UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

July 24, 2023

R. Keith Brown
Regulatory Affairs Director
Southern Nuclear Operating Company, Inc.
3535 Colonnade Parkway
Birmingham, AL 35243

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000424/2023002 AND 05000425/2023002

Dear Keith Brown:

On June 30, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant, Units 1 and 2. On July 19, 2023, the NRC inspectors discussed the results of this inspection with Sonny Dean, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

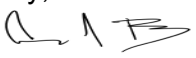
Two findings of very low safety significance (Green) are documented in this report. Both findings involved violations of NRC requirements. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

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 II; the Director, Office of Enforcement; and the NRC Resident Inspector at Vogtle Electric Generating Plant, 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 II; and the NRC Resident Inspector at Vogtle Electric Generating Plant, 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,



Signed by Blamey, Alan
on 07/24/23

Alan J. Blamey, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 05000424 and 05000425
License Nos. NPF-68 and NPF-81

Enclosure:
As stated

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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2 – INTEGRATED INSPECTION REPORT 05000424/2023002 AND 05000425/2023002 DATED July 24, 2023

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DATE	7/21/2023	7/19/2023	7/24/2023		

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000424 and 05000425
License Numbers:	NPF-68 and NPF-81
Report Numbers:	05000424/2023002 and 05000425/2023002
Enterprise Identifier:	I-2023-002-0029
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Vogtle Electric Generating Plant, Units 1 and 2
Location:	Waynesboro, GA
Inspection Dates:	April 01, 2023, to June 30, 2023
Inspectors:	A. Alen, Senior Project Engineer W. Deschaine, Senior Resident Inspector P. Gresh, Emergency Preparedness Inspector T. Morrissey, Senior Resident Inspector E. Robinson, Resident Inspector C. Safouri, Senior Resident Inspector B. Truss, Resident Inspector J. Walker, Sr Emergency Preparedness Inspector
Approved By:	Alan J. Blamey, Chief Reactor Projects Branch 2 Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Vogtle Electric Generating Plant, 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 Maintain Assessment Capability of Containment Hydrogen Monitors			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Emergency Preparedness	Green NCV 05000424/2023002-01 Open/Closed	[H.12] - Avoid Complacency	71114.04
A Green self-revealing finding and associated non-cited violation (NCV) of 10 CFR 50.54(q)(2) was identified for the licensee's failure to follow and maintain the effectiveness of an emergency plan that meets the requirements of the planning standard 50.47(b)(4). Specifically, the licensee implemented a modification to the unit 1 main steam isolation valves that inadvertently rendered both trains of the containment hydrogen monitor system non-functional. As a result, the ability to assess containment barrier status and its corresponding emergency action level based on the presence of hydrogen as determined by the containment hydrogen monitor system was not available.			

Emergency Diesel Generator Control Air Pressure Gauge not Calibrated			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000424,05000425/2023002-02 Open/Closed	None (NPP)	71152A
A Green self-revealing finding and associated NCV of Technical Specification 5.4.1.a, "Procedures" was identified for the licensee's failure to establish and implement procedures to ensure that the pressure gage used to monitor and control the standby status of the emergency diesel generators' overspeed trip pneumatic circuit was controlled and calibrated.			

Additional Tracking Items

None.

PLANT STATUS

Unit 1 began the inspection period at approximately 68 percent rated thermal power (RTP) while in the process of raising power after a planned refueling outage (1R24, March 2023). The unit reached RTP on April 1, 2023. On May 23, 2023, the unit was down powered to approximately 92 percent for quarterly main turbine valves stroke test and returned to RTP on May 24, 2023. On June 24, 2023, the unit was shut down for a maintenance outage to address pressurizer code safety valve leakage. The unit was restarted on June 28, 2023, and returned to RTP on June 29, 2023. The unit remained at or near RTP for the remainder of the inspection period.

Unit 2 began the inspection period at RTP. On May 25, 2023, the unit was down powered to approximately 92 percent for quarterly main turbine valves stroke test and returned to RTP on May 26, 2023. The unit remained at or near RTP 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 hot temperatures for the following units 1 and 2 systems on June 1, 2023:
- emergency diesel generator (EDG)
- nuclear service cooling water (NSCW)

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 2, train "A" EDG while train "B" EDG was out of service (OOS) to repair a jacket water pump seal leak, on April 6, 2023.

(2) Unit 1, train "A" auxiliary feedwater (AFW) and turbine-driven AFW trains while train "B" AFW was OOS for planned maintenance, on April 27, 2023.
(3) Unit 2, train "A" AFW and turbine-driven AFW trains while train "B" AFW was OOS for maintenance, on May 30, 2023.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (6 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 Zones 76/77A/77B/78A/78B/71. Unit 1 control building train A/B battery rooms and switchgear rooms, on April 4, 2023.
(2) Fire Zones 56A/56B/79A/79B/83/152. Unit 1 control building train C/D battery rooms and switchgear rooms, on April 4, 2023.
(3) Fire Zones 144/162/164. Unit 2 train "B" EDG tunnel (2T4B), EDG fuel oil day tank room, and EDG building, on May 3, 2023.
(4) Fire Zones 26B/30/31/32/33. Unit 2 auxiliary building train "A" and "B" safety injection pumps, auxiliary component cooling water (ACCW) pumps, and piping penetration rooms, on May 18, 2023.
(5) Fire Zones 99/104/45/39A. Unit 1 north and south main steam and feed valve rooms, on May 28, 2023.
(6) Fire Zones 60/61/62/63/64/82. Unit 1 control building level "B" east and west penetration areas, on May 31, 2023.

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 unit 1 main control room during a down-power and shut down of the unit for a maintenance outage to address "A" and "C" pressurizer code safety relief valve leakage on June 23-24, 2023.

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

(1) The inspectors observed and evaluated a simulator scenario consisting of a loss of a heater drain pump, an NSCW pump shaft shear, loss of one 4.16-kilovolt '1E' bus and a large break loss of coolant accident (LOCA), on May 8, 2023.

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) Maintenance rule periodic evaluation (Title 10 CFR 50.65(a)(3)) for the period of May 27, 2021, through November 23, 2022.

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 2, train "A" EDG governor valve modification. Work Orders (WO) SNC1219071, SNC1461926, SNC1461929, SNC1464717, SNC1455310, and SNC1461931 on June 22, 2023.

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, elevated risk due to train "B" EDG OOS due to an emergent work to replace the jacket water pump mechanical seal, on April 6, 2023.
(2) Unit 2, elevated risk due to train "A" NSCW fan 1 OOS for replacement, on May 16 and 17, 2023.
(3) Unit 1, elevated risk after train "B" EDG output breaker failed to close during surveillance testing on May 25, 2023.
(4) Unit 2, elevated risk due to train "A" EDG OOS for planned maintenance, on June 5 through June 12, 2023.

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) Condition report (CR) 10963675. Unit 1 train "A" EDG failed to start during surveillance testing, on April 11, 2023.
(2) CR 10960215. Unit 1 main steam isolation valve (MSIV) stroke times not within 0.25 seconds of vendor curve, April 18, 2023.
(3) CR 10964761. Unit 2 train "A" component cooling water (CCW) pump no. 3 rising vibrations (pump inboard bearing vertical vibrations) on May 16, 2023.
(4) CR 10974501. Unit 1 train "B" EDG output breaker would not close, on May 26, 2023.

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) SNC1460046, MSIV 1HV-3006A temporary modification (threaded plug leak repair), on April 13, 2023.

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage Sample (IP Section 03.01) (1 Sample)

(1) The inspectors evaluated unit 1 planned maintenance outage activities associated with repair of pressurizer code safety valve leakage from June 24 to June 28, 2023.

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) (7 Samples)

(1) Procedure 14802A-1, "Train A NSCW Pump/Check Valve IST and Response Time Test," (NSCW pump no. 3 and inservice test (IST) only) after train "A" NSCW pump no. 3 outage; WOs SNC1186230, SNC750776 and SNC1138812, on April 19, 2023.
(2) 14670B-1, "Diesel Generator 1B Hot Restart Test," after gasket repair; WOs SNC1458848 and SNC1227257, on April 25, 2023.
(3) 14825-1, "Quarterly Inservice Valve Test," and 14545B-1, "Motor Driven Auxiliary Feedwater Pump B Monthly Operating Test," following system outage; WOs SNC1001100, SNC998958 and SNC998961, on April 28, 2023.
(4) 23921-2, "Diesel Generator Train B Engine Control Panel Pressure Switch Calibration," (section 5.3), following replacement of unit 2 train "B" EDG 'lube oil pressure sensor malfunction' pressure switch, PS-48N; WO SNC1465110, on May 3, 2023.
(5) 14430-2, "NSCW Cooling Tower Fans Monthly Test" following replacement of unit 2 train "A" NSCW fan no. 1; WO SNC854251, on May 17, 2023.
(6) 14545B-2, "Motor Driven Auxiliary Feedwater Pump B Monthly Operability Test" and 14870B-2 "Train B Motor Driven Auxiliary Feedwater Pump/Check Valve Inservice and Response Time Test" following unit 2 train "B" system outage; WOs SNC413318, and SNC1084300, on May 31, 2023.
(7) WO SNC1219051. Functional test no. 3 after permanent modification to the unit 2 EDG train "A" governor on June 12, 2023.

Surveillance Testing (IP Section 03.01) (3 Samples)

(1) Procedure 88006-C, "Control Rod Drop Testing," (unit 1 hot rod drop test during refueling outage 1R24), on April 4, 2023.
(2) 11881-1, "Unit 1 Auxiliary Building Rounds," on April 11, 2023.
(3) 14670B-2 "Diesel Generator 2B Hot Restart Test," on June 1, 2023.

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

(1) Procedure 14804B-2, "Safety Injection Pump B Inservice and Response Time Test," (sections 5.1, 5.3, and 5.4) on May 2, 2023.

Reactor Coolant System Leakage Detection Testing (IP Section 03.01) (1 Sample)

(1) Procedure 14905-1 (Unit 1), “RCS Leakage Calculation (Inventory Balance),” on June 22, 2023.

71114.02 - Alert and Notification System Testing

Inspection Review (IP Section 02.01-02.04) (1 Sample)

(1) The inspectors evaluated the maintenance and testing of the alert and notification system during the week of April 10, 2023.

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

(1) The inspectors evaluated the readiness of the Emergency Preparedness Organization (ERO) during the week of April 10, 2023.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

(1) The inspectors evaluated submitted Emergency Action Level (EALs), Emergency Plan, and Emergency Plan Implementing Procedure changes during the week of April 10, 2023. This evaluation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

(1) The inspectors evaluated the maintenance of the emergency preparedness program during the week of April 10, 2023.

71114.06 - Drill Evaluation

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

(1) On May 23, 2023, the inspectors evaluated an emergency preparedness drill in the simulator and technical support center. The drill involved a loss of a reactor coolant pump, an automatic reactor trip, a large break LOCA and a failed containment penetration. The drill scenario resulted in an 'Alert,' 'Site Area Emergency,' and ‘General Emergency' declarations and 'Protective Action Recommendations' notifications to the State of Georgia and surrounding counties.

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

The inspectors evaluated:

(1) On May 8, 2023, the inspectors evaluated a licensed operator continuing training dynamic simulator scenario that included a large break LOCA resulting in an 'Alert' declaration and notification to the State of Georgia and surrounding counties.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (2 Samples)

(1) Unit 1 (April 1, 2022, through March 31, 2023).
(2) Unit 2 (April 1, 2022, through March 31, 2023).

BI02: RCS Leak Rate Sample (IP Section 02.11) (2 Samples)

(1) Unit 1 (April 1, 2022, through March 31, 2023).
(2) Unit 2 (April 1, 2022, through March 31, 2023).

EP01: Drill/Exercise Performance (DEP) Sample (IP Section 02.12) (1 Sample)

(1) April 1, 2022, through December 31, 2022

EP02: Emergency Response Organization (ERO) Drill Participation (IP Section 02.13) (1 Sample)

(1) April 1, 2022, through December 31, 2022

EP03: Alert And Notification System (ANS) Reliability Sample (IP Section 02.14) (1 Sample)

(1) April 1, 2022, through December 31, 2022

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) CR 10944804. Unit 1 train "A" emergency safety features chiller bearing high temperature alarm, ALB53-E07 on February 3, 2023.
(2) CR 10947064. Unit 1 train "A" EDG failed hot restart surveillance on February 9, 2023.

71152S - Semiannual Trend Problem Identification and Resolution

Semiannual Trend Review (Section 03.02) (1 Sample)

(1) The inspectors reviewed the licensee's CAP for potential adverse trends in Unit 1 reactor coolant system leakage that might be indicative of a more significant safety issue.

INSPECTION RESULTS

Failure to Maintain Assessment Capability of Containment Hydrogen Monitors			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Emergency Preparedness	Green NCV 05000424/2023002-01 Open/Closed	[H.12] - Avoid Complacency	71114.04

A Green self-revealing finding and associated non-cited violation (NCV) of 10 CFR 50.54(q)(2) was identified for the licensee's failure to follow and maintain the effectiveness of an emergency plan that meets the requirements of the planning standard 50.47(b)(4). Specifically, the licensee implemented a modification to the unit 1 main steam isolation valves (MSIVs) that inadvertently rendered both trains of the containment hydrogen monitor system non-functional. As a result, the ability to assess containment barrier status and its corresponding emergency action level (EAL) based on the presence of hydrogen as determined by the containment hydrogen monitor system was not available.

Description: On May 5, 2023, while performing surveillance testing it was discovered that the "B" train containment hydrogen monitor supply isolation valve (1HV2791A) would not stay open when its control switch was placed to open and then released. The licensee determined that a jumper for the valve's 'seal-in' circuit was missing. Further investigation identified that each of the following valves were also missing jumpers that prevented the valves from staying in the open position: supply isolation valves for the "A" train containment hydrogen monitor (1HV2792A, 1HV2792B) and the return isolation valve (1HV2793A) for the "B" hydrogen monitor. As a result of these conditions, neither unit 1 train of hydrogen monitors could be placed in service.

This condition was entered in the corrective action program as condition report (CR) 10970655. The licensee determined that the unit 1 MSIV actuator replacement modification (design change package (DCP) SNC965540) removed the jumpers during the previous refueling outage (1R24, March 2023). Removal of the jumpers was reviewed and inadvertently approved as part of the MSIV DCP electrical drawing changes because the jumpers were mistakenly thought to only affect the MSIVs undergoing the change. The licensee failed to recognize this error, and the resulting impact to the containment hydrogen monitors, during the design change review and verification process as required by the design verification process procedure, NMP-ES-042, Design Input and Verification Process, version 8.1. Specifically, step 3 of procedure section 4.3, "Design Verification Requirements," stated that design verification includes verifying that design output documents (i.e., drawings) incorporate all the identified design inputs and that the design is adequate. Changes to the design and function of the hydrogen monitor valves were not part of the design input for the modification. As a result, the hydrogen monitors were rendered non-functional as operators would be unable to place containment hydrogen monitors in service during a postulated accident. Containment hydrogen monitors are used to assess containment barrier status in the site's EAL's and the loss of this indication could impact the ability of emergency response organization to correctly classify a General Emergency.

Corrective Actions: The licensee developed and implemented temporary compensatory measures to operate the hydrogen monitors despite the design deficiency. Specifically, procedure 13130-1, “Post – Accident Hydrogen Control,” was revised to allow use of an operator aid to hold the hand switches for the affected valves in the open position in the event there is a need to place the hydrogen monitoring system in service. The licensee restored the jumpers during a planned unit 1 maintenance outage completed on June 28, 2023.

Corrective Action References: CR 10970655

Performance Assessment:

Performance Deficiency: The licensee’s failure to maintain configuration control of the hydrogen monitors, in accordance with NMP-ES-042, “Design Input and Verification Process,” Ver. 8.1, was necessary for the declaration of emergency events, in accordance with the site emergency plan, and was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the containment hydrogen monitors relied upon to make EAL declarations, per the site emergency plan, were rendered non-functional and resulted in an ineffective EAL.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix B, “Emergency Preparedness SDP.” Using Table 5.4.1 of the appendix the inspectors determined the finding was of very low safety significance (Green) because although the EAL was rendered ineffective, a General Emergency would still be declared in a timely and accurate manner based on the accident sequence and available redundant EAL’s used to assess containment barrier status.

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, the licensee’s design change verification efforts were not sufficient to recognize that the jumpers for the containment hydrogen monitor valves had been removed and instead focused on validating the function of the MSIV circuit.

Enforcement:

Violation: Title 10 of the Code of Federal Regulations, Part 50.54(q)(2) requires the license, in part, to follow and maintain the effectiveness of an emergency plan that meets the requirements of the planning standards of 10 CFR Part 50.47(b). Title 10 CFR 50.47(b)(4) requires, in part, a standard emergency classification and action level scheme, the bases of which include facility system parameters, and is in use by the nuclear facility licensee.

Contrary to the above, since March 5, 2023, when the MSIV modification was authorized for installation, the licensee failed to maintain the effectiveness of an emergency plan that met the planning standards of 10 CFR50.47(b). Specifically, as a result of an inadequately implemented design change of the MSIVs, the licensee failed to maintain the functionality of the Unit 1 containment hydrogen monitors, a facility system parameter relied upon by the licensee’s emergency classification and action level scheme for assessing and monitoring actual or potential offsite consequences of a radiological emergency.

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

Emergency Diesel Generator Control Air Pressure Gauge not Calibrated			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000424,05000425/2023002-02 Open/Closed	None (NPP)	71152A

A Green self-revealing finding and associated NCV of Technical Specification (TS) 5.4.1.a, "Procedures" was identified for the licensee's failure to establish and implement procedures to ensure that the pressure gage used to monitor and control the standby status of the emergency diesel generators' (EDG) overspeed trip pneumatic circuit was controlled and calibrated.

Description: While unit 1 was in Mode 1 on February 9, 2023, the licensee was testing the unit 1 train "A" (1A) emergency diesel generator (EDG) per procedure 14670A-1, "Diesel Generator 1A Hot Restart Test." The test satisfies TS Surveillance Requirement (SR) 3.8.1.14, which requires the licensee to demonstrate that the EDG can restart from a hot condition and achieve the required voltage and frequency within a specified time. After a successful start and run of the diesel (2-hr run fully loaded) the EDG was shut down but failed to start on the subsequent restart attempt. The diesel air start valves opened and rolled the engine as expected; however, the 'Failed to Start' alarm came in 20 seconds after the engine did not start. The EDG was declared inoperable and the condition was entered in the corrective action program as CR 10947064.

Immediately following shutdown of the engine, prior to the restart attempt, an air leak was noticed on the front standard of the engine near the pneumatic overspeed trip air regulator. Troubleshooting identified that the pressure gage downstream of the air regulator supplying the overspeed trip pneumatic circuit of the control air system was out of calibration and was not controlled under any preventive maintenance to ensure and maintain its accuracy. The indicated gage pressure was 60 pounds-per-square-inch gauge (psig) but actual pressure was above the maximum operating limit of 80-psig. The excessive pressure resulted in leakage past the diaphragm of a downstream 3-way valve that pressurized and extended the EDG's fuel rack shutdown cylinders and prevented the EDG from starting.

Approximately one hour before the test on February 9, 2023, maintenance technicians adjusted (per work order SNC1439322) the overspeed trip circuit air regulator to raise pressure to within the procedure's operating band of 55 to 80-psig, which had been identified low at 52-psig during operator rounds in December 2022 (captured in CR10934005). While the resulting condition (i.e., excessive control air pressure) did not impact the EDG's ability to initially start and run the inspectors determined that the EDG was rendered inoperable at the time the air regulator was adjusted because, at that point, the EDG no longer met SR 3.8.1.14, as demonstrated by the hot restart test failure and troubleshooting findings.

Corrective Actions: The licensee replaced the affected 3-way valves and deficient pressure gage (WO SNC1439923) and restored operability of the 1A EDG. Planned corrective actions included replacing the gages for the other EDGs (CR10968342), creating a preventative maintenance (PM) task to periodically replace the overspeed trip gage (PMCR 105184), and

to reduce the allowable overspeed trip pneumatic circuit pressure band to operate with additional margin from the upper 80psig limit (CR10968345).

Corrective Action References: CR 10947064

Performance Assessment:
Performance Deficiency: The licensee's failure to establish and implement procedures to control and ensure the calibration and accuracy of the pressure gage used to monitor and control the standby status of the EDGs' overspeed trip pneumatic circuit was a performance deficiency.

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 use of an uncontrolled pressure gage to monitor and control the standby status of the EDGs' overspeed trip pneumatic circuit resulted in the EDG's failure to satisfy the 'hot restart' SR and therefore rendered the EDG inoperable.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Utilizing Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding was of very low safety significance (i.e., Green) because all the questions in Section A, "Mitigating SSCs and PRA Functionality (except Reactivity Control Systems)," were answered no.

Cross-Cutting Aspect: Not Present Performance. No cross-cutting aspect was assigned to this finding because the inspectors determined the finding did not reflect present licensee performance.

Enforcement:

Violation: Technical Specification 5.4.1.a required, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978. Section 8.a of RG 1.33 states, in part, that procedures of a type appropriate to the circumstances should be provided to ensure that measuring and testing devices (including instruments and gauges) used in safety-related activities are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy.

Contrary to the above, since initial operation of units 1 and 2, the licensee failed to establish a procedure to assure that the permanently installed pressure gage for the EDGs' overspeed trip pneumatic control circuit was controlled, calibrated, and adjusted at specified periods to maintain accuracy and ensure that the EDGs were operated within their design and technical requirements.

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

EXIT MEETINGS AND DEBRIEFS

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

- On July 19, 2023, the inspectors presented the integrated inspection results to Sonny Dean, Site Vice President, and other members of the licensee staff.
- On April 13, 2023, the inspectors presented the emergency preparedness program inspection results to Sonny Dean, Site Vice President, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.05	Fire Plans	92844-2	Zone 144 - Diesel Generator Building - Electrical Tunnel - Train B - Fire Fighting Preplan	Rev. 2.2
		92862-2	Zone 162 - Diesel Generator Building Fire Fighting Preplan	Rev. 1.1
		92864-2	Zone 164 - Diesel Generator Building - Train B Diesel Fuel Oil Day Tank Fire Fighting Plan	Rev. 0.2
71111.11Q	Procedures	12004-1	Power Operation (Mode 1)	2/28/2023
		12006-1	Unit Cooldown to Cold Shutdown	4/14/2023
71111.24	Drawings	2X4DB121	P&I Diagram - Safety Injection System - System No. 1204	50.0
	Miscellaneous		2-1204-P6-004: TREND REPORTS for Group B Pump Vibes (PIH/PIV/POA/POH/POV) In./Sec. Date Range 5/16/2018 to 5/2/2023	May 2021 - May 2023
		ASME OMb Code-2006	Code for Operation and Maintenance of Nuclear Power Plants. Addenda ti ASME OM Code-2004	2006
		IST Data	1204-P6-004: TREND REPORT FOR Group B Pump Flowrate (Q) GPM. Date Range 5/4/2021 to 5/4/2023	May 2021 - May 2023
		IST Data	2-1204-P6-004: TREND REPORT FOR Group B Pump Delta P (dP) PSI. Date Range 5/4/2021 to 5/4/2023	May 2021 - May 2023
		MIS-17-009	Vogtle Electric Generating Plant 4th 10-Year IST (Inservice Testing) Program	Ver. 14.0
	Work Orders	SNC1394451	Unit 2 safety injection pump train B (21204P6004) and miniflow check valve (2-1204-U4-094) - Quarterly Inservice Test	05/02/2023
		SNC1433717	U1 Train A ESF Chiller bearing high temp ALB53-E07	2/23/2023
		SNC1436643	1A ESF Chiller Bearing High Temp ALB53-E07	2/3/2023
71151	Miscellaneous	Chemistry Analysis	Units 1 and 2 - RCS Filtrate DEI weekly analysis results (Date Range 04/01/2022 - 03/31/2023)	April 2022 - March 2023
		eSOMS Logs	Units 1 and 2 Control Room Narrative Logs for: 14905-1/2: RCS LEAKAGE CALCULATION, date range 04/01/2022 - 03/31/2023	04/01/2022 - 03/31/2023
71152S	Self-Assessments		Vogtle Excellence Plan	5/11/2023