



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I**

2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

November 19, 2013

Mr. Thomas P. Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P.O. Box 236
Hancocks Bridge, NJ 08038

**SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 –
NRC INTEGRATED INSPECTION REPORT 05000272/2013004 AND
05000311/2013004**

Dear Mr. Joyce:

On September 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Salem Nuclear Generating Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on October 24, 2013, with Mr. Wagner, Plant Manager of Salem Operations, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one self-revealing finding of very low safety significance (Green). This finding did not involve a violation of NRC requirements. If you contest the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Salem Nuclear Generating Station. In addition, if you disagree with the cross-cutting aspect assigned to the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at Salem Nuclear Generating Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Glenn T. Dentel, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos: 50-272, 50-311
License Nos: DPR-70, DPR-75

Enclosure: Inspection Report 05000272/2013004 and 05000311/2013004
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos: 50-272, 50-311

License Nos: DPR-70, DPR-75

Report No: 05000272/2013004 and 05000311/2013004

Licensee: PSEG Nuclear LLC (PSEG)

Facility: Salem Nuclear Generating Station, Units 1 and 2

Location: P.O. Box 236
Hancocks Bridge, NJ 08038

Dates: July 1, 2013 through September 30, 2013

Inspectors: P. Finney, Senior Resident Inspector
A. Ziedonis, Resident Inspector
J. Hawkins, Acting Senior Resident Inspector
P. McKenna, Resident Inspector
F. Ramirez, Acting Hope Creek Senior Resident Inspector
R. Barkley, Senior Project Engineer
M. Draxton, Project Engineer
R. Nimitz, Senior Health Physicist
J. Laughlin, Emergency Preparedness Inspector

Approved By: Glenn T. Dentel, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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SUMMARY

IR 05000272/2013004, 05000311/2013004; 07/01/2013 - 09/30/2013; Salem Nuclear Generating Station, Units 1 and 2; Follow-Up of Events and Notices of Enforcement Discretion.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Inspectors identified one finding of very low safety significance (Green). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP), dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Components Within Cross-Cutting Areas," dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Initiating Events

- Green. The inspectors identified a self-revealing Green finding when PSEG did not provide appropriate air-operated valve program setpoint control, and ensure adequate packing consolidation of the Unit 1 pressurizer spray valve (1PS1), in accordance with station procedure, ER-AA-410, "Air Operated Valve Program Implementing Procedure," Revision 4. This resulted in a packing leak in excess of the Technical Specification (TS) allowable unidentified reactor coolant system (RCS) leak rate on August 22, 2013, and subsequently required an unplanned unit shutdown. PSEG isolated the leak and entered this issue in the corrective action program (CAP) via Notifications 20618913 and 20618915.

This finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone, and adversely affected the associated cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using IMC 0609, the inspectors determined that this finding was of very low safety significance (Green) using Exhibit 1 - "Initiating Events Screening Questions." Specifically, after a reasonable assessment of degradation, the inspectors determined the finding would not exceed the RCS leak rate for a small loss-of-coolant accident (LOCA), and the finding would not have affected other systems used to mitigate a LOCA. The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, Operating Experience (OE), because PSEG did not implement vendor recommendations through changes to station processes and procedures. [P.2(b)] (Section 4OA3)

Other Findings

None

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power and operated at full power until August 22, 2013, when the unit was shutdown for RCS leakage attributed to the packing area of a pressurizer spray valve. A reactor startup was commenced on August 24, 2013, and the unit returned to 100 percent power on August 25, 2013. The unit remained at or near 100 percent power for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power and remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

.1 Summer Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate AC power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed PSEG's procedures affecting these areas and the communications protocols between the transmission system operator and PSEG. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether PSEG established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system manager, reviewing condition reports and open work orders, and walking down portions of the offsite and AC power systems, including the 500 kilovolt (kV) switchyard. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Unit 1, 11 service water (SW) ventilation/bay
- Unit 2, 22 containment spray pump
- Common, control air during station air reliability challenges

The inspectors selected these systems based on their risk-significance relative to the Reactor Safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the Updated Final Safety Analysis Report (UFSAR), TSs, work orders (WOs), notifications, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether PSEG staff had properly identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that PSEG controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service (OOS), degraded or inoperable fire protection equipment, as applicable, in accordance with procedures and discussed with station personnel the repair plans for degraded equipment.

- Unit 1, 460 Volt switchgear (SWGR) room, elevation 84'
- Unit 1, mechanical piping penetration, elevation 100'
- Unit 2, turbine building (TB), elevation 88'
- Unit 2, TB, elevation 100'
- Unit 2, TB, elevation 120'

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – 2 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on September 4 and 24, 2013, which included a requalification examination and scenarios on a station blackout and feed pump trip, respectively. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room (CR) supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed and reviewed the Unit 1 shutdown and startup on August 22 and 24, 2013, respectively, for the 1PS1 pressurizer spray valve leak. The inspectors observed infrequently performed test or evolution briefings, pre-shift briefings, and reactivity control briefings to verify that the briefings met HU-AA-1211, "Pre-job Briefings." Additionally, the inspectors observed operator performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule (MR) basis documents to ensure that PSEG was identifying and properly evaluating performance problems within the scope of the MR. For each sample selected, the inspectors verified that the SSC was properly scoped into the MR in accordance with 10 CFR 50.65 and verified that the (a)(2)

performance criteria established by PSEG staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that PSEG staff was identifying and addressing common cause failures that occurred within and across MR system boundaries.

- Unit 1, 13 charging pump failure to start
- Common, station air compressor performance

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 7 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that PSEG performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the Reactor Safety cornerstones. As applicable for each activity, the inspectors verified that PSEG personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When PSEG performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Unit 1, transition from Mode 3 to Mode 1 with 13 chiller inoperable
- Unit 1, overhead alarm 12VDC PS-2 failure
- Unit 1, 1PS1 pressurizer spray valve emergent work
- Unit 2, elevated risk during 23 auxiliary feedwater work window
- Unit 2, emergent work on 22CA330 containment isolation valve
- Common, elevated risk with 500 kV Bus #1 OOS
- Common, station air compressor unreliability and overhauls

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 7 samples)

a. Inspection Scope

The inspectors reviewed operability determinations (ODs) for the following degraded or non-conforming conditions:

- Unit 1, 13 chiller low suction pressure
- Unit 1, 1R46A (C, D) main steam line radiation monitor inoperability
- Unit 1, auxiliary building ventilation #12 supply fan failure to start
- Unit 1, 1PS1 pressurizer spray valve extent of condition
- Unit 2, 2 'C' emergency diesel generator (EDG) following control area ventilation fan failure to run
- Unit 2, 4 kV vital buses with 24 station power transformer load tap changer in manual
- Unit 1, operation until 1R23 with the 1PS1 pressurizer spray valve isolated

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the ODs to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to PSEG's evaluations to determine whether the components or systems were operable. The inspectors compared the local leak rate testing limits in the appropriate sections of the TSs and 10 CFR 50 to PSEG's evaluations to determine whether the components or systems remained operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by PSEG. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- Unit 1, 12 component cooling water (CCW) room cooler solenoid valve replacement
- Unit 1, 12 auxiliary building vent supply fan starting replay replacement
- Unit 1, 13 chiller relay and compressor replacement
- Unit 2, 2 'C' EDG control area fan corrective maintenance
- Unit 2, #2 reactor trip bypass breaker replacement
- Unit 2, containment control air valve 22CA330, solenoid valve replacement

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the Unit 1 forced outage, which was conducted August 22 through August 24. The inspectors reviewed PSEG's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable TSs when taking equipment OOS
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met
- Monitoring of decay heat removal operations
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss
- Activities that could affect reactivity
- Tracking of startup prerequisites, walkdown of the primary containment to verify that debris had not been left which could block the emergency core cooling system suction strainers, and startup and ascension to full power operation
- Identification and resolution of problems related to refueling outage (RFO) activities

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 6 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests (STs) and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and PSEG procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had the current calibration, range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered

whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following STs:

- Unit 1, 1B 4kV Vital bus ESFAS Instrumentation Monthly Functional Test
- Unit 1, Diesel area CO2 systems operability and partial discharge test
- Unit 1, Inservice testing of miscellaneous valves (IST)
- Unit 1, 12 CCW pump surveillance (IST)
- Unit 1, RCS leakage (RCS)
- Unit 2, Surveillance test on chilled water valves

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety (OS, PS)

2RS05 Radiation Monitoring Instrumentation (71124.05)

This area was inspected during August 12 to 15, 2013. The inspector reviewed the radiation instrument monitoring program to verify that PSEG was ensuring the accuracy and operability of radiation monitoring instruments. The inspector used the requirements in 10 CFR Part 20, the station's TSs and procedures as criteria for determining compliance.

a. Inspection Scope

Inspection Planning

The inspector reviewed the plant UFSAR and station procedures to identify radiation monitoring instruments.

Calibration and Testing Program

The inspector reviewed calibration methods and records of the following radiation monitors:

- Gaseous and liquid effluent monitors
- Gamma spectroscopy systems
- Whole body counter
- High range containment monitors

Problem Identification and Resolution

The inspector reviewed corrective action documents associated with radiation monitoring instrumentation to determine if PSEG identified issues at an appropriate threshold and placed the issues in the CAP for resolution.

b. Findings

No findings were identified

2RS06 Radioactive Gaseous and Liquid Effluent Treatment (71124.06 - 1 sample)

This area was inspected during August 12 to 15, 2013. The inspectors reviewed PSEG's gaseous and liquid effluent control program in the areas listed below. The inspectors used the requirements in 10 CFR Part 20, CFR Part 190, 10 CFR 50 Appendix I, TSs, Offsite Dose Calculation Manual (ODCM), and station program procedures as criteria for determining compliance.

a. Inspection Scope

Event Report and Effluent Report Reviews

The inspectors reviewed radiological effluent and environmental monitoring reports (2011, 2012) to identify radioactive effluent monitor operability issues reported by PSEG as provided in effluent release reports. The inspectors also reviewed ground water monitoring and remediation reports.

ODCM and FSAR Reviews

The inspectors reviewed non-radioactive system monitoring reports and the program to detect inter-system cross-contamination.

Ground Water Protection Program

The inspectors reviewed and discussed the implementation of PSEG's ground water protection program, including contaminated fluid leakage controls. The inspectors discussed recent well monitoring results including those from a newly installed well and any actions to validate and further evaluate causes of abnormal results including likely sources. The review included results and planned evaluations and actions. (See also Section 4OA5)

b. Findings

No findings were identified.

2RS07 Radiological Environmental Monitoring Program (REMP) (71124.07 - 1 sample)

This area was inspected during August 12 to 15, 2013, to verify that the REMP quantifies the impact of radioactive effluent releases to the environment and validates the integrity of the radioactive gaseous and liquid effluent release program. The inspectors used the requirements in 10 CFR Part 20, 40 CFR Part 190, 10 CFR 50 Appendix I, TSs, ODCM, and station program procedures to determine acceptability.

a. Inspection Scope

Inspection Planning

The inspectors reviewed the annual radiological environmental and effluent operating reports (2011, 2012) to verify that the REMP was implemented in accordance with the TS and ODCM. The inspectors reviewed the ODCM to identify environmental monitoring and sampling location stations.

Site Inspection

The inspectors reviewed the following REMP program areas:

- Land Use Census and the positioning of monitoring stations
- PSEG meteorological data
- Scope and results of the PSEG's ground water monitoring program
- Scope and results of the PSEG's inter-laboratory comparison program

Identification and Resolution of Problems

The inspectors determined if problems associated with the REMP were being identified by the PSEG at an appropriate threshold and were properly addressed for resolution in the CAP.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

The Office of Nuclear Security and Incident Response headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures and the Emergency Plan located under ADAMS accession number ML130520717.

PSEG determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 4 samples)

.1 Mitigating Systems Performance Index

a. Inspection Scope

The inspectors reviewed PSEG's submittal for the Mitigating Systems Performance Index for the following systems for the period of July 1, 2012, through June 30, 2013.

- Units 1 and 2, heat removal systems
- Units 1 and 2, RHR systems

To determine the accuracy of the performance indicator (PI) data reported during those periods, inspectors used definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment PI Guideline," Revision 6. The inspectors reviewed PSEG's operator narrative logs, condition reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that PSEG entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended condition report (CR) screening meetings.

b. Findings

No findings were identified.

.2 Annual Sample: Corrosion of Service Water Air Operated Valves (AOVs)

a. Inspection Scope

The inspectors performed an in-depth review of PSEG's apparent cause evaluations, extent of condition (EOC) reviews and corrective actions associated with issues related

to degraded service water (SW) AOVs. These AOVs experience a build-up of debris in the stainless steel valves causing pitting of the valve stem and binding of the valve affecting valve motion and travel. The issues were captured in past PSEG Notifications 20608514, 70118364, 70120002, and 70154085.

The inspectors assessed PSEG's problem identification threshold, cause analyses, extent of condition (EOC) reviews, compensatory actions, and the prioritization and timeliness of PSEG's corrective actions to determine whether PSEG was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned and completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of PSEG's CAP and 10 CFR Part 50, Appendix B. In addition, the inspectors interviewed engineering and operations personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

In response to issues concerning the build-up of debris in stainless steel SW AOVs causing pitting of the valve stem and binding of the valve affecting valve motion and travel, PSEG has performed multiple apparent cause evaluations (ACEs), EOC reviews and corrective actions since 2003. PSEG most recently performed an ACE documented in notification 70154085 for the 21 CCW room cooler inlet AOV (21SW129) not going full open. PSEG's evaluation highlighted the following:

- PSEG documented in an AOV WO (30118934) from 2008 that packing leaks on SW AOVs result in the build-up of debris due to the valve being constructed of stainless steel. PSEG's evaluation determined that over time, the debris scores the AOV stem increasing packing friction and preventing full valve travel.
- PSEG's EQACE 70120002 for the failure of the 11 RHR pump room cooler SW isolation valve (11SW153) to close during quarterly IST testing documented an ACIT to review the current PM strategy for SW AOVs to determine if additional PM activities are required. This action was scheduled to be completed June 1, 2011, but was not completed until August 2, 2012.
- The assigned ACIT above identified that there were no open and inspect PMs for the SW room cooler valves and that these PMs (30 total valves) were deactivated by PSEG inadvertently by Orders 80076274 and 80059932 in 2003. Both 21SW129 and 11SW153 had their PMs deactivated in 2003. These PMs included a packing check for these valves which would have caught the stem degradation prior to failure.
- The PM for 21SW129 was reactivated in 2012 after PSEG's PM strategy review identified the 30 deactivated PMs, but was not performed prior to the failure of the valve on April 17, 2013 (it had been scheduled for 2R21 in the Fall of 2015). After the inspectors discussed this with PSEG, the PMs that had been deactivated were re-reviewed to ensure the schedule had been prioritized to prevent future AOV failures from valve binding. The inspectors determined that re-prioritized PM schedule would not have prevented the 21SW129 failure.

The inspectors discussed these issues with the EQACE team and system engineers to determine if PSEG's approach in addressing these issues was reasonable. The inspectors determined that PSEG's plan to replace these stainless steel SW AOVs with a non-susceptible material (AL6XN), and the re-planned and prioritized PM schedule for these valves, was adequate to address the valve stem pitting issue with the affected SW AOVs. No new issues were identified by the inspectors during the review.

.3 Review of Operator Work Arounds (OWAs)

a. Inspection Scope

The inspectors reviewed the cumulative effects of the existing OWAs, operator burdens, existing operator aids and disabled alarms, and open main control room (MCR) deficiencies to identify any effect on emergency operating procedure operator actions, and any impact on possible initiating events and mitigating systems. The inspectors evaluated whether station personnel had identified, assessed, and reviewed OWAs as specified in Salem procedure OP-AA-102-103, Revision 2, "OWA Program."

The inspectors reviewed PSEG's process to identify, prioritize and resolve main control room distractions to minimize operator burdens. The inspectors reviewed the system used to track these OWAs. The inspectors also toured the control room and discussed the current operator workarounds with the operators to ensure the items were being addressed on a schedule consistent with their relative safety significance.

b. Findings

No findings were identified.

The inspectors concluded that PSEG was properly identifying, prioritizing, and resolving MCR distractions. However, the inspectors observed that implementation and adherence to station procedures regarding their OWA program, while minor, was less than adequate. Some examples include:

- Procedure OP-AA-102-103-1001, "Operator Burdens Program," Revision 1, Attachment 1, provides guidance on periodically assessing the aggregate effect of operator burdens. When the outstanding Aggregate Impact Items list exceeds the OO.2: MCR distractions metric by 10, the procedure calls for an evaluation to determine whether these quarterly assessments need to be completed more often. By procedure, the Aggregate Impact Items includes, among other items, OWAs and operator challenges. The inspectors observed that the station's metric OO.3: OWAs included 36 operator challenges in August 2013, an increase from 16 in May 2013. The MCR distractions metric goal was 14. Based on Challenges alone, the procedural requirement for an evaluation had been met.
- OP-AA-102-103-1001, Attachment 1, Section 3, discusses the aggregate impact assessment and states, "Results of the assessment shall be made available in the CR." CR operators could not locate the assessment when requested by inspectors.
- In June of 2012, Standing Order (SO) 12-12 was issued regarding the Operations Burden Program. This SO established an expectation that operators would use CAP codes to support the program that were in conflict with or in addition to those established by the OP-AA-102-103-1001 procedure. OP-AA-102-104, "Pertinent

Information Program,” Revision 1, section 2.3, states that SOs “shall not conflict with existing procedures, TSs, administrative technical requirements, or ODCM. They shall not be used as a substitute for procedures.”

- OP-AA-102-103-1001, does not define its use of the term Operator Burden. Despite PSEG’s practice of including Operator Challenges and MCR distractions as part of the burdens program, they are not listed as elements of the program in the procedure.

The inspectors also noted that similar observations had been made in 2011 (IR 05000272, 311/2011005) regarding “inconsistencies between...program procedures.” The inspectors confirmed that PSEG had not captured these prior observations in their CAP. In response, PSEG captured these new observations as Notifications 20624037 and 20626619, and is reviewing their approach to observations made in NRC inspection reports. The inspectors concluded that these performance deficiencies were not more than minor based on a review of IMC 0612.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 2 samples)

.1 Plant Events

a. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in IMC 0309, “Reactive Inspection Decision Basis for Reactors,” for consideration of potential reactive inspection activities. As applicable, the inspectors verified that PSEG made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR 50.72. The inspectors reviewed PSEG’s follow-up actions related to the events to assure that PSEG implemented appropriate corrective actions commensurate with their safety significance.

- Unit 1, manual reactor shutdown for pressurizer spray valve packing leakage on August 22, 2013

b. Findings

Introduction. The inspectors determined that PSEG’s failure to provide the appropriate AOV program setpoint control to ensure adequate packing consolidation, in accordance with ER-AA-410, constituted a self-revealing Green Finding. This resulted in a packing leak in excess of the Technical Specification (TS) allowable unidentified reactor coolant system (RCS) leak rate on August 22, 2013, and subsequently required an unplanned unit shutdown.

Description. Following the unplanned shutdown on August 22, 2012, PSEG discovered the as-found packing nut torque on the Unit 1 pressurizer spray valve number 1 (1PS1) to be less than 10 ft.-lbs. The packing vendor installation instructions specify a minimum torque value of 16 ft.-lbs. Packing nut torque is one of several parameters available to measure packing consolidation. The packing vendor recommends a minimum packing

gland stress of 1.5 times system pressure, or 3728 psi as determined by PSEG (1.5 times primary system design pressure of 2485 psi), to provide adequate consolidation for the 1PS1 packing configuration. PSEG established a minimum gland stress of 4000 psi, and a maximum gland stress of 5000 psi, when the packing was first installed under design change package (DCP) 80098748, in 2010. PSEG also incorporated the minimum and maximum gland stress values into the valve packing data sheet, which is used under WO instruction during the performance of valve packing. The packing vendor provides theoretical calculations to determine packing gland stress, as well as packing friction, based on packing nut torque. The inspectors noted that these calculations are also provided in readily available industry documentation. Based on the theoretical calculations, 16 ft-lbs of packing nut torque would correspond to a packing gland stress of 3728 psi, and a packing friction of 653 lbs. Additionally, PSEG utilizes industry standard diagnostic testing software to measure actual friction values during valve stroking.

During as-left diagnostic testing of 1PS1 on April 22, 2013, following planned maintenance to replace the packing during the 2013 refueling outage, the as-left friction value on 1PS1 was determined to be 424 lbs. This correlates to a packing gland stress of only 2400 psi, which is below the maximum primary system design pressure of 2485 psi. Additionally, the as-left packing nut torque value was not required to be recorded in the work order following the April 22, 2013, maintenance on 1PS1. Through interviews with maintenance technicians, PSEG concluded that 16 ft-lbs of torque was achieved on the 1PS1 packing nuts, as specified in the 1PS1 valve packing data sheet, following the April 22, 2013 maintenance. The inspectors performed independent interviews and determined that PSEG's conclusion regarding the achievement of 16 ft-lbs was reasonable. Although PSEG maintenance technicians determined that the packing nut torque specification had been met, PSEG AOV diagnostic data from actual stroking of the 1PS1 indicated that the packing gland stress was well below the value corresponding to adequate packing consolidation.

The inspectors reviewed PSEG's Equipment Apparent Cause Evaluation (EQACE) for the 1PS1 Packing Leak under Notification 20618915. PSEG determined the most probable apparent cause of the packing leak was attributed to current industry and valve user group standards not using stem friction values to verify proper packing consolidation. PSEG also determined that the PSEG air-operated valve (AOV) program procedures did not specify a minimum as-left friction value as measured by diagnostic testing. The inspectors noted that PSEG generated many corrective actions as a result of this EQACE. The inspectors noted specific corrective actions to revise AOV program procedures and diagnostic testing software output data to include acceptance criteria for friction and packing consolidation, and to revise pressurizer spray valve maintenance procedures to include detailed procedural guidance for packing consolidation. Additionally, the inspectors noted that an action was created to revise the maintenance planning process for all orders involving valve repacks and packing torque checks to create a dedicated WO operation for the as-left packing torque value. Finally, the inspectors reviewed PSEG's EOC evaluation for the 1PS1 low as-left friction value on other program AOVs with similar packing configuration, and concluded that PSEG's evaluation was appropriate to the circumstances.

The inspectors performed an independent review of PSEG AOV program procedures. ER-AA-410, "AOV Program Implementing Procedure," step 4.1.3 states, in part, that "setpoint control shall be applied to all program AOVs." ER-AA-410-1001, AOV Design Basis Review and Setpoint Control, step 4.7.2, describes the program requirements for setpoint control of packing configuration. The inspectors noted that step 4.7.2 contains no application of setpoint control for packing consolidation. PSEG determined, via EQACE 20618915, that ER-AA-410-1002, "Air Operated Valve Testing Requirements," does not include any guidance or instruction for evaluating packing friction in AOV testing.

The inspectors also reviewed industry documentation for valve packing, and PSEG WO instructions from the April 22, 2013, maintenance to repack 1PS1. The inspectors also interviewed maintenance technicians that worked on 1PS1 on April 22, 2013, as well as on August 22, 2013. The inspectors concluded that the 1PS1 low packing gland stress was reasonably within PSEG's ability to foresee and correct, and therefore the August 22, 2013 leakage was preventable, considering PSEG's EQACE determination. The inspectors also noted that PSEG used vendor information to establish a minimum and maximum gland stress when the packing was first installed in the 2010 design change package (DCP), and PSEG incorporated the minimum and maximum gland stress values into the valve packing data sheet. The inspectors also noted that readily available industry documentation, dating back to 2002, also contained information and guidance regarding the use of diagnostic friction values to evaluate packing consolidation, and specifically discussed that low friction values could result in valve packing leaks. Therefore, the inspectors concluded that PSEG had an opportunity to evaluate the low as-left friction values measured by diagnostic testing on April 22, 2013, following planned maintenance to repack the valve. The inspectors determined that this independent conclusion did not identify previously unknown weaknesses in PSEG's EQACE, nor in the corrective actions, and therefore would be characterized as a self-revealing finding.

Analysis. The inspectors determined that PSEG's failure to provide the appropriate AOV program setpoint control to ensure adequate packing consolidation on the Unit 1 pressurizer spray valve (1PS1) constituted a performance deficiency. Specifically, on April 22, 2013, PSEG as-left diagnostic testing on the 1PS1 valve determined that the AOV friction value was 424 lbs, which is below the minimum friction value of 701 lbs specified by the vendor. As a consequence of the inadequate packing consolidation, 1PS1 experienced a packing leak in excess of the TS allowable unidentified RCS leak rate on August 22, 2013, which subsequently required an unplanned shutdown of Unit 1. This finding was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone, and adversely affected the associated cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using IMC 0609, Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix A, "The SDP for Findings At-Power," the inspectors determined that this finding was of very low safety significance (Green) using Exhibit 1 - "Initiating Events Screening Questions." Specifically, after a reasonable assessment of degradation, the inspectors determined the finding would not exceed the RCS leak rate for a small LOCA, and the finding would not have affected other systems used to mitigate a LOCA.

The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance, OE, because PSEG did not implement vendor recommendations through changes to station processes and procedures [P.2(b)]. Specifically, PSEG did not incorporate into procedures or work order instructions the minimum packing gland stress, as specified by the packing manufacturer, to properly consolidate the 1PS1 valve packing.

Enforcement. This finding does not involve an enforcement action because no violation of a regulatory requirement was identified. PSEG entered this issue in the CAP in accordance with Notifications 20618913 and 20618915. Because this finding does not involve a violation and is of very low safety significance, it is identified as a FIN. **(FIN 05000272/2013004-01, Inadequate Maintenance Procedure to Reconsolidate Pressurizer Spray Valve Packing)**

.2 (Closed) Licensee Event Report (LER) 05000311/2007003-01, Reactor Trip Due to Spurious Feedwater (FW) Interlock Signal (1 sample)

a. Inspection Scope

On August 6, 2007, the Salem Unit 2 reactor tripped due to 22 steam generator (SG) water level reaching its low-low level set point. The cause of SG low-low level was faulty solid state protection system output driver card A517 that initiated a spurious FW isolation signal and resulted in the closure of the FW regulating valves.

The failed circuit card was removed, inspected, and tested by PSEG personnel. Inspection of the card performed at increased magnification identified a defective solder joint. The card was replaced and the system tested satisfactorily. Subsequent to that LER review, PSEG supplemented the LER via Revision 1 to incorporate results of a root cause evaluation. PSEG determined that the direct cause was a defective solder joint and the root cause was inadequate post-soldering test practices. This issue was inspected at the time of the occurrence and was discussed in section 4OA3.1 of NRC Inspection Report 05000272, 311/2007004. The LER was reviewed and no findings or violations of NRC requirements were identified. This LER is closed. This LER revision was reviewed at this time due to a prior administrative oversight.

4OA5 Other Activities

.1 Institute of Nuclear Power Operations (INPO) Report Review

a. Inspection Scope

The inspectors reviewed the final report for the INPO plant assessment of Salem conducted in August 2012. The inspectors evaluated this report to ensure that NRC perspectives of PSEG performance were consistent with any issues identified during this assessment. The inspectors also reviewed this report to determine whether INPO identified any significant safety issues that required further NRC follow-up.

b. Findings

No findings were identified.

.2 Ground Water Monitoring Program

a. Inspection Scope

During August 12 to 15, 2013, the inspectors reviewed the results of PSEG's ground water monitoring program. The inspectors reviewed station geologic cross-section information and recent ground water sample analysis data on tritium concentrations collected from ground water in near surface fill and alluvial deposits. In particular, the inspectors reviewed the sampling results associated with a newly installed well (AA-V), placed in the Vincentown formation in June 2013. The new well is located within the site radiological restricted area.

The inspectors reviewed PSEG sample results relative to their Ground Water Monitoring Program and NEI-07-07, Industry Ground Water Protection Initiative. The inspectors also reviewed sampling results for Salem Unit 1 seismic gap drains.

b. Findings and Observations

No findings were identified.

On June 19, 2013, PSEG sampled a newly installed well (AA-V) within the Vincentown formation (located 85 feet below ground surface (bgs)). The sample result, received July 8, 2013, indicated a tritium concentration of 9,000 pCi/l (picocuries per liter). A well directly above well AA-V (Well AA), located at a depth of approximately 36 feet bgs, indicated approximately 1,400 pCi/l. PSEG placed this issue into its CAP (Notification 20614834). The source of the tritium detected in the new well was suspected to be associated with residual tritium from the previously reported leak that had been subject to extensive remediation efforts by PSEG. PSEG installed the new well to provide additional data for evaluation to supplement the currently existing four wells within that formation. These four other Vincentown formation wells did not indicate tritium concentration as high as this new well. PSEG reviewed NRC reportability requirements and determined that this new well was associated with the ongoing investigation and remediation and that no new reportability was needed in accordance with the NEI-07-07 voluntary ground water initiative.

PSEG initiated a review with its hydrology contractor to evaluate the condition, conduct various tests, and determine the source and extent of condition. After these tests have been completed and the data analyzed, PSEG plans to determine the need for further actions. PSEG's preliminary reviews, based on previously conducted dose projections, did not identify any significant impact on public doses, but was continuing to evaluate data. PSEG had conducted split sampling of this well with the State of New Jersey and informed the State of the sample results. PSEG was also reviewing the concentrations of radioactivity collected via the Unit 1 seismic gap drains, which drain to the Unit 1 Auxiliary Building, for controlled collection and processing. The seismic gap was the source of the previous ground water contamination. The inspectors will continue to follow resolution of the cause of the tritium in well AA-V, and PSEG's review of concentrations of radioactivity in seismic gap drains including causes and actions.

4OA6 Meetings, Including Exit

On October 24, 2013, the inspectors presented the inspection results to Mr. Wagner, Plant Manager of Salem Operations, and other members of the PSEG staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

C. Neely, Director, Regulatory Affairs
J. Perry, Site Vice President
L. Wagner, Plant Manager, Salem
L. Curran, Assistant Director Engineering, Salem
M. Pyle, Chemistry Manager, Salem
D. Nestle, Performance Improvement, Radiation Protection
K. King, Regulatory Assurance, Technical Analyst, Salem
B. Daly, Manager, Sustainability
A. Kraus, Manager, Nuclear Environmental Affairs (NEA)
L. Clark, Instrument Supervisor
J. Russell, Nuclear Environmental Specialist
W. Gropp, Radiation Protection Supervisor, Salem
S. Taylor, Radiation Protection Manager, Salem
P. Duke, Licensing Manager
C. Fricker, Former Site Vice-President
D. McCollum, Principle Engineer, CMO
K. Musante, AOV Program Engineer
D. Price, CMO Supervisor
J. Bergeron, I&C Supervisor
T. Boker, I&C Technician
J. Palombo, Mechanical Maintenance Supervisor
R. DeSanctis, Assistant Operations Manager – Services
J. Stead, Senior Engineer
J. Schneider, Nuclear Maintenance Supervisor
R. DeNight Jr., Operations Director
K. Chambliss, Regulatory Affairs Manager
D. LaFleur, Regulatory Assurance
C. Dahms, Regulatory Assurance
S. Thomassen, Emergency Preparedness Station Manager

NRC Personnel

P. Finney, Senior Resident Inspector
A. Ziedonis, Resident Inspector
J. Hawkins, Acting Senior Resident Inspector
E. Bonney, Acting Senior Resident Inspector
P. McKenna, Resident Inspector
F. Ramirez, Acting Hope Creek Senior Resident Inspector
R. Barkley, Senior Project Engineer
M. Draxton, Project Engineer
R. Nimitz, Senior Health Physicist
J. Laughlin, Emergency Preparedness Inspector, NSIR

Others

K. Tuccillo, Supervisor, Nuclear Environmental Engineering Section, State of New Jersey
 J. Vouglitois, Nuclear Engineer, Nuclear Environmental Engineering Section State of New Jersey Department

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDOpened/Closed

05000272/2013004-01	FIN	Inadequate Maintenance Procedure to Reconsolidate Pressurizer Spray Valve Packing (Section 4OA3.1)
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Closed

05000311/2007003-01	LER	Reactor Trip Due to Spurious Feedwater Interlock Signal (Section 4OA3.2)
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LIST OF DOCUMENTS REVIEWED

* Indicates NRC-identified

Section 1R01: Adverse Weather ProtectionProcedures

OP-AA-108-107-1001, Electric System Emergency Operations and Electric System, Revision 3 S1 (2).OP-AB.GRID-0001, Abnormal Grid, Revision 21 (18)
 OP-AA-108-107-1002, Salem and Hope Creek 500 kV Switchyard Operations Interface Procedure, Revision 1, S1 (2).OP-TM.22-0003, Electric System Operating Curves, Revision 2
 OP-AA-101-112-1002, Online Risk Assessment, Revision 7,

Notifications

20616907*	20617832*	20617830*
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Other Documents

Generic Letter (GL) 2006-02
 PJM Manual M-39, Revision 6, Nuclear Plant Interface
 PSEG Response to GL 2006-02 (LRN060131, LRN0700006)
 ML 071070006

Section 1R04: Equipment AlignmentProcedures

S2.OP-AR.CA-0001, Alarm Response Procedure No. 2 Emergency Control Air Compressor Panel, Revision 4
 S1.OP-AR.ZZ-0002, Overhead Annunciators Window H, Revision 27
 S1.OP-SO.SW-0005, Service Water System Operation, Revision 39
 SC.OP-DL.ZZ-0008, Circulating / Service Water Log, Revision 45
 SC.MD-PM.CS-0001, Containment Spray Pump Internal Inspection, Revision 10

Notifications

20576262	20617646	20618297*
20617756	20615169	20618143*
20617574	20618133*	20618142*
20617514	20618309*	20618049*
20617766	20618307*	
20176570	20613625	

Maintenance Orders/Work Orders

60098366	60106112	70018521
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Drawings

203897, Unit 1 SW Intake No. 11&12 Vent Fan Miscellaneous Damper Cont., Revision 13
 220948, Unit 2 SW Intake No. 23&24 SW Vent Fan, Revision 13

Other Documents

S-C-SWV-MDC-1996, SW Ventilation System Performance under Various Fan and Damper Configurations, Revision 1
 VTD 301100, Containment Spray Pumps, Revision 10
 9601132275 Condition Report Corrective Action (CRCA) 11
 70036820, CRCA – SW Intake Vent Operability Guidelines

Section 1R05: Fire ProtectionProcedures

FP-AA-001, Precautions against Fire, Revision 1
 CC-AA-211, Fire Protection Program, Revision 4
 FRS-II-512, Revision 2, Pre-Fire Plan Mechanical Piping Penetration Area, Elevation 78' and 100'
 FRS-II-211, Salem Unit 1 (Unit 2) Pre-Fire Plan, Turbine Generator Area Elevation: 88', Revision 5
 FRS-II-221, Salem Unit 1 (Unit 2) Pre-Fire Plan, Turbine Generator Area Elevation: 100', Revision 4
 FRS-II-231, Salem Unit 1 (Unit 2) Pre-Fire Plan, Turbine Generator Area Elevation: 120', Revision 4
 FRS-II-611, Salem Unit 1 (Unit 2) Pre-Fire Plan, Reactor Containment Elevations: 78', 100', & 130', Revision 5
 FRS-II-815, Salem Unit 1 (Unit 2) Pre-Fire Plan, Fire Fresh Water Pump House, Revision 1
 FRS-II-421, Salem Unit 1 (Unit 2) Pre-Fire Plan, 416p V Switchgear Rooms & Battery Rooms Elevation: 64', Revision 6
 FRS-II-431, Salem Unit 1 (Unit 2) Pre-Fire Plan, 460V Switchgear Rooms & Corridor 84', Revision 8

FP-M-011, Control of Transient Combustible Material, Revision 2
 NC.DE-PS.ZZ-0001, Programmatic Standard for Fire Protection, Revision 3
 NC.NA-AP.ZZ-0025, Operational Fire Protection Program, Revision 8

Notifications

20620678*	20619520	20620764*
20621931*	20621647*	

Other Documents

FSAR 9.5
 FP-M-002-F5, Form 5, Transient Combustible in Safety Related Areas impairment Log, Revision 0
 FP-M-011-F1, Form 1, Transient Combustible Permit, Revision 0

Section 1R11: Licensed Operator Regualification Program

Procedures

2-EOP-LOPA-1, Loss of All AC Power, Revision 27
 2-EOP-TRIP-1, Reactor Trip or Safety Injection, Revision 28
 S2.OP-AB.SW-0001, Loss of SW Header Pressure, Revision 16
 S2.OP-AB.CN-0001, MFW/Condensate System Abnormality, Revision 26
 S2.OP-AB.CC-0001, Component Cooling Abnormality, Revision 14
 S1.OP-AB.RAD-0001(Q), Abnormal Radiation, Revision 31
 S1.OP-AB.RC-0001(Q), Reactor Coolant System Leak, Revision 10
 S1.OP-AB.LOAD-0001(Q), Rapid Load Reduction, Revision 14

Other Documents

09/04/13 LORT Exam Scenario, 2013 Annual ESG-1306, Revision 1
 Scenario S-RSG-084

Notifications

20619899	20621805	20622153	20618913
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Section 1R12: Maintenance Effectiveness

Procedures

MA-AA-716-230-1001, Oil Analysis Interpretation Guideline, Revision 9
 S1.OP-SO.CVC-0002, Charging Pump Operation, Revision 37
 S1.OP-ST.CVC-0005, In-service Testing – 13 Charging Pump, Revision 19

Notifications

20547864	20622656	20619926
20549396	20620058	20618425
20551995	20622582	20618040
20594606	20622404	20618039
20598923	20622299	20618004
20601766	20622337	20617788
20610353	20621625	20617714
20624057	20620339	20617661
20623938	20619789	20617619
20623786*	20619809	

Maintenance Orders/Work Orders

30159437	60074893	60110996
70150655	60103943	70125500

Other Documents

CVC System Health Report, June 2013
 Operator Work Around / Challenges, 7/2/13
 Salem Maintenance Strategy, S1CVC-1CVE22, June 2013
 Salem Units 1 and 2 Operations Burdens Report, 7/2/13
 VTD 301119
 VTD 301337
 VTD 304209
 VTD 901999
 OTDM, Degraded Station Air System
 Station Air Compressor MR Performance Criteria

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

S2.OP-AR.CA-0001, Alarm Response Procedure No. 2 Emergency Control Air Compressor Panel, Revision 4
 S2.OP-AB.CA-0001, Loss of Control Air, Revision 17
 WC-AA-101, On-Line Work Management Process, Revision 21,
 OP-AA-108-116, Protected Equipment Program, Revision 7,
 OP-AA-101-112-1002, On-Line Risk Assessment, Revision 7
 SC.OP-SO.CA-0001, 530 Diesel Control Air Compressor, Revision 14
 EP-SA-111-217, EAL Technical Basis, System Malfunction – Instrumentation, Revision 0
 S2.OP-AB.ANN-0001, Loss of Overhead Annunciator System, Revision 22
 WC-AA-105, Work Activity Risk Management, Revision 2
 WC-AA-105-F1, Risk Activity Evaluation Worksheet, Revision 1
 SO.OP-SO.500-0001, 500KV Bus Operation, Revision 13

Notifications

20616195	20616196	20622857	20618977
20621227	20620154	20619900	20618980
20619890	20620085	20619961	20621856
20621895	20621944	20622049	20622041
20622093			

Maintenance Orders/Work Orders

60112115	4343930	4343929
60112671	60112893	

Drawings

ELE-1: 500kV – 4kV Overview
 203000-SIMP, Salem 500kV – 4kV Electrical Distribution – Simplified One Line, Revision 3

Other Documents

60112671, Technical Evaluation Closing 1-9 500 kV Breaker with Bus Section 1 De-energized Risk Assessment for Units 1 and 2 for Work Week 337, Revision 0 and 1, respectively
Salem Generating Station, Unit 1 and 2 Risk Assessments, dated 7/25/13

Salem Generating Station, Unit 2 Risk Activity Evaluation Worksheet for OHA PS-2 Failure, dated 7/25/13

Wednesday, September 4, 2013 Protected Equipment List

Salem Generating Station, Unit 1 Risk Assessment, Work Week 336, September 1 to 7, 2013

NRC letter to PSEG dated 3/16/95, License Amendment

S-C-CA-CEE-0798

S1-MODE-029, "Unit 1 Transition from Mode 3 to Mode 2 and then to Mode 1 with the #13 Chiller Inoperable"

Salem Generating Station, Unit 1 Control Room Logs, dated August 22-24, 2013

Section 1R15: Operability Determinations and Functionality AssessmentsProcedures

SC.MD-PT.CH-0004, Chiller Post-Maintenance Test and Unloader Adjustment, Revision 1

S1.OP-DL.ZZ-0006, Primary Plant Log, Revision 58

S1.OP-ST.500-0001, Electrical Power Systems AC Sources Alignment, Revision 15

S2.OP-SO.CAV-0001, Control Area Ventilation Operation, Revision 39

S2.OP-AB.CA-0001, Loss of Control Air, Revision 17

RP-SA-603, Routine Radiation Monitoring System (RMS) Surveillance, Revision 2

S1.OP-DL.ZZ-0003, Control Room Log – Modes 1-4, Revision 70

EP-SA-111-130, Salem ECG Wall Chart, Revision 0

EP-SA-111-203, Offsite Radiological Conditions, Revision 0

OP-AA-108-114, Revision 4, "Post-Transient Review"

OTDM S-13-007 - Salem Unit 1 operation till 1R23 with the S1RC-1PS1 pressurizer spray valve isolated, dated August 22, 2013

Notifications

20617274*	20622321	20617467
20618281*	20622693	20619277
20614389	20621856	20618980
20614777	20617512	20622823*
20614642	20617511	20623530*
20595674	20618125	20620692
20619962	20621347	20621471
20588555	20588575	20599662
20618911	20618913	

Maintenance Orders/Work Orders

70157183

70157108

Drawings

205347, Unit 2 Reactor Containment and Penetration Area Control Air, Sheet 1, Revision 42

205347, Unit 2 Reactor Containment and Penetration Area Control Air, Sheet 3, Revision 36

Other Documents

Operability Evaluation 13-006, S1CH-1CHE9-COMP (20614777 / 70155989), Revision 0
 PSEG Response to NCV 50-311/99-07-01, dated October 28, 1999
 PSEG Request for License Amendment – Containment System, dated March 2, 2000
 Salem Common Station Standing Order: 2VC5, Cont Vent Iso Damper – Containment Isolation
 Administrative Controls – 04/20/12
 USNRC Letter to Salem Units 1 and 2 – Issuance of Amendments Re: Containment Isolation
 Valve TSs
 70157183, Technical Evaluation of 12 Auxiliary Building Supply Fan Failure to Start and
 Associated Start Logic
 PSEG P.O. P3 0897020 for F&H C of C #96808.52: 12 Auxiliary Building Supply Fan Start
 Circuit Relays
 Operability Evaluation 13-008, 2C Emergency Diesel Generator Control Area

Section 1R19: Post-Maintenance Testing

Procedures

S1.OP–ST.SW-0014, IST Room Cooler Valves Modes 1-6, Revision 5
 MA-AA-723-303, Inspection/Instructions for Crimping and Lugging of Wiring, Revision 4
 SC.MD-PM.RCP-0003, Reactor Trip Bypass Breaker Semi-Annual Inspection, Lubrication and
 Testing, Revision 1
 SC.DE-TS.ZZ-2039, Cable Termination Methods Salem Generating Station, Revision 6
 S1.IC-ST.SSP-0013, Reactor Trip Breakers and Reactor Bypass Breakers Operability Test –
 Train A and B, Revision 16
 S1.OP-ST.ABV-0001, Plant Systems – Auxiliary Building Ventilation, Revision 9, Terminated
 8/09/13
 S1.OP-ST.ABV-0001, Plant Systems – Auxiliary Building Ventilation, Revision 9, Complete
 08/14/13
 MA-AA-716-012, Post-Maintenance Testing, Revision 19
 S1.OP-ST.CH-0004, Chilled Water System – Chillers, Revision 12

Notifications

20617413	20612445	20617512
20617511	20618125	20621347
20617467	20619277	

Maintenance Orders/Work Orders

3023243	30248318	6105792	30188597
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Drawings

203646

Other Documents

ACM 12-006, ASCO NPK 8342 SOV Overheating
 ACM 13-005, Biofouling Monitoring of Room Coolers, Revision 3,
 Vendor Technical Document 127879, Reactor Trip Breakers

Section 1R20: Refueling and Other Outage ActivitiesProcedures

CC-AA-5001, Post Transient or Scram Walkdown, Revision 5

Notifications

20618983	20618984	20618985	20618986
20618987	20618988	20618989	20618990
20618991	20618992	20618994	20618995
20619034	20619035	20619149	20619150
20619225	20619226	20619227	20619228

Section 1R22: Surveillance TestingProcedures

S1.RA.ST.CC-0002, Revision 14, IST 12 Component Cooling Pump Acceptance Criteria

S1.OP-ST.CC-0002, Revision 24, IST 12 Component Cooling Pump

ER-AA-321, Administrative Requirements for Inservice Testing, Revision 11

OP-AA-102-103, OWA Program, Revision 2

OP-SA-470-1001, Cyclic Data Monitoring Program, Revision 2

S2.OP-SO.CH-0001, Chilled Water System Operation, Revision 30

S2.OP-ST.CH-0003, IST Chilled Water Valves Modes 1-6, Revision 17

S1.MD-FT.4KV-0002, ESFAS Instrumentation Monthly Functional Test 1B 4KV Vital Bus
Undervoltage, Revision 27S1.MD-FT.SEC-0002, 1 'B' Safeguards Equipment Control (SEC) Sequencer Surveillance Test
Procedure, Revision 21

S1.OP-ST.ZZ-0003, IST Miscellaneous Valves, Revision 12

S1.RA-IS.ZZ-0001, Type B and C Leak Rate Test, Revision 14

S1.RA-ST.ZZ-0003, Inservice Testing Miscellaneous Valves Acceptance Criteria, Revision 12

SC.MD-PM.ZZ-0076, Air Operated ITT Grinnell Diaphragm Valves, Revision 3

S1.FP-ST.FS-0021, Diesel Area CO2 Systems Operability and Partial Discharge Test,
Revision 7Notifications

20475997	20587672	20462105
20500543	20617585*	20587752
20524646	20617920*	20612144
20544806	20620349*	20001754
20561216	20610830	20610347
20568041	20462274	

Maintenance Orders/Work Orders

50159575	70140699	30172256
60099187	50158332	70109986
60111698	60071067	4304072

Drawings

205216, No. 1 and 2 Units Chilled Water, Revision 64
236250, No. 1A, 1B, &1C Vital Buses Safeguard Equipment Control System, Revision 14
205239, Unit 1 – Waste Disposal Liquid, Revision 49
207480, Reactivator Control Waste Disposal Gas, Revision 18
228268, Unit 1 Reactor Containment Waste Disposal – Gas, Revision 19
614507, Unit 1 Radiological Waste Liquid RCDT to N2 Manifold Valve, Revision 1
600257, No.1 Unit Carbon Dioxide Fire Protection System, Revision 19
226942, Unit 1 Fire Protection System CO2 Instrument Schematic, Revision 8
205231, No.1 Unit Component Cooling, Sheets 1, 2 & 3, Revisions 66, 44 & 45

Other Documents

Drawing 205231, Revision 66 (44, 45), Sh. 1-3, No.1, Unit Component Cooling
IST Results for Chilled Water Check Valves 1(2) CH55, -61 and -232 from 01/01/2011 through
07/01/2013 (Spreadsheet)
Salem Unit 2 Operations Burdens Report, 7/2/13
S-C-CH-MEE-1139, Chilled Water System (CH) – Single Failure Criteria Vulnerability
Assessment, Revision 1
VTD 142026, Operation and Service Manual – Cardox Fire Extinguishing Systems

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Evacuation Time Estimate Study Update

Section 2RS4: Occupational Dose Assessment

Procedures

RP-AA-215-1001, Electronic Dosimeter Alarm Investigation, Revision 0
RP-AA-350, Response to Potentially Contaminated Personnel, Revision 10
RP-AA-274, Evaluation of Bioassay Data, Revision 0

Documents

EPD/TLD – Error Resolution Report
2012 Annual Bioassay Program Review
Positive Whole Body Count Data (various)
Positive Skin Contamination Data (various)

Section 2RS5: Radiation Monitoring Instrumentation

Procedures

NC.CH-RC.ZZ-2575(Q), Gamma Spectroscopy System Calibration, Revision 3
RP-AA-220, Bioassay Program, Revision 7
RP-AA-221, Whole Body Count Data Review, Revision 3
RP-AA-222, Methods for Estimating Internal Exposure from In Vivo and In Vitro Bioassay data,
Revision 5,
RP-AA-224, Evaluation of Bioassay Data, Revision 1,
NC.RS-WC-0402(Q), Whole Body Counter Calibration, Revision 4
S1.IC-CC.RM-0072(Q), 1R44A Containment High Range (Area) Channel Radiation Monitor,
Revision 15,
S1.1C-CC.RM-0028(Q), Disposal Process Radiation Monitor, Revision 13
SC.1C-CC.RM-0074(Q), R45A Plant Vent Noble Gas Background Radiation Monitor
(Area Monitor Channel), Revision 5,

S2.IC-CC.RM-0088(Q), 2R41 Plant Vent Noble Gas Sample and Process Flow Calibration, Revision 15,
S1.IC-CC.FT-RM-0060(Q), R37 Chem WST Basin Functional, Revision 13
S1.IC-FT.RM-0067(Q), 1R41D Plant Vent Noble Gas Release Rate Process Radiation Monitor, Revision 23,
S1.IC-CC.RM-0064(Q), 1R41A Low Range/1R41D Plant Vent Noble Gas Process Radiation
S1.IC-CC.RM-0065(Q), 1R41B Plant Vent Intermediate Range Noble Gas Process Radiation Monitor, Revision 18,
SC.IC-FT.RM-0077(Q), R45 Plant Vent Noble Gas Intermediate/High Range Process Radiation Monitor, Revision 41,
S1.IC-FT.RM-0028(Q), 1R18 Liquid Rad Waste Monitor Channel Functional, Revision 14,

Documents

Whole Body Counter Calibration Data (March 2013)
Intra-laboratory Quality Assurance data
Plant Effluent Radiation Monitor Calibration/Functional Test Data
Gamma Spectroscopy System Calibration Data
Vendor Laboratory Quality Assurance Data

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

SC.CH-TI.ZZ-0180(Q), Sample Schedule and Chemistry Specification, Revision 66
NC.CH-AP.ZZ-8010(Q), Implementation of NRC Inspection and Enforcement Bulletin 80-10, Revision 0
CY-AA-130-200, Chemistry Quality Control, Revision 9

Documents

Chemistry sampling data
Corrective Action Documents (Notifications)
Meteorological Data

Notifications

20568914	20576340	20596163
20611117	20611118	

Section RS07 Radiological Environmental Monitoring Program

Procedures

EN-AA-170-000, Radioactive Effluent and Environmental Monitoring Program, Revision 0
EN-AA-170-1001, REMP Vendor Dosimetry and Laboratory QA program, Revision 1

Documents

2011, 2012 Annual Radioactive Environmental and Effluent Release Reports Land Use Census

Section 4OA1: Performance Indicator Verification

Procedures

LS-AA-2200, MSPI Data Acquisition and Reporting, Revision 4
NEI 99-02, Regulatory Assessment PI Guideline, Revision 6
SC-MSPI-001, Salem Generating Station MSPI Basis Document, Revision 8-5

Other Documents

Salem 1 and Salem 2 - MSPI Derivation Reports, Heat Removal System, July 2012 – June 2013

Salem 1 and Salem 2 - MSPI Derivation Reports, RHR System, July 2012 – June 2013

Salem Engineering Raw Supporting MSPI Data, Heat Removal System, July 2012 – June 2013

Salem Engineering Raw Supporting MSPI Data, RHR System, July 2012 – June 2013

Section 40A2: Problem Identification and ResolutionProcedures

ER-SA-310-1009, Salem Generating Station – MR Scoping, Revision

S1.OP-ST.SW-0008, Inservice Testing Service Water Valves (Aux. Bldg) Mode 1-4, Revision 15

S1.OP-ST.SW-0014, Inservice Testing Room Cooler Valves Modes 1-6, Revision 5

SC.MD-PM.ZZ-0098, Disassembly, Inspection and Reassembly of Standard Trim Masoneilan Control Valves, Revision 2

OP-AA-102-103, OWA Program, Revision 2

OP-AA-102-103-1001, Operator Burdens Program, Revision 1

OP-AA-108-105, Equipment Deficiency Identification and Documentation, Revision 4

OP-AA-115-001, Operator Aid Postings, Revision 3

Notifications

20588864	20603820	20608514
20616579*	20608514	20617545*
20616678*	20586233	20617538*
20617398*	20598949	20617539*
20617535*	20578160	20618281*
20585761	20602826	20617540*
20585831	20585052	20617541*
20606004	20593582	20618049*
20570390	20580964	20617542*
20570413	20361896	20617543*
20503860	20624037*	20622573*
20622155*	20621712*	20588864
20617545*	20609074	20617119
20610245		

Other Documents

AR 239632-19

Engineering Support Document – Excel Spreadsheet – Salem MRS Files: SW

OP Evals: 12-026, -27, -34

Standing Order 12-12

Salem Metrics OO.2 and OO.3 for August 2013

Station Plan of the Day for September 9 and 26, 2013

IRs 05000272, 311; 2011005 and 2012004

PSEG Program Reference and Data Dictionary Section C Tier 3 Definitions dated April 30, 2011

2011, 2012 Annual Radioactive Effluent Release and Environmental Monitoring Reports

Corrective Action Documents (Notifications) - various

Maintenance Orders/Work Orders

30118934	70120002	70154085
60094418	70143350	80059932
70118364	70143367	80059933
70118674	70146516	80102290

Section 40A3: Follow-up of Events and Notices of Enforcement DiscretionProcedures:

ER-AA-410, AOV Program Implementing Procedure, Revision 4
 ER-AA-410-1001, AOV Design Basis Review and Setpoint Control, Revision 4
 ER-AA-410-1002, AOV Testing Requirements, Revision 5
 MA-AA-716-009, Use of Maintenance Procedures
 MA-AA-734-437, General Instructions for Valve Packing, Revision 0
 S1.OP-ST.RC-0008, RCS Water Inventory Balance, Revision 25
 SC.IC-PM.RC-0003, 1PS1, 2PS2 and 2PS3 Pressurizer Spray Valve Operator Maintenance, Revision 0
 SC.MD-CM.RC-0002, Pressurizer Spray Valve PS1 and PS3 Repair, Revision 6

Notifications

20618915	20619948	20620336
20620422	20620557	20620611
20622061	20623942	

Maintenance Orders/Work Orders

30218047	60109671	60083557
60083558	70157547	80098324

Other Documents:

1PS1 Valve Packing SAP Data Report Sheet
 AP Services, Inc. (ARGO / InterTech / Curtis Wright) Packing Guide, Revision 1, April 27, 2010
 EPRI Technical Report 1000923, Valve Packing Performance Improvement, dated March 2002
 ER-AA-331-1002, Attachment 3, Boric Acid Evaluation following 1PS1 Packing Leakage and Containment Walkdown with Unit 1 Shutdown to Mode 3, dated 08/22/2013
 Event Report 49300, Salem Unit 1 Commenced a TS Required Shutdown due to Unidentified RCS Leakage > 1 GPM, dated 08/22/2013
 MR Condition Monitoring Criteria for 1SP1
 MC.DE-TS.ZZ-3071, Valve Packing Salem and Hope Creek Generating Stations, Revision 5
 NCV 05000387/2012005-04, Improper Stress Intensification Factor Results in RCS Pressure Boundary Leak
 Notification 20618913, Prompt Investigation – Salem Unit 1 Shutdown to Mode 3 due to 1PS1 Packing Leakage
 Notification 20618915, Order 70157547, ACE – 1PS1 Pressurizer Spray Valve Packing Leak Leading to Plant Shutdown
 OCC Instructions for 08/22/13 1PS1 Local Inspection and As-Found Torque Check in Response to Discovery of Packing Leakage
 Order 70157108, Technical Evaluation – PS1 Packing Failure EOC for Unit 1
 OTDM S-13-007, Determine if Salem Unit 1 Can Acceptably Operate Until 1R23 with the 1PS1 Isolated, dated 08/22/13

PSED Nuclear LLC VTD Number 901826, PSEG Specification Number S-C-RC-MDS-0486,
 Assembly and Actuator Setup Instructions for Pressurizer Spray Control Valves without
 a Bellows Assembly, dated 08/08/09
 Regulatory Guide 1.33, Quality Assurance Program Requirements, Revision 2, February 1978
 SAP ZCD2 Fastpath Component Classification for 1PS1
 SAP List of Notifications for 1PS1 and 1PS3 Issues Since 11/01/10
 Start-up PORC Action Items, 08/23/13
 CC-AA-5001, Post-Transient or Scram Walkdown, Revision 5
 OP-AA-108-108, Unit Restart Review, Revision 11
 OP-AA-108-114, Post-Transient Review, Revision 4
 Teleconference Meeting Minutes for 1PS1 Packing Failure
 Training Simplified Diagram PZR-1: Pressurizer and Pressurizer Relief Tank, Revision 3

Section 40A5: Other Activities

Salem ODCM
 Salem/Hope Creek 2012 Annual Radiological Environmental Monitoring Report 2013
 Salem Effluent Release Report 2012
 Ground Water Remedial Action Progress Report
 NRC Information Notice 2004-005

LIST OF ACRONYMS

AC	alternating current
ACE	apparent cause evaluation
ADAMS	Agency-wide Documents Access and Management System
AOVs	air operated valves
CAP	corrective action program
CCW	component cooling water
CFR	Code of Federal Regulations
CR	condition report
DCP	design change package
DRS	Division of Reactor Safety
EQACE	equipment apparent cause evaluation
EDG	emergency diesel generator
EOC	extent of condition
EPIP	Emergency Plan Implementing Procedures
EPD	electronic personnel dosimeter
FIN	finding
IMC	inspection manual chapter
INPO	Institute of Nuclear Power Operations
IP	inspection procedure
kV	kilovolt
LER	licensee event report
LLD	lower limit of detection
LOCA	loss-of-coolant accident
MR	maintenance rule
NCV	non-cited violation

NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NSIR	Office of Nuclear Security and Incident Response
OD	operability determination
ODCM	Offsite Dose Calculation Manual
OE	operating experience
OOS	out of service
OWAs	operator work-arounds
PARS	publicly available records
PI	Performance Indicator
PSEG	Public Service Enterprise Group Nuclear LLC
RG	regulatory guide
RCA	radiological controlled area
RCS	reactor coolant system
REMP	Radiological Environmental Monitoring Program
RETS	Radioactive Effluent Technical Specifications
RHR	residual heat removal
RP&C	radiological protection and chemistry
SDP	significance determination process
SG	steam generator
SO	standing order
SSC	structure, system, and component
ST	surveillance test
SW	service water
SWGR	switchgear
TB	turbine building
TLD	thermo-luminescent dosimeter
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WO	work order