [2002006\(pdf\)](#)

G

**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**FAILURE TO DOCUMENT AND MAINTAIN QUALITY RECORDS OF EMERGENT TROUBLESHOOTING AND MAINTENANCE ACTIVITIES ON THE CONTROL CIRCUITRY FOR THE 1B EDG**

PSEG Nuclear maintenance failed to document and maintain records of emergent troubleshooting and maintenance activities on the control circuitry for the 1B EDG. PSEG Nuclear also failed to maintain records of a September 2000 internal inspection of the 12 charging pump speed

increaser. These two examples of PSEG Nuclear's failure to maintain complete and adequate inspection and maintenance records were a non-cited violation of Technical Specification 6.10.1.b and 10 CFR 50, Appendix B, Criterion XVII, Quality Assurance Records. The findings were evaluated using the significance determination process (SDP) and considered to be of very low risk significance because the failure to maintain the records did not affect the availability of the mitigating systems.

Inspection Report# : [2001012\(pdf\)](#)



**Significance:** Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO IMPLEMENT PROMPT CORRECTIVE ACTIONS FOR A DEGRADED 2C EDG CYLINDER ISOLATION VALVE**

PSEG Nuclear failed to promptly identify and correct a condition adverse to quality involving a degraded cylinder isolation valve (petcock) which was not functioning properly during corrective maintenance on the 2C EDG. During a subsequent test of the 2C EDG, flames were observed to be coming out of the cylinder 5R petcock, and the CO2 automatic fire suppression system actuated before the operators completed the EDG shutdown. The failure to identify and correct the degraded cylinder isolation valve was considered a non-cited violation of 10 CFR 50, Appendix XVI, Corrective Actions. The finding was evaluated using the SDP and considered to be of very low risk significance, because the emergency diesel generator unavailability time associated with this event was within the Technical Specification allowed outage time.

Inspection Report# : [2001012\(pdf\)](#)

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## Barrier Integrity



**Significance:** Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **PSEG FAILED TO IMPLEMENT PROMPT AND EFFECTIVE CORRECTIVE ACTIONS SUBSEQUENT TO A JANUARY 2001 SURVEILLANCE TEST**

PSEG Nuclear failed to implement effective corrective actions subsequent to January 2001 surveillance testing that indicated that the Unit 1 auxiliary building ventilation (ABV) system charcoal adsorber bank was degraded. The charcoal bank failed the next scheduled test conducted in August 2002 and placed the unit into a twenty-four hour shutdown action statement. This finding was evaluated using the Phase 1 SDP worksheet and determined to be of very low risk significance (Green), because the problem only affected the radiological barrier function of the auxiliary building. Additionally the test results indicated that the charcoal performance would have met the design analysis assumptions. This very low risk significance violation has been entered into PSEG Nuclear's corrective action program as notification 20101881 and is being treated as a non-cited violation consistent with the NRC's enforcement policy. The charcoal bank failed the next scheduled test conducted in August 2002 and placed the unit into a twenty-four hour shutdown action statement. This finding was evaluated using the Phase 1 SDP worksheet and determined to be of very low risk significance (Green), because the problem only affected the radiological barrier function of the auxiliary building. Additionally the test results indicated that the charcoal performance would have met the design analysis assumptions. This very low risk significance violation has been entered into PSEG Nuclear's corrective action program as notification 20101881 and is being treated as a non-cited violation consistent with the NRC's enforcement policy.

Inspection Report# : [2002007\(pdf\)](#)



**Significance:** Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **PSEG FAILED TO PROMPTLY IDENTIFY AND CORRECT THE CAUSE FOR AN IMPROPER AIRFLOW CONDITION THAT DEGRADED THE RADIOACTIVE REMOVAL CAPABILITY OF THE ABV SYSTEM**

PSEG Nuclear failed to properly evaluate and correct a degraded ABV system condition that adversely affected the radiological barrier function of the system. Specifically, the inspectors identified that airflow was out of the residual heat removal room and into the auxiliary building stairwell. This provided a pathway for radioactive effluents to bypass the auxiliary building ventilation charcoal filters. The inspectors reviewed the SDP Phase 1 screening worksheet and noted that findings that adversely affect the radiological barrier function of the auxiliary building are of very low risk significance. This very low risk significance violation has been entered into PSEG Nuclear's corrective action program as notification 20116935 and is being treated as a non-cited violation consistent with the NRC's enforcement policy.

Inspection Report# : [2002007\(pdf\)](#)

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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**

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## **Miscellaneous**

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