



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

November 2, 2021

Mr. Eric Carr
President and Chief Nuclear Officer
PSEG Nuclear, LLC
PO Box 236
Hancock's Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT 1 & 2 – INTEGRATED
INSPECTION REPORT 05000272/2021003 AND 05000311/2021003

Dear Mr. Carr:

On September 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Salem Nuclear Generating Station, Unit 1 & 2 and discussed the results of this inspection with Dave Sharbaugh 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 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, Unit 1 & 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, Unit 1 & 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
Reactor Projects Branch 3
Division of Operating Reactor Safety

E. Carr

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

Enclosure:
As stated

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SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT 1 & 2 – INTEGRATED INSPECTION REPORT 05000272/2021003 AND 05000311/2021003 DATED NOVEMBER 2, 2021

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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: 05000272/2021003 and 05000311/2021003

Enterprise Identifier: I-2021-003-0002

Licensee: PSEG Nuclear, LLC

Facility: Salem Nuclear Generating Station, Unit 1 & 2

Location: Hancock's Bridge, NJ

Inspection Dates: July 1, 2021 to September 30, 2021

Inspectors: J. Dolecki, Senior Resident Inspector
M. Hardgrove, Resident Inspector
J. Hawkins, Senior Project Engineer
B. Lin, Nuclear Systems Engineer
K. Mangan, Senior Reactor Inspector
G. Walbert, Reactor Engineer
S. Wilson, Senior Health Physicist

Approved By: Brice A. Bickett, Chief
Reactor 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, Unit 1 & 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 Maintain B.5.b Equipment in a State of Readiness to Support Mitigation Strategies			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000272,05000311/2021003-01 Open/Closed	[H.3] - Change Management	71152
<p>The inspectors identified a Green non-cited violation (NCV) of Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.155(b)(1) and (2), “Mitigation of beyond-design-basis events,” because PSEG failed to maintain the B.5.b emergency diesel generator (EDG) in a state of readiness to support B.5.b mitigation strategies. Specifically, PSEG’s equipment operator training and operating procedures were not adequate for starting and running the B.5.b EDG which resulted in the EDG being declared non-functional during a quarterly run-on May 17, 2021, preventing the EDG engine from performing its intended function and affecting its reliability until the EDG was restored on July 15, 2021.</p>			

Additional Tracking Items

None.

PLANT STATUS

Salem Unit 1 and Unit 2 operated at or near rated thermal power for the entire 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 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.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week, increasing the amount of time on-site as local COVID-19 conditions permitted. As part of their on-site activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status," and conducted routine reviews using IP 71152, "Problem Identification and Resolution," observed risk significant activities; and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections were performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on-site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) Unit 1 and 2, review of abnormal operating procedure actions prior to and during a National Weather Service thunderstorm warning and associated Yellow PRA risk, during the week of July 9, 2021

External Flooding Sample (IP Section 03.03) (1 Sample)

- (1) Unit 1 and 2, evaluated that flood protection barriers, mitigation plans, procedures, and equipment were consistent with the licensee's design requirements and risk analysis assumptions for coping with external flooding, during the week of August 9, 2021

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (3 Samples)

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

- (1) Unit 1 and 2, fire protection system, on July 13, 2021
- (2) Unit 1 and 2, auxiliary feed water (AFW) pump and auxiliary building ventilation systems, week of July 19, 2021
- (3) Unit 2, 21 residual heat removal pump and heat exchanger room, week of August 2, 2021

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (4 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) Fire Pump House fire area 2851, on July 13, 2021
- (2) Unit 1 and 2, walk down of the AFW pump rooms and equipment fire areas FP-SA-1543 and FP-SA-2543 during the week, of July 19, 2021
- (3) Unit 2, 21 residual heat removal pump and heat exchanger room fire area FP-SA-251 during the week, of August 2, 2021
- (4) Unit 1, Auxiliary Building ventilation units fire area FP-SA-1562 and Volume control and boric acid tanks fire area FP-SA-1563, on September 2, 2021

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 and evaluated licensed operator performance in the main control room during 22 containment spray subsystem and 13 auxiliary feed pump subsystem surveillance and testing activities, on September 28 and 29, 2021

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

- (1) The inspectors observed licensed operator requalification training that included charging flow instrumentation failure, accumulator gas leak, turbine trip failure, and failure of all auxiliary feedwater, on September 7, 2021

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (1 Sample)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Unit 1 and 2, Containment atmosphere process radiation monitors, due to repetitive issues starting on January 1, 2020 leading to inoperability, on September 3, 2021

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

- (1) Unit 1 and 2, containment fan coil unit system bearings, due to failure of 12 containment fan coil unit bearing, on August 20, 2021

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (4 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 2, 21 residual heat removal pump maintenance, during the week of July 5, 2021
- (2) Unit 1 and 2, work planned and conducted during a National Weather Service thunderstorm warning and associated Yellow PRA risk, during the week, of July 9, 2021
- (3) Unit 1, unplanned 72-hour shutdown technical specification action statement for an inoperable 13 turbine driven auxiliary feedwater pump, during the week, of July 19, 2021
- (4) Unit 1, unplanned 24-hour shutdown technical specification action statement for an inoperable 1C safeguards equipment control (SEC) and 4KV vital bus undervoltage relay, during the week, of August 19, 2021

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 2, review of operability engineering justification for an identified ground on the 'A' train of solid-state protection system (SSPS) during the week, of July 6, 2021
- (2) Unit 2, review of operability engineering justification for a degraded service water ventilation damper (2SWV4) during the week, of July 6, 2021
- (3) Unit 2, Framatome Part 21 for Replacement Steam Generators Post Weld Heat Treatment Temperature Below Code Required, on July 13, 2021
- (4) Unit 2, review of operability justification for a degraded control air pipe in the 21 residual heat removal room during the week, of August 2, 2021
- (5) Unit 1, containment fan coil unit extent of condition review due to 12 containment fan coil unit bearing failure, on August 20, 2021
- (6) Unit 1, 11 containment spray pump inadvertent start during 12 containment spray pump in-service testing, on September 17, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Unit 1, 13 turbine-driven auxiliary feedwater (TDAFW) room cooler damper repair, during the week, of July 19, 2021
- (2) Unit 1, failed 95-percent undervoltage relay associated with the 1C SEC and 4KV vital bus repair, during the week, of August 19, 2021
- (3) Unit 1, 12 containment fan cooling unit (CFCU) labyrinth seal replacement following mechanical binding of the fan shaft, during the week, of August 30, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) Unit 2, 21 auxiliary feedwater pump surveillance testing, on July 7, 2021
- (2) Unit 2, 2C emergency diesel generator monthly surveillance, 6 month rapid load, and 23SW39 jacket water cooler air operated inlet valve testing, on August 18, 2021
- (3) Unit 2, 2B emergency diesel generator monthly surveillance and 18 month 24 hour endurance run, on September 8, 2021

RADIATION SAFETY

71124.08 - Radioactive Solid Waste Processing & Radioactive Material Handling, Storage, & Transportation

Radioactive Material Storage (IP Section 03.01) (2 Samples)

Inspectors evaluated the licensee's performance in controlling, labelling, and securing radioactive materials including the following storage areas:

- (1) Units 1 and 2 temporary radioactive material storage areas.
- (2) Long-term radioactive material storage facilities common to both units.

Radioactive Waste System Walkdown (IP Section 03.02) (2 Samples)

Inspectors walked down the following accessible portions of the solid radioactive waste systems and evaluated system configuration and functionality:

- (1) Portions of the Unit 1 and 2 solid radioactive waste systems including: piping, valves, pumps, sample systems, and ion exchange media and transfer components.
- (2) Portions of the Unit 1 waste system in which access was radiologically restricted due to high dose rates and contamination. Specifically, the waste monitor tank; number 11 and 12 waste holdup tanks; number 11 and 12 chemical and volume control tanks; auxiliary building sump tank; spent resin storage tank; and number 11 waste gas decay tank.

Waste Characterization and Classification (IP Section 03.03) (2 Samples)

The inspectors evaluated the licensee's characterization and classification of radioactive waste through the following record reviews:

- (1) Waste shipment number 21-001. U.S. Department of Transportation
Description: UN3321, Radioactive material 7, low specific activity (LSA-II). Waste Class A Unstable.
- (2) Waste shipment number 21-003. U.S. Department of Transportation
Description: UN3321, Radioactive material 7, low specific activity (LSA-II). Waste Class A Stable.

Shipment Preparation (IP Section 03.04) (1 Sample)

- (1) The inspectors determined that the minimum sample size was not available because no shipments were prepared during the inspection.

Shipping Records (IP Section 03.05) (4 Samples)

The inspectors evaluated the following non-excepted radioactive material shipments through a record review:

- (1) Dry active waste shipment number 21-001. U.S. Department of Transportation
Description: UN3321, Radioactive material 7, low specific activity (LSA-II). Waste Class A Unstable.
- (2) Waste (bead resins and charcoal) shipment number 21-003. U.S. Department of Transportation
Description: UN3321, Radioactive material 7, low specific activity (LSA-II). Waste Class A Stable.
- (3) Depleted metal oxide shipment number 21-037. U.S. Department of Transportation
Description: UN3321, Radioactive material 7, low specific activity (LSA-II).
- (4) Dry active waste shipment number 21-043. U.S. Department of Transportation
Description: UN3321, Radioactive material 7, low specific activity (LSA-II). Waste Class A Unstable.

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, 2020 - June 30, 2021 on September 24, 2021
- (2) Unit 2, July 1, 2020 - June 30, 2021 on September 24, 2021

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

- (1) Unit 1, July 1, 2020 - June 30, 2021 on September 28, 2021
- (2) Unit 2, July 1, 2020 - June 30, 2021 on September 28, 2021

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

- (1) Unit 1, July 1, 2020 - June 30, 2021 on September 28, 2021
- (2) Unit 2, July 1, 2020 - June 30, 2021 on September 28, 2021

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

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

- (1) Adverse trend on portable emergency diesel generators, on July 1, 2021

INSPECTION RESULTS

Failure to Maintain B.5.b Equipment in a State of Readiness to Support Mitigation Strategies			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000272,05000311/2021003-01 Open/Closed	[H.3] - Change Management	71152
<p>The inspectors identified a Green non-cited violation (NCV) of Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.155(b)(1) and (2), “Mitigation of beyond-design-basis events,” because PSEG failed to maintain the B.5.b emergency diesel generator (EDG) in a state of readiness to support B.5.b mitigation strategies. Specifically, PSEG’s equipment operator training and operating procedures were not adequate for starting and running the B.5.b EDG which resulted in the EDG being declared non-functional during a quarterly run-on May 17, 2021, preventing the EDG engine from performing its intended function and affecting its reliability until the EDG was restored on July 15, 2021.</p> <p><u>Description:</u> Salem utilizes two Baldor T175 portable EDGs onsite for different potential events. One of these EDGs is the designated B.5.b EDG (C1SEC-10-G-505), which is used to support deployment of designated mitigating strategies at Salem (emergency backup power to miscellaneous switchyard panels to support 550 KV breaker operation during a complete loss of AC power) and Hope Creek (alternate power to 125/250 VDC, the deep well pumps, and to the reactor building motor control centers).</p> <p>On May 17, 2021, the B.5.b EDG was started and stopped due to abnormal operating conditions (chugging, shaking, seizing) during a quarterly unloaded run. PSEG secured the EDG, declared it non-functional, and documented the condition in NOTF 20877292. On July 15, 2021, the B.5.b EDG vendor supported troubleshooting (70218622) documenting that the first start attempt was unsuccessful and then a visual inspection identified that the fuel line needed to be primed. After priming the engine using the built-in hand pump on the engine, the EDG started and performed as designed. PSEG also replaced the EDG fuel and performed load testing as a proactive measure to ensure future reliability. PSEG documented NOTF 20881592 for deficiencies in equipment operator training and operating procedures for starting and running the B.5.b EDG.</p> <p>The inspectors noted that PSEG’s Testing and Reference Manual, OP-AA-106-103-1001, B.5.b Mitigating Strategies Equipment Expectations, was developed to provide standardized</p>			

guidance for selected elements of the Mitigation Strategy License Condition as required by 10 CFR 50.155(b)(1) and (2) and 10 CFR 50.54(hh)(1) and (2), and was implemented by both Salem and Hope Creek on December 4, 2013. Section 3.3.1.3 of this procedure states, in part, that “[B.5.b] equipment is maintained in a state of readiness to support B.5.b mitigation strategies.” The inspectors also noted that NRC IMC 0609, App. L, B.5.b SDP defines a mitigation strategy as unrecoverable if the licensee actions could neither reasonably correct or compensate for the conditions creating the unavailability in time during a B.5.b event for the mitigating strategy to achieve its objective. It also defines a mitigating strategy as unavailable if its hardware or components are not functional and ready for intended use, or personnel training and procedures are inadequate.

Based on the above the inspectors determined that the mitigating strategies associated with the B.5.b EDG were unavailable for Salem and Hope Creek from May 17 to July 15, 2021. The inspectors also determined that based on the above information, PSEG had inadequate equipment operator training and operating procedures for starting and running the B.5.b EDG which resulted in the EDG being declared non-functional during a quarterly run-on May 17, 2021.

Corrective Actions: PSEG’s corrective actions included documenting the issue in CAP (NOTF 20877292), consulting with the vendor and industry, revising operating procedures for the EDG, and creating PM activities to periodically load test both Baldor EDGs.

Corrective Action References: 70218622, 70214919, 70218024, 70218864, 70218923, 70218849, and 70218733.

Performance Assessment:

Performance Deficiency: The inspectors determined that PSEG failing to have adequate operator training and procedures for starting and running the B.5.b EDG was a performance deficiency that was reasonably within the licensee’s ability to foresee and correct and should have been prevented.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. More specifically, as specified for 10 CFR 50.155(b)(1) and (2) and 10 CFR 50.54(hh) findings by IMC 0609, Attachment 4, “Initial Characterization of Findings,” dated December 13, 2019, the finding affected the Mitigating Systems cornerstone while the plant was at power and was associated with the mitigating strategies to maintain or restore core cooling, containment, and spent fuel pool cooling.

Significance: The inspectors assessed the significance of the finding using Appendix L, “Significance Determination Process for B.5.b.” The inspectors determined that this finding was of very low safety significance (Green) using NRC IMC 0609, Appendix L, “B.5.b Significance Determination Process,” Table 2 - Significance Characterization, dated December 24, 2009, because the B.5.b. EDG being non-functional did not result in an unrecoverable unavailability of an individual mitigating strategy.

Cross-Cutting Aspect: H.3 - Change Management: Leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. The inspectors determined that this finding had a cross-cutting aspect in the area of Human

Performance, Change Management, because PSEG did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, PSEG did not ensure that B.5.b and FLEX equipment program ownership was adequately maintained to ensure that equipment issues were evaluated, and corrective actions implemented using a consistent and appropriate process. (H.3)

Enforcement:

Violation: Violation: 10 CFR 50.155(b)(1) and (2), "Mitigation of beyond-design-basis events," in part, requires that PSEG develop and implement guidance and strategies intended to maintain or restore core cooling to mitigate fuel damage under the circumstances associated with loss of large areas of the plant due to explosions or fire. Specifically, PSEG guidance OP-AA-106-103-1001, "B.5.b Mitigating Strategies Equipment Expectations," was developed to provide standardized guidance for selected elements of the mitigation strategies required by this license condition and was implemented by PSEG on December 4, 2013. This guidance requires, in part, that "[B.5.b] equipment is maintained in a state of readiness to support B.5.b mitigation strategies."

Contrary to this, between May 17, and July 15, 2021, PSEG failed to maintain the B.5.b EDG in a state of readiness to support B.5.b mitigation strategies. Specifically, PSEG equipment operator training and operating procedures were not adequate for starting and running the B.5.b EDG which resulted in the EDG being declared non-functional during a quarterly run on May 17, 2021, preventing the EDG engine from performing its intended function and affecting its reliability until the EDG was restored on July 15, 2021.

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

Observation: Adverse Trend in Portable Emergency Diesel Generators	71152
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Due to recent portable emergency diesel generator (EDG) issues, the inspectors reviewed a potential adverse trend with PSEG's portable EDGs, and PSEG's ability to adequately identify problems, evaluate the causes, and resolve the issues in a timely manner.

The inspectors noted a potential adverse trend in PSEG's portable EDGs after an issue with the B.5.b EDG being nonfunctional and unavailable on May 17, 2021. The inspectors requested a list of portable EDGs during their review. The list included eleven portable EDGs, including six FLEX EDGs, two B.5.b diesels (one generator and one EDG), a station blackout EDG, a mitigating system performance index auxiliary feed water EDG, and a meteorological tower EDG. The inspectors noted some of the following issues with portable EDGs:

- On August 11, 2021, PSEG documented NOTF 20882922 for the SBO Baldor EDG tripping while performing a periodic run. PSEG determined that the fuel system had not been vented and primed after a routine change out of the fuel filter prior to the run.
- On May 27, 2021, PSEG documented NOTF 20877616 for FLEX EDG reliability concerns due to potential improper testing.
- On May 19, 2021, PSEG documented 2 NOTFs for a FLEX EDG (1FLXE18). NOTF 20877525 documented that the 1FLXE18 would not start due to rust on the controller connections and a high voltage output of the battery charger, which can damage the battery.

- On April 8, 2021, PSEG documented NOTF 20874804 for the TSC EDG (SCTSC-1TSCE22) due to an abnormal startup due to a room heater deficiency.
- Between November 2018, and August 2020, multiple NOTFs were documented involving functional failures of the SBO EDG to start or run due to inadequate procedures and battery preventive maintenance (PM).
- Between March 2018 and October 2020, multiple NOTFs and actions were documented in PSEG's CAP concerning that fact that the two Baldor EDGs were not periodically load tested, even though it was recommended by the vendor and performed by industry peers. Several of PSEG's NOTFs acknowledged the potential that not performing the load testing had the potential for wet stacking affecting the equipment's reliability and the ability to function properly.

Based on the above, the inspectors concluded that the following themes existed with the portable EDGs: 1) pre-start procedural and operator training issues (i.e. engine priming, fluid and temperature checks), 2) battery and controller preventive maintenance issues (i.e. replacement PMs and inspections), 3) temperature control and block heater issues, and 4) load testing and runtime deficiencies as informed by the EDG vendors. The inspectors also concluded that these themes, along with examples of delayed or deferred actions in the corrective action program to address these issues, were resulting in decreased portable EDG reliability and availability. PSEG documented the inspector's observations related to the EDG themes in NOTF 20883071* as well as NOTFs related to specific individual CAP performance aspects of the above examples.

For these reviews of portable EDG issues, the inspectors noted that PSEG entered them into their CAP. These observations, where contrary to PSEG's requirements or standards in CAP implementation, were determined to be minor performance deficiencies in accordance with NRC IMC 0612, and were not subject to enforcement action in accordance with the NRC's Enforcement Policy. However, separate from these observations, the inspectors documented one NCV of very low safety significance in this inspection report associated with this review.

EXIT MEETINGS AND DEBRIEFS

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

- On September 30, 2021, the inspectors presented the integrated inspection results to Dave Sharbaugh and other members of the licensee staff.
- On July 15, 2021, the inspectors presented the Solid Waste Processing, Handling, Storage, and Transportation Inspection Debrief inspection results to Richard DeSanctis, Plant Manager and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.15	Corrective Action Documents	20869261		02/02/2021
		70204764-0100	Common Cause Evaluation: Containment Fan Cooling Unit (CFCU) Elevated Fan Bearing Temperatures	2
	NDE Reports	UT-12-055	23-STG-LHTS, Lower Head to Tube Sheet (23 SG)	10/25/2012
		UT-18-025	23-STG-LHTS, Tube Sheet to Head Weld (23 SG)	10/24/2018
		VE-08-027	23-STG-LHTS, Lower Head to Tube Sheet	04/15/2008
	Operability Evaluations	20-002	Salem Unit 2 Steam Generator PWHT	2
Work Orders	70211359	Update Salem 2 design basis analyses upon receipt of anticipated weld residual stress and mechanical testing results		
71124.08	Corrective Action Documents	20856376	Notification for Unit 2 ion exchange filter hoist leaking oil onto motor.	07/29/2020
		20877304	Notification for low lighting in LRW processing area.	Updated 07/12/2021
		20881095	Notification to review Unit 1 valve number 1SJ110 inactive leak onto FLEX equipment below it.	07/12/2021
		20881331	Notification to review "A" building crack in blocks going up the side of the building.	07/13/2121
		20881353	Notification of observation of birds nesting in Unit 1 emergency diesel generator building air intake vents.	07/15/2021