



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
475 ALLENDALE RD, STE 102
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

November 9, 2022

Eric Carr
President and Chief Nuclear Officer
PSEG Nuclear, LLC
P.O. Box 236
Hancocks Bridge, NJ 08038

**SUBJECT: SALEM NUCLEAR GENERATING STATION, UNITS 1 AND 2 – INTEGRATED
INSPECTION REPORT 05000272/2022003 AND 05000311/2022003**

Dear Eric Carr:

On September 30, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Salem Nuclear Generating Station Units 1 and 2. On October 17, 2022, the NRC inspectors discussed the results of this inspection with Dave Sharbaugh, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at Salem Nuclear Generating Station Units 1 and 2.

If you disagree with a cross-cutting aspect assignment 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; and the NRC Resident Inspector at Salem Nuclear Generating Station Units 1 and 2.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

Brice A. Bickett, Chief
Projects Branch 3
Division of Operating Reactor Safety

Docket Nos. 05000272 and 05000311
License Nos. DPR-70 and DPR-75

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: SALEM NUCLEAR GENERATING STATION UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000272/2022003 AND 05000311/2022003 DATED NOVEMBER 9, 2022

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000272 and 05000311

License Numbers: DPR-70 and DPR-75

Report Numbers: 05000272/2022003 and 05000311/2022003

Enterprise Identifier: I-2022-003-0038

Licensee: PSEG Nuclear, LLC

Facility: Salem Nuclear Generating Station

Location: Hancocks Bridge, NJ

Inspection Dates: July 1, 2022 to September 30, 2022

Inspectors: J. Dolecki, Senior Resident Inspector
E. Garcia, Resident Inspector
M. Hardgrove, Senior Project Engineer
B. DeBoer, Senior Health Physicist
N. Eckhoff, Health Physicist
M. Henrion, Health Physicist
K. Mangan, Senior Reactor Inspector
O. Masnyk Bailey, Health Physicist
A. Turilin, Reactor Inspector
S. Wilson, Senior Health Physicist

Approved By: Brice A. Bickett, Chief
Projects Branch 3
Division of Operating Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Salem Nuclear Generating Station Units 1 and 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

Failure to Follow Surveillance Frequency Control Program Requirement (SFCP) Prior to Implementing Surveillance Test Interval (STI) Changes			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000272,05000311/2022003-01 Open/Closed	[H.5] - Work Management	71152A
The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation (NCV) of technical specifications (TS) 6.8.4.I, "Surveillance Frequency Program," for PSEG's failure to follow the requirements of the SFCP when making STI changes. Specifically, PSEG implemented STI changes without obtaining the required approvals and revising the SFCP procedures, which is contrary to steps outlined in NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.			

Additional Tracking Items

None.

PLANT STATUS

Unit 1 operated at or near rated thermal power for the entire inspection period.

Unit 2 began the inspection period at rated thermal power. On June 3, 2022, the unit was reduced to 89 percent to support turbine valve testing. The unit was returned to rated thermal power on June 3, 2022 and remained at or near rated thermal power for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed activities described in IMC 2515, Appendix D, "Plant Status," observed risk significant activities, and completed on-site portions of IPs. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 2, 21 and 22 containment spray trains during the containment spray additive tank safety relief valve, 2CS26, replacement, on July 12, 2022
- (2) Unit 2, 21 safety injection system during 22 safety injection pump suction valve, 22SJ33, stem clean and lubrication maintenance window, on August 15, 2022

71111.05 - Fire Protection

Fire Area Walkdown and Inspection (IP Section 03.01) (5 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Unit 1, service water intake structure, fire area FP-SA-1651, on July 5, 2022
- (2) Unit 2, inner piping penetration and chiller room, fire area FP-SA-2556, on July 13, 2022
- (3) Unit 2, relay and battery rooms 100' elevation, fire area FP-SA-2551, on July 19, 2022

- (4) Unit 1, a(4) fire areas 1FA-MP-78I, 1-FA-AB-64A, 1-FA-AB-84A, 1-FA-AB-64B, 1-FA-AB-84B, 1-FA-AB-84C during 13 charging pump maintenance window, on August 29, 2022
- (5) Unit 2, a(4) fire areas 2FA-MP-78I, 2-FA-AB-64A, 2-FA-AB-84A, 2-FA-AB-64B, 2-FA-AB-84B, 2-FA-AB-84C during 23 charging pump maintenance window, on August 29, 2022

Fire Brigade Drill Performance (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the onsite fire brigade training and performance during an announced fire drill, on August 18, 2022.

71111.07A - Heat Exchanger/Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) Unit 2, spent fuel pool heat exchanger during preventive maintenance window, on August 29, 2022

71111.07T - Heat Exchanger/Sink Performance

Heat Exchanger (Service Water Cooled) (IP Section 03.02) (1 Sample)

The inspectors evaluated heat exchanger performance on the following:

- (1) Unit 2, 21 component cooling heat exchanger

Heat Exchanger (Closed Loop) (IP Section 03.03) (1 Sample)

The inspectors evaluated heat exchanger performance on the following:

- (1) Unit 2, 22 residual heat removal heat exchanger

Ultimate Heat Sink (IP Section 03.04) (1 Sample)

The inspectors evaluated the ultimate heat sink performance on the following:

- (1) Unit 2, ultimate heat sink

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed Unit 1 and 2 licensed operations personnel during charging pump swaps, on September 6, 2022.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed simulator evaluations that included (1) a reactor trip and loss of vital bus; and (2) a steam generator tube rupture and stuck open pressurizer relief valve, on September 20, 2022.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management (IP Section 03.01) (2 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Unit 1, emergent work on 1D vital instrument bus inverter following unlatched transfers, during week of August 8, 2022
- (2) Unit 1, emergent work on 11 feedwater heater valves following changes to secondary side heating, from August 14 to 15, 2022

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (6 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Unit 1 and 2, containment pressure and steam generator pressure instrumentation channels due to missed functional testing surveillances identified, on July 5, 2022 (notification (NOTF) 20910125)
- (2) Unit 2, reactor vessel heat vents due to reactor head vent solenoid valve, 2RC43, loss of closed indication, on July 26, 2022 (OEJ 70224604)
- (3) Unit 1, auxiliary building ventilation system due to roof in-leakage, on August 16, 2022 (NOTF 20359743)
- (4) Unit 1, 1D vital instrument bus due to intermittent unlatched transfer from primary power source to alternate power source, on August 23, 2022 (NOTF 20911502)
- (5) Unit 2, 22 containment fan coil unit outlet valve, 22SW223, due to flange leak on September 6, 2022 (NOTF 20899325)
- (6) Unit 1, emergency core cooling sump level system, level transmitters 938 and 939, due to change to surveillance test interval while in TS 4.0.2 grace period, on September 9, 2022 (NOTF 20914720)

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Unit 1 and 2, design equivalent change package 80122412 for diesel fuel oil transfer air operated pump modification, on August 10, 2022

71111.19 - Post-Maintenance Testing

Post-Maintenance Test (IP Section 03.01) (5 Samples)

- (1) Unit 1, 16 service water pump and motor following failure of in-service testing, on July 5, 2022
- (2) Unit 2, 22 chiller compressor and divider gasket plate replacement following low oil compressor level trip, on July 21, 2022
- (3) Unit 2, 22 safety injection following suction valve, 22SJ33, valve stem clean and lubrication maintenance window, on August 15, 2022
- (4) Unit 1, 1D vital instrument bus inverter following unlatched transfers and sensor and transfer card replacement, on August 23, 2022
- (5) Unit 2, 2 spent fuel pool heat exchanger following clean, inspect, and eddy current testing, on August 23, 2022

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance testing activities to verify system operability and/or functionality:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) Unit 1, S1.OP-ST.RHR-0001, "Inservice testing - 11 residual heat removal pump," on August 31, 2022 (work order (WO) 50236433)
- (2) Unit 1, surveillance requirement for containment sump channel calibration surveillance frequency control program changes from 18M to 36M, on September 9, 2022 (Evaluation 70212496)

Inservice Testing (IP Section 03.01) (2 Samples)

- (1) Unit 1, S1.OP-ST.DG-0005, "12 fuel oil transfer system operability test," on July 13, 2022 (WO 50235660)
- (2) Unit 1, S1.OP-ST.AF-0003, "Inservice testing - 13 auxiliary feedwater pump," on August 17, 2022 (WO 50236085)

71114.06 - Drill Evaluation

Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated the licensee's emergency action level declaration during simulator scenario involving a steam generator tube rupture, on September 20, 2022

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the conduct of a routine drill involving a loss of feedwater, anticipated transient without a scram, and loss of all off-site and on-site power, on August 17, 2022

RADIATION SAFETY

71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

Walkdowns and Observations (IP Section 03.01) (4 Samples)

The inspectors evaluated the following radioactive effluent systems during walkdowns:

- (1) Unit 1, plant gaseous ventilation system and radiation monitor 1R41
- (2) Unit 2, plant gaseous ventilation system and radiation monitor 2R41
- (3) Unit 2, plant liquid effluent radiation monitor system 2R18
- (4) Unit 1 and 2, control room ventilation system radiation monitors 1R1B-1 and 1R1B-2

Sampling and Analysis (IP Section 03.02) (4 Samples)

Inspectors evaluated the following effluent samples, sampling processes and compensatory samples:

- (1) Unit 2, plant gaseous ventilation system sampling and analysis for iodine gas in effluents at R41 radiation monitor
- (2) Unit 2, plant gaseous ventilation system sampling and analysis for noble gas in effluents at R41 radiation monitor
- (3) Unit 2, plant gaseous ventilation system sampling and analysis for radioactive particulates in effluents at R41 radiation monitor
- (4) Unit 2, plant gaseous ventilation system sampling and analysis for tritium in effluents at R41 radiation monitor

Dose Calculations (IP Section 03.03) (2 Samples)

The inspectors evaluated the following dose calculations:

- (1) Unit 2 plant gaseous effluents through R41 effluent radiation monitor. Effluent permit number G-20220816-00980.251.C (August 16, 2022 through August 23, 2022)
- (2) Unit 1 number 11 CVCS monitor tank liquid release through 1R18 liquid effluent radiation monitor. Effluent permit number L-20220804-00958.101.B (August 4, 2022 through August 5, 2022)

71124.07 - Radiological Environmental Monitoring Program

Environmental Monitoring Equipment and Sampling (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated environmental monitoring equipment and observed collection of environmental samples.

Radiological Environmental Monitoring Program (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the implementation of the licensee's radiological environmental monitoring program.

GPI Implementation (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's implementation of the Groundwater Protection Initiative program to identify incomplete or discontinued program elements.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS07: High Pressure Injection Systems (IP Section 02.06) (2 Samples)

- (1) Unit 1, July 1, 2021 through June 30, 2022
- (2) Unit 2, July 1, 2021 through June 30, 2022

MS08: Heat Removal Systems (IP Section 02.07) (2 Samples)

- (1) Unit 1, July 1, 2021 through June 30, 2022
- (2) Unit 2, July 1, 2021 through June 30, 2022

MS09: Residual Heat Removal Systems (IP Section 02.08) (2 Samples)

- (1) Unit 1, July 1, 2021 through June 30, 2022
- (2) Unit 2, July 1, 2021 through June 30, 2022

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (3 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Review of evaluation and corrective actions following identification of missed TS surveillances
- (2) Review of corrective actions associated with turbine-driven auxiliary feedwater pump governor handling and hydraulic fluid filtration, on July 8, 2022
- (3) Review of licensee's identification and evaluation of defective and non-conforming parts for compliance with 10 CFR Part 50, App B, and Part 21

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

60855 - Operation of an ISFSI

Operation of an ISFSI (1 Sample)

- (1) The inspectors evaluated the licensee's independent spent fuel storage installation cask loadings July 18, 2022 through July 22, 2022. Specifically, the inspectors observed the following activities:

- Fuel selection and fuel loading
- Heavy load movement of the HI-STORM and loaded MPC
- Drying and backfill evolutions
- Closure welding and non-destructive weld evaluations
- Transfer and transport evolutions
- Radiological field surveys

INSPECTION RESULTS

Failure to Follow Surveillance Frequency Control Program Requirement (SFCP) Prior to Implementing Surveillance Test Interval (STI) Changes			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000272,05000311/2022003-01 Open/Closed	[H.5] - Work Management	71152A
<p>The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation (NCV) of technical specifications (TS) 6.8.4.I, "Surveillance Frequency Program," for PSEG's failure to follow the requirements of the SFCP when making STI changes. Specifically, PSEG implemented STI changes without obtaining the required approvals and revising the SFCP procedures, which is contrary to steps outlined in NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.</p> <p><u>Description:</u> On March 21, 2011, the NRC approved PSEG to relocate most periodic frequencies of TS surveillances to a licensee-controlled program, the SFCP, and the inclusion of requirements for that new program in the Administrative Controls section of TSs (Agencywide Documents Access and Management System (ADAMS) ML110410691). The NRC staff concluded in this approval that there is reasonable assurance that safety margins will be maintained through use of this SFCP methodology. As a result, PSEG's TS 6.8.4.I "Surveillance Frequency Control Program" was revised to state:</p> <p>"This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.</p> <p>a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.</p> <p>b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.</p> <p>c. The provisions of Surveillance Requirements 4.0.2 and 4.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program."</p> <p>PSEG procedures LS-SA-1000-1001, "Unit 1 Surveillance Frequency Control Program List of Surveillance Frequencies," and LS-SA-1000-1002, "Unit 2 Surveillance Frequency Control Program List of Surveillance Frequencies" establish the TS surveillance requirement (SR) frequencies that operators are required to perform. As such, the requirements of TS 6.8.4.I provide the controls to ensure that revisions to LS-SA-1000-1001 and LS-SA-1000-1002 are appropriately evaluated and implemented, and only after a revision is issued can operators perform that SR at the new frequency interval. PSEG procedure ER-AA-450, "Implementation of the Technical Specification Surveillance Frequency Control Program," provides directions on how to meet these requirements, including the sequential steps to follow to perform the</p>			

necessary evaluations, obtaining integrated decision-making panel (IDP) approval, documenting the change appropriately, then implementing the change by revising plant procedures, affected documents, and training the personnel as needed. NEI 04-10, Step 17, and ER-AA-450, Steps 4.3 and 4.4, provide essentially the last steps of the SFCP process, which state, in part, that STI changes are to be implemented by revising the affected procedure (i.e., LS-SA-1000-1001 and -1002) and not through IDP approval.

The inspectors reviewed PSEG's assessment of TSs, extent of condition evaluations, and related corrective action program (CAP) documents following PSEG identifying that deficiencies within the SFCP program had resulted in multiple missed or near-missed Unit 1 and Unit 2 TS SRs. Inspectors reviewed PSEG's SFCP and associated procedures, recent STI changes, and a series of CAP items associated with the SFCP to determine if the requirements of the program are being adhered to and to assess PSEG's corrective actions after an issue is identified. As part of that inspection, inspectors reviewed and assessed the following CAP NOTFs and PSEG's corrective items:

As stated in NOTF 20890580, on November 17, 2021, PSEG identified an adverse trend associated with the SFCP. Inspectors identified this NOTF was categorized as significance level 4 (non-CAP) and, as such, did not have a corrective action. However, within the NOTF multiple action recommendations (ACITs) were made to improve the SFCP and revise ER-AA-450. Specifically, recommendations were made to ensure better ownership of the SFCP, higher quality STI change packages, and timely submittal of STI changes to prevent last-minute decision-making. Further, inspectors determined that between November 17, 2021 and August 17, 2022, various other issues with the SFCP were documented (NOTFs 20902527, 20903836, 20911058, 20912040, and 20912333) that did not result in actions performed to implement better control of the SFCP. Inspectors identified that NOTF 20903836 was categorized as significant level 3 (condition adverse to regulatory compliance), while the other five were categorized as significance level 4. Inspectors determined it was only after the NOTF 20914720 issue (referenced below) that an organizational/programmatic investigation and performance analysis were performed to evaluate what gaps were in the SFCP. Inspectors used the information in these NOTFs to inform the assessment of the other NOTFs discussed below.

As stated in NOTF 20908717, on June 30, 2022, PSEG identified that Unit 1 and 2 containment pressure channel functional testing had not been performed on the SFCP's quarterly schedule and, as a result, operators determined the applicable surveillances were missed. Operators entered SR 4.0.3 then performed the surveillance satisfactorily within 24 hours. PSEG determined the surveillance was extended from a 3-month to a 6-month frequency within work control but the LS-SA-1000-1001 and -1002 procedures remained at a 3-month frequency. PSEG performed an extent of condition (NOTF 20910125) and determined additional surveillances (steam line pressure channel functional testing) also still showed a 3-month frequency within LS-SA-1000-1001 and -1002 while work control showed a 6-month frequency. However, in this case, PSEG operators did not enter SR 4.0.3 because the surveillance was recently completed satisfactorily. Inspectors determined these examples represent a failure to follow the NEI 04-10 process because the SR frequencies were implemented through work control processes prior to revising the LS-SA-1000-1001 and -1002 procedures.

As stated in NOTF 20914720, on September 9, 2022, PSEG identified that Unit 1 emergency core cooling system (ECCS) sump level calibration surveillances were nearing the end of their 18-month SR interval (i.e., each refueling outage) and had been de-scoped from the

Spring 2022 refueling outage. PSEG determined these surveillances were meant to be extended to a 36-month frequency using the SFCP process but had not completed the engineering documentation or revised the LS-SA-1000-1001 and -1002 procedures. Inspectors determined that, for examples, inadequate IDP approval, need for additional calculations (NOTF 20902527), and the need for addressing comments on the STI evaluation also contributed to the untimely LS-SA-1000-1001 and -1002 procedure revisions (i.e., the surveillance was de-scoped from the outage on March 3, while the LS-SA procedures were not revised until September 9, 2022). As a result, PSEG performed procedure revisions on the last days of the grace periods. Inspectors determine this example represents a failure to follow the NEI 04-10 process because the SR frequency extensions were accepted and implemented through decision-making prior to the engineering evaluations being complete and revising the LS-SA-1000-1001 and -1002 procedures.

Based the examples discussed above, the inspectors determined that there is a programmatic weakness in effectively controlling and implementing STI changes as required by TS 6.8.4.I and ER-AA-450 that has resulted in PSEG managing the LS-SA-1000-1001 and -1002 procedure revisions as administrative. Inspectors determined PSEG had not previously identified this programmatic weakness in the NOTFs listed above. Inspectors identified PSEG prematurely implemented STI changes through decision-making or work management processes prior to revising the current licensing basis outlined in the LS-SA-1000-1001 and -1002, which resulted in multiple SRs missed or not appropriately scheduled. Inspectors concluded that PSEG had not identified the errors in following the steps outlined in NEI 04-10 or perform corrective actions to prevent recurrence.

Corrective Actions: In response to missed or near-missed SRs in accordance with the LS-SA-1000-1001 and -1002 procedures, PSEG completed the respective STI evaluations and revised the procedures. PSEG initiated a focused area self-assessment within 70224677 to assess the implementation of the STI change process and identify corrective actions.

Corrective Action References: CAP NOTFs 20908717, 20910125, and 20914720

Performance Assessment:

Performance Deficiency: Inspectors determined that PSEG's failure to control SRs in accordance with the SFCP outlined in TS 6.8.4.I was reasonably within their ability to foresee and correct and should have been prevented.

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, making changes to the frequencies of TS surveillances without using the requisite program could improperly extend SR frequencies to the point where they no longer support equipment operability and maintain compliance with the current licensing basis. Inspectors used IMC 0612, Appendix E, "Examples of Minor Issues," effective 01/01/2021, to inform this decision. Specifically, inspectors determined example 3.g to be similar because the licensee did not have adequate controls in place to make STI changes and maintain SR intervals in accordance with the SFCP and, absent NRC inspection, the licensee may not maintain compliance with the current license basis.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Specifically, because the finding impacted the Mitigating Systems Reactor Safety Cornerstone, the inspectors screened the finding through IMC 0609, Appendix A, Attachment

1, Exhibit 2, "Mitigating System Screening Questions." The finding screened as having very low safety significance (Green) because it did not result in the loss of operability or functionality of any SSC. The SSCs tested satisfactorily after identification of the missed surveillances.

Cross-Cutting Aspect: H.5 - Work Management: The organization implements a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. PSEG did not adequately plan, control, and execute work activities across Operations, Work Management, and the SFCP owners to ensure the SRs were appropriately scheduled and performed within the surveillance intervals required by the SFCP.

Enforcement:

Violation: Technical specification 6.8.4.I, "Surveillance Frequency Program," states, in part, that the SFCP shall contain a list of SR frequencies and changes to the frequencies listed in the SFCP shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1. PSEG procedures LS-SA-1000-1001 and LS-SA-1000-1002 contain the list of SR frequencies for Unit 1 and Unit 2, respectively. NEI 04-10, step 17, states, in part, that STI changes approved by the IDP are then implemented by revising plant procedures and affected documents.

Contrary to the above, from September 27, 2021 to June 30, 2022, on multiple occasions PSEG failed to follow the requirements of the SFCP when making an STI change. Specifically, PSEG changed SR activities (containment pressure and steam generator (steam line) functional testing) from every 3 months to every 6 months within work control using the STI change evaluation package (dated September 27, 2021) prior to revising the LS-SA-1000-1001 and -1002 procedures to represent this change. As a result, from the January 2022 work control change until the identification on June 30 and July 2, 2022 the surveillances were listed as 3-month frequencies intervals in LS-SA-1000-1001 and LS-SA-1000-1002 while listed as 6-month frequency intervals in work control. PSEG operators entered SR 4.0.3 because the containment pressure functional and steam generator (steam line) pressure functional SR activities, respectively, were not performed within the 3-month interval.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Observation: Review of Turbine-Driven Auxiliary Feedwater (TDAFW) Pump Governor Corrective Actions Following NCV 050000272;311/2022003-02	71152A
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A self-revealing Green finding and associated NCV was documented in Salem Integrated Inspection Report 2022003 for inadequate preventive maintenance (PM) of the Unit 2, TDAFW pump.

The inspectors evaluated implementation of corrective actions following the issuance of the NCV. Corrective actions were implemented to address the performance deficiency in accordance with their CAP. Specifically, PSEG performs audit closeouts for corrective action completion for previously issued violations under procedure LS-AA-1003, "NRC Inspection Preparation and Response." However, as PSEG identified in CAP NOTF 20910134 in

July 2022 a corrective action was not completed to revise PSEG PM procedure S2.IC-ZZ.AF-0018 to describe steps to properly handle the TDAFW pump governor for dynamic flushing and replacement of the oil. Inspectors noted that PSEG procedure LS-AA-125, "Corrective Action Program" states that corrective actions that restore a condition adverse to quality should typically be done within 180 calendar days of issue identification or can extend to greater than 180 calendar days with management approval.

The inspectors' review of corrective actions to revise PSEG procedure S2.IC-ZZ.AF-0018 noted that engineering closed out the corrective action under WO 70217970-0010. PSEG's corrective action audit determined the procedure revision had not been completed and reopened the corrective action. Subsequently, PSEG, on August 15, 2022, implemented Revision 11 to S2.IC-ZZ.AF-0018 capturing the revisions and standards for handling the TDAFW pump governor, oil flushing, and replacement. Additionally, inspectors verified that work activities performed on the TDAFW pumps and governor were in accordance with industry standards for handling the oil flushing and replacement.

The NRC inspectors did not identify any findings or violations of more than minor significance.

Observation: Review of licensee's identification and evaluation of defective and non-conforming parts for compliance with 10 CFR Part 21 and Part 50 Appendix B	71152A
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Due to the establishment of the parts quality initiative program, as well as procurement-related issues within the industry (e.g., ADAMS ML18151A739), the inspectors reviewed PSEG's program to identify and evaluate defective and non-conforming parts for compliance with 10 CFR Part 21 "Reports of Defects and Noncompliance" and 10 CFR Part 50 Appendix B Criterion VII "Control of Purchased Material, Equipment, and Services" and XV "Non-conforming Materials, Parts, or Components." The inspectors reviewed PSEG's procedures pertaining to these programs, parts issues identified, and CAP evaluations. Additionally, inspectors conducted walkdowns and interviewed personnel familiar with the programs.

As a result of the review, the inspectors noted that issues discovered during parts receipt inspections are captured in a notification database (i.e., 'Q3' notifications) that is independent of the CAP NOTFs (i.e., 'N1' notifications). Inspectors determined that PSEG's Q3 notifications are disassociated from the N1 notifications and there is not a mechanism to readily translate a Q3 notification to a N1 notification. The Q3 notifications also do not go through the additional assessments the N1 notifications do, such as site ownership committee (SOC) and management review committee (MRC). As such, because of the lack of SOC and MRC reviews, inspectors determined this could impact the visibility of the documented evidence and history of a specific part and may not lead to corrective actions that otherwise would with an N1 notification. However, inspectors did not identify, based on the sample reviewed, any examples where a Q3 notification was not appropriately captured in an N1 notification. Also, based on discussions on this topic with PSEG staff, plans are being developed to integrate these databases. PSEG generated CAP notification 20918386 to capture this observation.

This inspection did not result in the identification of a performance deficiency or violation of more than minor significance.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On July 28, 2022, the inspectors presented the Radiological Environmental Monitoring Program Inspection Debrief inspection results to Rick DeSanctis, Plant Manager, and other members of the licensee staff.
- On August 29, 2022, the inspectors presented the Radioactive Gaseous and Liquid Effluent Treatment Inspection Debrief inspection results to David Sharbaugh, Salem Site Vice President, and other members of the licensee staff.
- On September 15, 2022, the inspectors presented the Salem Triennial Heat Sink Inspection results to Tom Mulholland, Senior Director of Engineering, and other members of the licensee staff.
- On October 17, 2022, the inspectors presented the integrated inspection results to Dave Sharbaugh, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.05	Corrective Action Documents	*20910147	Expired TCP in field	07/05/2022
	Procedures	S2.OP-AB.FIRE-0001(Q)	Control room fire response	12
71111.07T	Calculations	S-C-SW-MDC-1068	Service water system design basis temperature	4
	Corrective Action Documents	20806267		
		20898760		
	Corrective Action Documents Resulting from Inspection	20915305		
		20915382		
		20915385		
	Engineering Changes	80122526	Salem SW pump discharge head modification with stiffener (SCAB) addition	03
		S2019-021	Salem service water pump discharge head modification	1
	Miscellaneous		Service water health report	09/01/2022
	NDE Reports	30206530	21 Component cooling heat exchanger (S2CC-2CCE5) eddy current test results	05/07/2017
		60100556	22 RHR (S2RHR-2RHE41) eddy current testing results	11/02/2015
		S-IR-6S0-0030	Salem Units 1 and 2, structure and component monitoring Report	09/23/2020
	Procedures	S2.OP-AR.ZZ-0002	Overhead annunciator window B	41
		SC.CH-SO.CL-0830	Chlorination system start-up and shutdown	29
	Work Orders	30206171	S2.OP-PT.SW-0026, 21 component cooling heat exchanger heat transfer performance data collection	04/19/2017
		30362844	22 SW PMP silt level inspection	05/05/2022
		30365161	26 SW PMP silt level inspection	03/17/2022
30370674		S2.OP-PM.CC-0021, 21 component cooling heat exchanger high flow flush and alignment	08/04/2022	
50234179		S2.OP-ST.RHR-0002, 22 RHR pump in-service testing	05/12/2022	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		50234358	S2.OP-ST.SW-0006 IST 26 SW pump	06/29/2022
		50235922	S2.OP-ST.SW-0004, IST 24 SW pump	06/23/2022
		50236301	S2.OP-ST.SW-0001, IST 21 SW pump	06/23/2022
		50236832	S2.OP-ST.SW-0002, IST 22 SW pump	08/04/2022
		50237552	S2.OP-ST.SW-0003, IST 23 SW pump	08/24/2022
		60152913	Divers unable to desilt 24 service water bay	
71111.13	Corrective Action Documents	20911997	Entered S1.OP-AB.STM-0001 due to 11HV21 lifting	08/14/2022
		20911998	Entered S1.OP-AB.LOAD-0001 due to requiring turbine load reduction to 95%	08/14/2022
		20912080	1A MSR drain tank relief valve 11HV21 lifted during 11HD15 repairs	08/14/2022
		20912154	11HD15 feedback linkage broken	08/14/2022
		20912225	11 heater drain pump discharge valve 11HD15 cycling causing SGFP pressure oscillations	08/14/2022
	Corrective Action Documents Resulting from Inspection	*20912186	11HD15 WO 30316923 not completed in accordance with procedure direction	08/16/2022
	Engineering Evaluations	70225144	Equipment reliability evaluation 11HD15 cycling 20% to 60% open 1x/minute	09/29/2022
Work Orders	30316923	11HD15 positioner replacement	04/22/2022	
71111.15	Corrective Action Documents	20359743	Rainwater in-leakage on 122' elevation of Unit 1 auxiliary building	03/08/2008
		20910752	Loss of closed indication of reactor head vent solenoid valve 2RC43	07/17/2022
		20914720	Two surveillances for 1LT938 and 1LT939 SR 4.3.3.7 approaching overdue dates	09/09/2022
		20915227	Adverse trend in work management	09/09/2022
	Drawings	248116	Unit 1 & 2, reactor head ventilation valves	6
	Procedures	LS-SA-1000-1001 and -1002	Surveillance frequency control program	27/26
71111.22	Corrective Action Documents	20905192	Diesel fuel oil transfer pump IST comprehensive pump test does not include required vibration data	05/01/2022
		20905982	IST - 12 fuel oil transfer pump no vibes data	05/01/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		20913387	11 DFOTP IST point PIV was in the alter SAT Range at 0.118 in/sec	09/01/2022
		20914857	Evaluate RCDT in-leakage as identified leakage	09/10/2022
	Corrective Action Documents Resulting from Inspection	*20910798	Obtain IST vibes on 11 DFOTP	07/20/2022
		*20910799	Obtain IST vibes on 12 DFOTP	07/20/2022
		*20910800	Obtain IST vibes on 21 DFOTP	07/20/2022
		*20910801	Obtain IST vibes on 22 DFOTP	07/20/2022
		*20911332	Actions to restore compliance to IST OM code for diesel fuel oil transfer pumps	07/28/2022
		*20914855	Enhancement to include entry criteria for RCP #2 seal degradation (in-leakage to RCDT increase) in S1/S2.OP-AB.RCP-0001, reactor coolant pump abnormality	09/10/2022
	Engineering Evaluations	70212496-0065-003	Surveillance test interval change for ECCS sump level channel calibration surveillance 4.3.3.7 (Item 17 of Table 4.3-11	09/09/2022
		70223688	Work group evaluation-Salem diesel fuel oil transfer pump in-service testing does not include required vibration monitoring	06/08/2022
	Procedures	ER-AA-321	Administrative requirements for in-service testing	15
S1.RA-ST.DG-0005		Diesel generator auxiliaries 12 fuel oil transfer system operability test acceptance criteria	13	
71114.06	Procedures	EP-SA-325-F2	Alert, attachment 2	1
		NC.EP-EP. ZZ-0902(Q)	Assembly/accountability/evacuation	17
71152A	Corrective Action Documents	20890580	Compliance with administrative requirements of the SFCP is deficient	11/17/2021
		20902527	During the current STI extension initiative additional calculations were identified late in the process of extensions	04/15/2022
		20902833	Unit 2, train A and B SSPS reactor trip breaker testing not maintained on staggered test basis frequency	04/19/2022
		20903836	Recent SFCP independent decision-making panel held without quorum members holding proper qualifications	06/16/2022
		20904685	Extent of condition review of surveillances on staggered test basis	04/28/2022
		20905081	Scheduling Unit 1 surveillances on staggered test basis after	04/29/2022

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			1R28 refueling outage	
		20911058	Various issues have resulted in missed surveillances and delays in completing STIs	07/21/2022
		20912040	Compliance with administrative requirements of the SFCP remains deficient	08/10/2022
		20912333	Inappropriate corrective action designation in work group evaluation 70224349	08/17/2022
		20914720	U1 ECCS sump calibration surveillance test near overdue	09/09/2022
	Corrective Action Documents Resulting from Inspection	*20918386	Q3 notifications created for vendor material issues (SM-AA-102-1001) may not have appropriate triggers or ties to the N1/N2 notification processes (LS-AA-120)	10/13/2022
	Engineering Evaluations	70223155-0120	Apparent cause evaluation -- staggered test basis not maintained	06/23/2022
		70224349	Work group evaluation - containment pressure and SG pressure missed surveillances	06/30/2022
	Procedures	LS-AA-115-1003	Manual for processing OE3 documents (IER3, SENS, other)	5
		LS-AA-115-1006	Manual for processing OE6 documents (vendor 10 CFR Part 21 Documents)	0
		S2.IC-ZZ.AF-0018	Woodward governor removal and linkage adjustment 23 auxiliary feedwater pump	10
		SM-AA-101	Certification of receipt Inspectors	10
		SM-AA-102-1001	Warehouse operations	17
		SM-AA-4003-1000	Guidance for PSEG quality part program	7
		SM-AA-410	Control of purchased material, equipment, and services program	9