UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE RD, STE 102
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

July 23, 2025

Charles McFeaters
President and Chief Nuclear Officer
PSEG Nuclear, LLC - N09
P.O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION – INTEGRATED INSPECTION REPORT 05000354/2025002

Dear Charles McFeaters:

On June 30, 2025, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Hope Creek Generating Station. On July 16, 2025, the NRC inspectors discussed the results of this inspection with Eric Larson, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

Two findings of very low safety significance (Green) are documented in this report. Two of these findings involved violations of NRC requirements. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or the significance or severity of the violations 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 Hope Creek Generating Station.

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 Hope Creek Generating Station.

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,

NICOLE WARNEK

Digitally signed by NICOLE WARNEK
Date: 2025.07.23 09:29:55 -04'00'

Nicole S. Warnek, Chief
Projects Branch 3
Division of Operating Reactor Safety

Docket No. 05000354
License No. NPF-57

Enclosure:
As stated

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number:	05000354
License Number:	NPF-57
Report Number:	05000354/2025002
Enterprise Identifier:	I-2025-002-0037
Licensee:	PSEG Nuclear, LLC
Facility:	Hope Creek Generating Station
Location:	Hancocks Bridge
Inspection Dates:	April 1, 2025 to June 30, 2025
Inspectors:	J. Bresson, Resident Inspector P. Finney, Senior Resident Inspector B. Ford, Project Engineer R. Rolph, Senior Health Physicist
Approved By:	Nicole S. Warnek, 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 Hope Creek Generating Station, 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

Improper Procedure Implementation Resulted in Emergency Diesel Generator Output Breaker Trip			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000354/2025002-01 Open/Closed	[H.12] - Avoid Complacency	71111.24
A self-revealed Green finding and associated non-cited violation (NCV) of Hope Creek Generating Station Technical Specification (TS) 6.8.1, "Procedures and Programs," was identified when PSEG improperly implemented their procedure HC.OP-ST.KJ-0001, "Emergency Diesel Generator 1AG400 Operability Test," Revision 85, which resulted in an emergency diesel generator (EDG) output breaker trip.			

Inadequate Maintenance Strategy Resulted in Emergency Diesel Generator Inoperability			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000354/2025002-02 Open/Closed	[P.5] - Operating Experience	71152A
A self-revealed Green finding and associated NCV of TS 6.8.1, "Procedures and Programs," was identified when PSEG did not establish an effective preventative maintenance (PM) schedule to ensure the reliability of the K3 rotary relay used in a safety-related system which resulted in the inoperability and unplanned unavailability of the 'A' EDG.			

Additional Tracking Items

None.

PLANT STATUS

Unit 1 began the inspection period at rated thermal power. On May 16, 2025, the unit was reduced to 86 percent for an 'A' south circulating waterbox leak. Following repairs and a control rod pattern adjustment, the unit returned to 100 percent power on May 18, 2025. On June 20, 2025, the unit was reduced to 84 percent power for a control rod pattern adjustment. The unit returned to 100 percent power the following day. Unit 1 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

71111.01 - Adverse Weather Protection

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

(1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal warm temperatures for the following systems:
- Control room chilled water on June 18, 2025
- Control room ventilation on June 18, 2025

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (4 Samples)

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

(1) Condensate and feedwater before the semi-annual startup level control valve stroke, May 8, 2025
(2) 4kV vital buses during scheduled 'B' EDG inoperability, May 14, 2025
(3) Service water 'A' loop during 'B' service water loop unavailability, week of May 19, 2025
(4) 'A' core spray loop during 'B' core spray loop unavailability, June 17, 2025

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) Laydown area, real basin, reactor pressure vessel head wash down area, and cask wash down area, fire plan 3471, April 15, 2025
(2) Turbine building, fire plan 3111, April 23, 2025
(3) Auxiliary building battery and inverter rooms, fire plan 3551, April 29, 2025
(4) High pressure coolant injection (HPCI) room, fire plan 3413, June 6, 2025

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 during a sixteen percent power reduction for a control rod pattern adjustment on June 20, 2025

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

(1) The inspectors observed and evaluated licensed operator performance during a simulator evaluation on May 13, 2025

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 remain capable of performing their intended function:

(1) North plant vent repeated inoperability, April 21, 2025

Quality Control (IP Section 03.02) (1 Sample)

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

(1) 'A' EDG lube oil pressure transmitter part quality and failure on August 28, 2024, sampled on June 30, 2025

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (5 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) Elevated risk during scheduled HPCI inoperability for battery charger testing, April 1, 2025
(2) Extended unavailability of the 1AK107 service air compressor mitigated with a temporary air compressor, April 16, 2025
(3) Elevated risk during scheduled activity on 1AD413 battery charger, April 29, 2025
(4) Elevated risk during emergent work on 'A' EDG due to an output breaker trip, April 29, 2025
(5) Elevated risk during scheduled activity on 'B' EDG, May 13, 2025

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (4 Samples)

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

(1) 'C' suppression chamber-to-drywell vacuum breaker due to one of two positions indicating open, April 2, 2025
(2) 'A' EDG due to lube oil keepwarm pump noise, associated support u-bolt broken, and supply valve handwheel broken, April 8, 2025
(3) 'D' automatic depressurization system safety relief valve due to elevated tailpipe temperature, April 15, 2025
(4) 'B' EDG operability with engineering justification performed due to a fuel oil leak, June 17, 2025

71111.24 - Testing and Maintenance of Equipment Important to Risk

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

Post-Maintenance Testing (PMT) (IP Section 03.01) (5 Samples)

(1) Troubleshooting and repairs to 'A' EDG output breaker following trip during surveillance, April 30, 2025
(2) 'C' filtration, recirculation, and ventilation system following high-efficiency particulate air filter replacement, May 6, 2025
(3) 'B' EDG following maintenance window, May 15, 2025
(4) 'D' spray water pump pullout assembly replacement, May 22, 2025
(5) 'B' EDG 24-hour surveillance run following lube oil strainer elements replacement, June 11, 2025

Surveillance Testing (IP Section 03.01) (3 Samples)

(1) HC.MD-ST.OJ-0006, "Preventive Maintenance of 250 Volt Battery Chargers Using BCT-200 with Alber Windows Software and Associated Surveillance Testing," for the HPCI battery charger, April 2, 2025
(2) HC.IC-CC.BD-0006, "Reactor Core Isolation Cooling Division 2 Channel E51-N035A(E) Condensate Storage Tank Low Level," April 17, 2025
(3) HC.IC-SC.BG-0008, "Crack Arrest Verification system discharge flow to reactor water cleanup," April 23, 2025

Inservice Testing (IST) (IP Section 03.01) (1 Sample)

(1) HC.OP-IS-EA-0004, "D Service Water Pump - DP502 - Inservice Test," May 22, 2025

Diverse and Flexible Coping Strategies (FLEX) Testing (IP Section 03.02) (1 Sample)

(1) FLEX air compressor periodic test, June 24, 2025

71114.06 - Drill Evaluation

Required Emergency Preparedness Drill (1 Sample)

The inspectors evaluated:

(1) Conduct of a routine PSEG emergency preparedness drill, H25-01, on June 3, 2025

Additional Drill and/or Training Evolution (1 Sample)

The inspectors evaluated:

(1) Simulator training evolutions for licensed operators on April 7, 2025

RADIATION SAFETY

71124.07 - Radiological Environmental Monitoring Program

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

(1) (Partial)
The inspectors evaluated the implementation of the PSEG's radiological environmental monitoring program. Specifically, the inspectors observed fish and water sampling. The remaining samples will be observed in the third quarter of 2025.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

(1) April 1, 2024 through March 31, 2025

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

(1) July 1, 2024 through March 31, 2025

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (1 Sample)

(1) April 1, 2024 through March 31, 2025

BI02: RCS Leak Rate Sample (IP Section 02.11) (1 Sample)

(1) April 1, 2024 through March 31, 2025

71152A - Annual Follow-up Problem Identification and Resolution

Annual Follow-up of Selected Issues (Section 03.03) (2 Samples)

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

(1) Follow-up on licensed operator requalification failure rate (Green FIN 05000354/2024004-01, Agencywide Documents Access Management System (ADAMS) Accession No. ML25041A268), April 30, 2025
(2) 'A' EDG failure to flash its field on August 29, 2024, sampled on May 27, 2025

71152S - Semiannual Trend Problem Identification and Resolution

Semiannual Trend Review (Section 03.02) (1 Sample)

(1) The inspectors reviewed PSEG's corrective action program to identify potential trends that might be indicative of a more significant safety issue

INSPECTION RESULTS

Improper Procedure Implementation Resulted in Emergency Diesel Generator Output Breaker Trip			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000354/2025002-01 Open/Closed	[H.12] - Avoid Complacency	71111.24

A self-revealed Green finding and associated non-cited violation (NCV) of Hope Creek Generating Station Technical Specification (TS) 6.8.1, “Procedures and Programs,” was identified when PSEG improperly implemented their procedure HC.OP-ST.KJ-0001, “Emergency Diesel Generator 1AG400 Operability Test,” Revision 85, which resulted in an emergency diesel generator (EDG) output breaker trip.

Description: PSEG performs monthly surveillance on its four EDGs in accordance with TS Surveillance Requirement 4.8.1.1.2.g. On April 29, 2025, PSEG operators commenced the monthly ‘A’ EDG surveillance in accordance with procedure HC.OP-ST.KJ-0001. A second reactor operator was providing peer-checks, and the control room supervisor was observing the evolution. Procedure step 4.4.3.3 directs the operator to adjust EDG volts to slightly higher (0.5 of an increment, approximately 50 volts) than associated bus volts. This is to ensure that the incoming generator contributes reactive power to the grid rather than consuming it. When operators subsequently closed the output breaker in accordance with step 4.4.3.7, the breaker closed momentarily and then immediately tripped open. The control room received overhead alarms for diesel generator trouble and a diesel generator breaker malfunction. Field operators reported that the ‘A’ EDG output breaker was open, the 86T test lockout relay had activated, and that the low generator field current alarm for the ‘A’ EDG was in. Operators declared the ‘A’ EDG inoperable at 10:42 a.m. and entered TS Limiting Condition for Operation 3.8.1.1.b. At 1:26 p.m., PSEG removed the EDG from service for troubleshooting that included an instrumented run, relay and voltage transducer calibration checks, control room indications, and the 86T test lockout relay. However, further review of associated computer points A7084 and A7061 showed that the incoming voltage (EDG output) had been 4236 volts, and the running voltage (grid) had been approximately 100 volts higher than this, at 4332 volts, at the time of synchronization, contrary to the procedure. This caused the EDG output breaker to immediately trip open following closure. PSEG declared the 'A’ EDG operable at 3:18 a.m. on May 1, 2025, after successfully retesting the EDG via the HC.OP-ST.KJ-0001 procedure.

Inspectors determined the trip of the output breaker was preventable and resulted in approximately 41 hours of EDG inoperability.

Corrective Actions: PSEG remediated an operator and issued an interim standing order directing that EDG synchronization be briefed and marked as a critical step. PSEG subsequently revised EDG surveillance test procedures to add a supervisor hold point to validate EDG parameters are sufficient for synchronization with offsite sources.

Corrective Action References: Notifications (NOTFs) 20992390, 20992361, 20994720, 20992660, and 20992382 through 20992389. Work orders 60163772, 70240307 and 70241465.

Performance Assessment:

Performance Deficiency: The inspectors determined that PSEG's improper implementation of procedure HC.OP-ST.KJ-0001 by not ensuring that EDG voltage was higher than the bus voltage prior to output breaker closure was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Human 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. Specifically, improperly implementing the procedure resulted in unplanned inoperability of the ‘A' EDG for approximately 41 hours.

Significance: The inspectors assessed the significance of the finding using IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” Specifically, the inspectors reviewed Exhibit 2, “Mitigating Systems,” and determined the finding to be of very low safety significance (Green,) because all questions in section A were answered “no" despite the loss of ‘A’ EDG operability.

Cross-Cutting Aspect: H.12 - Avoid Complacency: Individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Individuals implement appropriate error reduction tools. Specifically, licensed operators did not identify and mitigate error-precursors nor use available voltage parameter computer points as an additional means of voltage verification.

Enforcement:

Violation: TS 6.8.1 states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, February 1978. RG 1.33, section 4.w requires procedures for startup, operation, and shutdown of safety-related boiling water reactor systems, including onsite emergency power sources such as EDGs. PSEG implements this TS, in part, using procedure HC.OP-ST.KJ-0001. Contrary to the above, on April 29, 2025, PSEG improperly implemented procedure step 4.4.3.3 to adjust 'A’ EDG volts to slightly higher than associated bus volts. As a result, the EDG output breaker tripped open after closure and resulted in its inoperability.

Enforcement Action: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Inadequate Maintenance Strategy Resulted in Emergency Diesel Generator Inoperability			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000354/2025002-02 Open/Closed	[P.5] - Operating Experience	71152A

A self-revealed Green finding and associated NCV of TS 6.8.1, “Procedures and Programs,” was identified when PSEG did not establish an effective preventative maintenance (PM) schedule to ensure the reliability of the K3 rotary relay used in a safety-related system which resulted in the inoperability and unplanned unavailability of the 'A' EDG.

Description: Each of Hope Creek's four EDGs are equipped with a field flashing circuit required during an EDG starting sequence. On August 27, 2024, at 2:42 a.m., the ‘A’ EDG was placed into service using procedure HC.OP-ST.KJ-0014, “24 Hour Operability Run and Hot Restart Test,” Revision 38. The 'A' EDG completed the 24-hour run but experienced a separate equipment issue during shutdown. Following repairs, the 'A' EDG was restarted on August 29, 2024, at 9:10 a.m., removed from service at 12:18 p.m., and restarted at 12:21 p.m. for the hot restart. Upon restart, the ‘A’ EDG generator voltage, frequency, and generator field voltage did not indicate in the main control room nor on the ‘A’ EDG local panels. While field technicians reported there was no EDG data captured on the chart recorder, operators confirmed that the ‘A’ EDG had started. Approximately twelve minutes later, the voltage, frequency, and field voltage were indicating normal in the main control room and technicians reported that the chart recorder had captured data for this condition. At

12:45 p.m., PSEG declared the ‘A’ EDG inoperable and entered an unplanned unavailability period based on not meeting the acceptance criteria of HC.OP-ST.KJ-0014 and TS Surveillance Requirement 4.8.1.1.2k. PSEG troubleshooting determined that the cause of the field flash failure was the K3 relay coil’s failure to deenergize and provide the permissive signal for the ‘A’ EDG field to flash. Subsequent to this, PSEG completed an Equipment Reliability Evaluation (ERE 70237148) on the condition.

PSEG determined that the direct cause of the delayed field flash was age-related degradation within the K3 motor driven rotary (MDR) relay manufactured by Potter and Brumfield. The failed K3 relay had been original plant equipment and in-service for 38 years. Inspectors reviewed ERE 70237148 and noted that a PM plan PM 70101586-0014 had been developed to replace the ‘A’ EDG power chassis every 16 years and that the K3 relay is a sub-component of the power chassis assembly. However, this PM had been discontinued under PM Change Request (PCR) 80115269-1371 in January 2016. The inspectors reviewed the PCR and noted that due to parts unavailability and resources, the power chassis replacement had been deferred numerous times. PSEG staff reasoned in the PCR that 24-month electrical inspections would adequately address commonly seen industry failures and, therefore, the PM scope was changed to 24-month electrical EDG inspections. After reviewing the associated PSEG inspection procedure HC.MD-PM.KJ-0005, “Standby (Emergency) Diesel Generator – Inspection," Revision 30, inspectors noted that preventive maintenance guidelines were not provided for relays and maintenance had never been conducted on the K3 relay within the power chassis assembly.

The ERE also documented that the K3 rotary relay did not have a component classification. Based on the lack of component classification, a PM strategy was not developed, and the component was therefore run-to-maintenance. The inspectors reviewed PSEG procedures regarding equipment classification to understand how PM schedules were determined. ER-AA-210, “Preventative Maintenance (PM) Program,” Revision 4, step 4.1.2 requires equipment classification to be performed in accordance with ER-AA-1001, “Component Classification,” Revision 9. ER-AA-1001 step 2.3.1 requires a component to be classified as critical if its failure results in the failure of a mitigating system performance index monitored component or a maintenance rule risk-significant function, both of which apply to the EDGs. In addition, ER-AA-1001, step 1.2.3 states that component classification provides equipment reliability by developing maintenance strategies and provides details in its Attachment 5, Reliability and Maintenance Implementation Strategy. Per Attachment 5, critical components “maintenance strategies should be implemented to prevent all potential failure modes."

As part of the ERE, PSEG determined that it had not evaluated external operating experience, specifically an EPRI Topical Report and an NRC Information Notice (IN). EPRI Topical Report 1022972, released in 2011, recommended a time-based PM strategy of nine years for Potter and Brumfield MDR relays that are classified as a critical component with a high-duty cycle. NRC IN 92-04, dated January 1992, outlined common Potter and Brumfield MDR relay failures and cited a secondary failure mechanism as intermittent continuity of electrical contacts as well as relay rotor binding immediately after a surveillance test. The ERE identified this NRC IN 92-04 operating experience as related to the 'A' EDG K3 relay’s delayed contact actuation and ultimate failure. PSEG reviews operating experience in accordance with station procedure LS-AA-115, “Operating Experience Program,” Revision 22. Step 4.1.2 of that procedure states, “review the INPO and NRC websites, and other sources of correspondence, for new OE to share with organization.” Furthermore, step 4.4.9 states, “ENSURE that industry operating experience documents related to EPRI, BWR/PWR, and EDG User Groups are reviewed for applicability.”

Corrective Actions: To return the 'A' EDG to an operable condition, PSEG replaced the K3 relay and retested the engine, including a hot restart, on September 1, 2024.

Corrective Action References: NOTF 20981666 and Work Order 70237148

Performance Assessment:

Performance Deficiency: The inspectors determined that not establishing an adequate PM schedule for the ‘A’ EDG K3 relay as required by ER-AA-210, “Preventative Maintenance (PM) Program,” Revision 4 and ER-AA-1001, “Component Classification," was a performance deficiency. Specifically, PSEG did not appropriately classify the K3 relay as a critical component and did not establish an effective PM strategy, as required by station procedures.

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. Specifically, the K3 relay and associated field flash failure affected the 'A' EDG's reliability and capability and resulted in its inoperability and unplanned unavailability.

Significance: The inspectors assessed the significance of the finding using IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power.” The inspectors used Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” and determined this finding is of very low safety significance, Green, because the degraded condition represented a loss of probabilistic risk analysis function of one train of a multi-train TS system for less than the allowed outage time.

Cross-Cutting Aspect: P.5 - Operating Experience: The organization systematically and effectively collects, evaluates, and implements relevant internal and external operating experience in a timely manner. Specifically, PSEG had not used NRC and EPRI operating experience to understand potential K3 relay challenges and effectively implement the operating experience in a PM strategy.

Enforcement:

Violation: TS 6.8.1, “Procedures and Programs,” requires, in part, that written procedures shall be established, implemented, and maintained covering the activities referenced in the applicable procedures recommended in Appendix A of RG 1.33, “Quality Assurance Program Requirements (Operation),” Revision 2, February 1978. RG 1.33 Revision 2, Appendix A, Section 9, “Procedures for Performing Maintenance,” requires, in part, that PM schedules should be developed to specify replacement of parts that have a specific lifetime. Contrary to this, from November 21, 2017, to September 1, 2024, PSEG did not develop an effective PM schedule for the ‘A’ EDG K3 relay as required by station procedures ER-AA-210 and ER-AA-1001.

Enforcement Action: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy.

Observation: Semi-Annual Trend Observations	71152S

The inspectors performed a semi-annual review of site issues to identify trends that might indicate the existence of more significant safety concerns. As part of this review, the inspectors included repetitive or closely related issues documented by PSEG in their corrective action program database, trend reports, major equipment problem lists, system health reports, and maintenance or corrective action program backlog. PSEG documented several cognitive trends during the first half of 2025 that included probabilistic risk analyses gaps identified by NRC inspectors (NOTF 20990988), fire watch issues (NOTFs 20991410, 20993968), and circulating water piping leaks that sometimes required minor power reductions to resolve (NOTFs 20991787, 20993448, 20993931, and 20993954).

NRC Special Reports

Inspectors identified a potential adverse trend given that there were two equipment issues during the second quarter of 2025 that resulted in required NRC special reports in accordance with TS 6.9.2. One report concerned the North Plant Vent inoperable for more than 72 hours in accordance with TS 3.3.7.5, action 81.b (NOTF 20991698) and the other concerned EDG cathodic protection inoperable for more than 30 days in accordance with TS 3.8.1.1.h (NOTFs 20991298, 20992356, and 20992442).

EDGs

In the 4th quarter of 2024, inspectors documented a potential adverse trend in the EDG system (ML25041A268). During the first quarter of 2025, there was a water intrusion into the 'D' EDG lube oil and an associated NRC Special Inspection (ML25122A007). On April 20, 2025, PSEG wrote NOTF 20992362 determining there had been a lack of progress in addressing Corporate Functional Area Manager concerns regarding EDG system health.

Procedure Use and Adherence

In the 4th quarter of 2024, inspectors documented a potential adverse trend in this area (ML25041A268). During the first half of 2025, PSEG conducted two human performance standdowns regarding procedure use and adherence. The first occurred in May for a series of maintenance and radiological protection department issues (NOTFs 20992550, 20992329, 20991347, and 20994339). A second standdown occurred in June for a series of operations department issues (NOTFs 20995522, 20995048, and 20992361) that included the EDG output breaker trip documented as a Green NCV, above.

Problem Identification

Inspectors identified a potential adverse trend in procedurally-driven problem identification based on three cases. On April 6, 2025, PSEG identified that the 'A' EDG lube oil keepwarm pump had a broken suction line u-bolt. By way of inspection, inspectors identified that the pump had operated at vibration levels that exceeded a threshold three times without a NOTF being written contrary to station guidance (NOTF 20992365). During an NRC special inspection in the first half of 2025, inspectors identified a Green NCV when PSEG did not generate NOTFs and enter them into the corrective action program to document abnormal lubricating oil analysis results (05000354/2025050-01, ML25122A007). Finally, PSEG identified that staff had not written a NOTF for 'D' EDG lube oil filter differential pressure exceeding procedural requirements on January 23, 2025 (Work Order 70239337).

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

EXIT MEETINGS AND DEBRIEFS

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

- On July 16, 2025, the inspectors presented the integrated inspection results to Eric Larson, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Corrective Action Documents Resulting from Inspection	20994588 20995023		
71111.04	Corrective Action Documents Resulting from Inspection	20993126 20993125 20992892 20992893 20993765 20993764 20994837		
71111.05	Corrective Action Documents Resulting from Inspection	20990934 20991027 20990795 20990942 20991300 20991120 20991119 20990908 20992261 20992469 20992893 20993334 20994931		
71111.11Q	Corrective Action Documents Resulting from Inspection	20992198		
71111.11Q	Corrective Action Documents Resulting from Inspection	20993006 20994595		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.12	Corrective Action Documents Resulting from Inspection	20992365		
71111.13	Corrective Action Documents Resulting from Inspection	20988904 20990988 20992657		
71111.15	Corrective Action Documents Resulting from Inspection	20992856		
71111.24	Corrective Action Documents Resulting from Inspection	20991709 20992130 20992231 20992324 20992326 20992325 20994827 20994778 20994747 20994786 20995735		
71151	Corrective Action Documents Resulting from Inspection	20992415		
71152A	Corrective Action Documents Resulting from Inspection	20991325 20992879		