



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

**REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200**

November 14, 2023

Jamie Coleman
Director, Fleet Regulatory Affairs
Southern Nuclear Operating Company, Inc.
3535 Colonnade Parkway, BIN 63031
Birmingham, AL 35243

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 3 – INTEGRATED
INSPECTION REPORT 05200025/2023003**

Dear Jamie Coleman:

On September 30, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant (VEGP), Unit 3. On October 24, 2023, the NRC inspectors discussed the results of this inspection with Mr. Glen Chick, VEGP Units 3 & 4 Executive 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. None of these findings involved a violation of NRC requirements.

A licensee-identified violation which was determined to be of very low safety significance is documented in this report. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC Resident Inspector at Vogtle Electric Generating Plant, Unit 3.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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, Unit 3.

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 Davis, Bradley
on 11/14/23

Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

Docket No. 05200025
License No. NPF-91

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 3 – INTEGRATED INSPECTION REPORT 05200025/2023003 dated November 14, 2023

DISTRIBUTION:

B. Kemker, DCO

R2EICS

RidsNrrPMVogtle Resource

RidsNrrDro Resource

RidsNrrVpo Resource

PUBLIC

ADAMS ACCESSION NUMBER: ML23318A458

<input checked="" type="checkbox"/> SUNSI Review		<input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive		<input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available	
OFFICE	RII: DCO	RII: DCO	RII: DCO		
NAME	B. Kemker	C. Even	B. Davis		
DATE	11/14/2023	11/09/2023	11/14/2023		

OFFICIAL RECORD COPY

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

Docket Number: 05200025

License Number: NPF-91

Report Number: 05200025/2023003

Enterprise Identifier: I-2023-003-0063

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant, Unit 3

Location: Waynesboro, GA

Inspection Dates: July 01, 2023, to September 30, 2023

Inspectors: B. Kemker, Senior Resident Inspector
J. Eargle, Senior Resident Inspector
B. Griman, Resident Inspector
J. Parent, Resident Inspector
J. England, Sr. Construction Inspector
S. Egli, Sr. Construction Inspector
J. Bell, Senior Health Physicist
J. Diaz-Velez, Senior Health Physicist
A. Nielsen, Senior Health Physicist
J. Rivera, Health Physicist

Approved By: Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

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, Unit 3, 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. A licensee-identified non-cited violation is documented in report section: 71124.05.

List of Findings and Violations

Failure to Adequately Implement Severe Weather Procedure NMP-OS-017			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05200025/2023003-01 Open/Closed	[H.4] - Teamwork	71111.01
The inspectors identified a Green finding of very low safety significance for the licensee’s failure to implement procedure NMP-OS-017, “Severe Weather,” Version 3.1, by failing to remove or secure equipment that could become a missile due to severe weather affecting the plant site.			

Failure to Remove Manufacturer Shipping Flanges from the Main Condenser A and C Flashbox Nozzles Results in Turbine/Reactor Trips			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05200025/2023003-02 Open/Closed	[H.1] - Resources	71153
A Green finding of very low safety significance was self-revealed from a manual turbine trip and manual reactor trip during plant startup testing. The licensee failed to remove manufacturer shipping flanges from the main condenser A and C flashbox nozzles, as specified on the installation drawing, which led to the event.			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
URI	05200025/2023002-01	Maintenance Rule Evaluations for Plant Level Events	71111.12	Closed
LER	05200025/2023-004-00	LER 2023-004-00 for Vogtle Electric Generating Plant, Unit 3, Manual Reactor Protection System Actuation Due to Condenser Flanges Not Removed During Construction	71153	Closed

LER	05200025/2023-005-00	LER 2023-005-00 for Vogtle Electric Generating Plant (VEGP), Unit 3, Automatic Reactor Protection System Actuation During Startup Testing Due to Inadequate Turbine Trip Logic	71153	Closed
NOV	05200025/2022-011-01	Failure to Follow Procedure for Unit 3 Hot Functional Testing	92702	Closed
NOV	05200025/2022-011-02	Failure to Maintain Complete and Accurate Test Records for Unit 3 Hot Functional Testing	92702	Closed

PLANT STATUS

At the start of this inspection period, Unit 3 was in Mode 4 (Safe Shutdown) and the licensee was performing a maintenance outage prior to resumption of plant startup testing activities. On July 5, Unit 3 entered Mode 3 (Hot Standby), the licensee completed its final maintenance outage activities and made preparations for plant startup.

On July 6, Unit 3 entered Mode 2 (Startup) and the licensee performed a reactor startup. The main generator was synchronized to the electrical grid on July 8. The unit entered island mode (i.e., with the main turbine disconnected from the switchyard and supplying house loads through the unit auxiliary transformers) from about 18% power for system tuning by opening switchyard breakers 161750 and 161850. Upon successful completion of island mode tuning, the main generator was once again synchronized to the electrical grid and the licensee continued power ascension. On July 9, the unit reached 100% power.

On July 9, during performance of the load rejection startup test from 100% power, the Unit 3 reactor automatically tripped from about 45% power due to low reactor coolant flow due to loss of power to the reactor coolant pumps. The trip was not complex, and all safety related systems responded normally post-trip. Plant operators stabilized the unit in Mode 3 on natural circulation flow. Unit 3 remained in Mode 3 while the licensee performed corrective maintenance activities and restored plant systems to operation.

On July 14, Unit 3 entered Mode 2 and the licensee performed a reactor startup. The main generator was synchronized to the electrical grid on July 15, and the licensee continued with plant startup testing activities.

On July 15, the licensee completed the loss of offsite power startup test procedure to demonstrate the plant response following a plant trip with no offsite power available. Operators manually tripped the main turbine (per the procedure) and the reactor automatically tripped as expected due to low reactor coolant flow due to loss of power to the reactor coolant pumps. The trip was not complex, and all safety related systems responded normally post-trip. Plant operators stabilized the unit in Mode 3 on natural circulation flow. Unit 3 remained in Mode 3 while the licensee performed corrective maintenance activities and restored plant systems to operation.

On July 18, Unit 3 entered Mode 2 and the licensee performed a reactor startup. The main generator was synchronized to the electrical grid on July 20, and the licensee continued with plant startup testing activities.

On July 21, during reperformance of the load rejection startup test from 100% power, the Unit 3 reactor automatically tripped from about 32% power due to low reactor coolant pump speed due to loss of power to the reactor coolant pumps. The trip was not complex, and all safety related systems responded normally post-trip. Plant operators stabilized the unit in Mode 3 on natural circulation flow. Unit 3 remained in Mode 3 while the licensee performed corrective maintenance activities and restored plant systems to operation.

On July 25, Unit 3 entered Mode 2 and the licensee performed a reactor startup. The main generator was synchronized to the electrical grid on July 26, and the licensee continued with plant startup testing activities.

On July 26, the licensee completed the load rejection startup test from 100% power to

demonstrate the capability of the plant to sustain a full load rejection. Upon successful completion of the test, the main generator was once again synchronized to the electrical grid and the licensee continued power ascension. On July 28, the unit reached 100% power.

On July 28, the licensee notified the NRC of the successful completion of Unit 3 power ascension tests as required by Condition 2.D.(5)(b) of the Vogtle Unit 3 Combined License (ML23209A830). Upon this notification, Vogtle Unit 3 is authorized to operate at steady state power levels up to 100% thermal power (3400 megawatts thermal).

At the end of this inspection period, the unit was operating at 100% power.

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

Impending Severe Weather Sample (IP Section 03.02) (2 Samples)

- (1) The inspectors evaluated the adequacy of the overall preparations to protect risk-significant systems from impending high winds and heavy rainfall due to hurricane Idalia on August 30.
- (2) The inspectors evaluated the adequacy of the overall preparations to protect risk significant systems from impending severe (hot) weather during the week of July 30.

71111.04 - Equipment Alignment

Partial Walkdown Sample [AP1000] (IP Section 03.01) (1 Sample)

The inspectors evaluated system configurations during a partial walkdown of the following system:

- (1) Startup feedwater system train A on July 12.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample [AP1000] (IP Section 03.01) (1 Sample)

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) Spent fuel pool cooling pump and heat exchanger rooms on July 11.

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 control room during performance of:
 - 3-GEN-ITPS-633, "100% Load Rejection Startup Test Procedure," on July 9 and July 21; and
 - 3-GEN-ITPS-638, "Loss of Offsite Power Startup Test Procedure," on July 15.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (2 Samples)

- (1) The inspectors observed and evaluated licensed operator requalification training in the plant simulator on July 17.
- (2) The inspectors observed and evaluated licensed operator requalification training in the plant simulator on July 31.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness [AP1000] (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) Standby diesel generators during the weeks of August 27, September 3, and October 1.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample [AP1000] (IP Section 03.01) (1 Sample)

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

- (1) Reactor coolant system (RCS) drain to reduced inventory to complete reactor assembly and RCS fill/vent following initial fuel load during the week of August 20.

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:

Reactor Coolant System Leakage Detection Testing [AP1000] (IP Section 03.01) (1 Sample)

- (1) NMP-02-009, RCS Unidentified Leakage Monitoring Program, and 3-RCS-OTS-17-001, Reactor Coolant System and Main Steam Line Leak Determination

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated how the licensee identifies the magnitude and extent of radiation levels and the concentrations and quantities of radioactive materials and how the licensee assesses radiological hazards.

Instructions to Workers (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated how the licensee instructs workers on plant-related radiological hazards and the radiation protection requirements intended to protect workers from those hazards.

Contamination and Radioactive Material Control (IP Section 03.03) (2 Samples)

The inspectors observed/evaluated the following licensee processes for monitoring and controlling contamination and radioactive material:

- (1) Contamination surveys on tools and equipment associated with work on Spent Fuel System.
- (2) Personnel exiting the Unit 3 Radiological Controlled Area (RCA)

Radiological Hazards Control and Work Coverage (IP Section 03.04) (2 Samples)

The inspectors evaluated the licensee's control of radiological hazards for the following radiological work:

- (1) Multiple Locked High Radiation Area (LHRA) entries by operations and RP in support of tagout for Spent Fuel System (SFS) maintenance.
- (2) Entry into WLS demineralizer vault Locked High Radiation Area (LHRA) by mechanical maintenance personnel.

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (4 Samples)

The inspectors evaluated licensee controls of the following high radiation areas (HRAs) and very high radiation areas (VHRAs):

- (1) Unit 3 upper and lower containment airlock Locked High Radiation Area (LHRA) controls
- (2) Unit 3 Effluent Holdup Tank (EHT) Locked High Radiation Area (LHRA)
- (3) 66' elevation demineralizer vault Locked High Radiation Area (LHRA)
- (4) Spent Fuel System (SFS) mechanical penetration room Locked High Radiation Area (LHRA)

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 03.06) (1 Sample)

- (1) The inspectors evaluated radiation worker and radiation protection technician performance as it pertains to radiation protection requirements.

71124.05 - Radiation Monitoring Instrumentation

Walkdowns and Observations (IP Section 03.01) (5 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

- (1) Area radiation monitors in the auxiliary and annex buildings
- (2) Portable ion chamber survey instruments stored ready for use
- (3) Portable telescoping survey instruments ready for use
- (4) Portable friskers in the auxiliary building
- (5) Continuous air monitors in the auxiliary building

Calibration and Testing Program (IP Section 03.02) (11 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

- (1) 3-PXS-RE160, Containment High Range Area Monitor, 11/23/22
- (2) 3-PXS-RE161, Containment High Range Area Monitor, 11/23/22
- (3) 3-VBS-RE002A, Main Control Room Air Intake, Iodine Channel, 11/14/22
- (4) VEGP-HP-1925, ARGOS, 10/12/22
- (5) VEGP-HP-3060, ARGOS, 12/13/22
- (6) VEGP-HP-3082, Tele-STTC, 7/18/23
- (7) VEGP-HP-3045, Ludlum 9-3, 10/14/22
- (8) VEGP-HP-1850, Neutron ball, 6/6/23
- (9) VEGP-RP-1895, Ludlum 177, 4/30/23
- (10) VEGP-HP-1927, GEM-5, 10/12/22
- (11) VNP-WBC2, Fastscan Whole Body Counter, 4/29/23

Effluent Monitoring Calibration and Testing Program Sample (IP Section 03.03) (3 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) 3-VFS-RE101, 102, 103, 104A, 104B, Plant Vent Effluent Monitor, 2/21/23
- (2) 3-WLS-RE229, Liquid Waste Discharge Monitor, 2/22/23
- (3) VFS-FT105, Plant Vent Flowmeter Functional Check, 8/3/23

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

OR01: Occupational Exposure Control Effectiveness Sample [AP1000] (IP Section 02.15) (1 Sample)

- (1) January 1, 2023, through August 24, 2023

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample [AP1000] (IP Section 02.16) (1 Sample)

- (1) October 14, 2022, through July 14, 2023

71153 - Follow Up of Events and Notices of Enforcement Discretion

Event Follow up [AP1000] (IP Section 03.01) (2 Samples)

- (1) Reactor Trip Response

On July 9, with Unit 3 in Mode 1 at approximately 45% power, the reactor automatically tripped due to low reactor coolant flow due to loss of power to the reactor coolant pumps (RCPs) during plant startup testing. The trip was not complex, and all safety related systems responded normally post-trip. Plant operators stabilized the plant on natural circulation flow with decay heat being removed by discharging steam via steam generator power operated relief valves to atmosphere.

At the time of the trip, the licensee was performing the load rejection startup test from 100% power. The expected plant response when opening breakers between the main turbine generator and the switchyard was a turbine generator runback with the plant's electrical distribution system on island mode (i.e., with the generator disconnected from the switchyard and supplying house loads through the unit auxiliary transformers). After opening switchyard breakers 161750 and 161850, the rapid power reduction system brought reactor power down as expected; however, a turbine trip unexpectedly occurred due to a High-2 moisture separator shell level within approximately one minute of initiating the load rejection. Additionally, moisture separator reheater drain pump B tripped on Low-2 level in the drain tank. The generator tripped due to the turbine trip and power was lost to the unit auxiliary transformers. A residual transfer of electrical power to the reserve auxiliary

transformers resulted in a momentary loss of off-site power, which led to the loss of the RCPs and all secondary systems' large pumps.

The inspectors observed operator actions post-trip, interviewed plant personnel, performed plant tours, and reviewed operator logs to evaluate operator actions during the event.

(2) Reactor Trip Response

On July 21, with Unit 3 at approximately 30% power, the reactor automatically tripped due to low RCP speed due to loss of power to the RCPs during plant startup testing. The trip was not complex, and all safety related systems responded normally post-trip. Plant operators stabilized the plant on natural circulation flow with decay heat being removed by startup feedwater flow and steam generator power operated relief valves discharging to atmosphere.

At the time of the trip, the licensee was reperforming the load rejection startup test from 100% power. The expected plant response when opening breakers between the main turbine generator and the switchyard was a turbine generator runback with the plant's electrical distribution system on island mode. After opening switchyard breakers 161750 and 161850, the rapid power reduction system brought reactor power down as expected; however, the generator tripped unexpectedly due to actuation of the MSU-A 86 lockout relay due to overcurrent (overexcitation) on the voltage regulator and power was lost to the unit auxiliary transformers. A residual transfer of electrical power to the reserve auxiliary transformers resulted in a momentary loss of off-site power, which led to the loss of the RCPs and all secondary systems' large pumps.

The inspectors observed operator actions post-trip, interviewed plant personnel, performed plant tours, and reviewed operator logs to evaluate operator actions during the event.

Event Report [AP1000] (IP Section 03.02) (2 Samples)

The inspectors evaluated the following licensee event reports (LERs):

- (1) LER 05200025/2023-004-00, "Manual Reactor Protection System Actuation due to Condenser Flanges Not Removed during Construction." (ADAMS Accession No. ML23181A173)
- (2) LER 05200025/2023-005-00, "Automatic Reactor Protection System Actuation During Startup Testing Due to Inadequate Turbine Trip Logic." (ADAMS Accession No. ML23249A166)

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

92702 - Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders

- (1) The inspectors reviewed NOV 05200025/2022011-01 and NOV 0520002022011-02 and determined: (1) the reason for the violations; (2) the corrective actions that have been taken and the results achieved; and (3) the date when full compliance was

achieved is already adequately addressed on the docket in the licensee's written response letter dated April 26, 2023 (ADAMS Accession No. ML23116A248). These violations are closed.

INSPECTION RESULTS

Failure to Adequately Implement Severe Weather Procedure NMP-OS-017			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05200025/2023003-01 Open/Closed	[H.4] - Teamwork	71111.01
<p>The inspectors identified a Green finding of very low safety significance for the licensee's failure to implement procedure NMP-OS-017, "Severe Weather," Version 3.1, by failing to remove or secure equipment that could become a missile due to severe weather affecting the plant site.</p> <p><u>Description:</u> On August 30, 2023, a tropical storm with predicted high winds was forecasted onsite. The licensee entered procedure 3-AOP-901, "Acts of Nature," Version 1.0, and procedure 4-AOP-901, "Acts of Nature," Version 1.0, which provided instructions to respond to a threat of plant damage or actual plant damage due to an act of nature such as severe weather (hurricane, high winds, winter storm, etc.). The procedures directed the licensee to walk down the site and remove or secure equipment that could become a missile or cause significant blockage of critical intake screens (air/water) in accordance with procedure NMP-OS-017, "Sever Weather", Version 3.1.</p> <p>The "Severe Weather Preparation Checklists" contained in the attachments of procedure NMP-OS-017 directed the licensee, in part, "to perform walkdowns of outside areas...and secure equipment that may damage other equipment if blown." After verifying the licensee completed its walkdowns to validate all equipment was secure that could be blown, the inspectors performed a walkdown of the site and identified items were left unsecured around the site that could be blown and damage other equipment. These unsecured items included sheets of plywood, dimensional lumber, trash cans, ladders, folding tables, chairs, tarps, scaffolding, picnic tables, and miscellaneous debris.</p> <p>Corrective Actions: The licensee entered this finding into its corrective action program as condition report (CR) 11002200 and CR 11006034 and initiated actions to update the procedural guidance to clarify expectations and increase communications to improve future implementation of the severe weather procedures. Additionally, the licensee issued a crew learning memo to clearly document future expectations regarding severe weather preparations.</p> <p>Corrective Action References: CR 11002200 and CR 11006034.</p>			
<p><u>Performance Assessment:</u></p> <p>Performance Deficiency: The inspectors determined the licensee's failure to adequately implement procedure NMP-OS-017, "Severe Weather," Version 3.1, to prepare for the effects of severe weather was a performance deficiency warranting a significance evaluation.</p> <p>Screening: Consistent with the guidance in IMC 0612, "Issue Screening," Appendix B, "Issue Screening Directions," dated August 8, 2022, the inspectors determined the performance</p>			

deficiency was a finding of more than minor significance because it was associated with the protection against external factors attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The failure to remove or secure items in accordance with severe weather procedures had the potential to result in the licensee damaging or losing the ability to utilize the preferred offsite power source via the switchyard as well as the standby diesel generators, which are a backup power source. The inspectors also reviewed the examples of minor issues in IMC 0612, Appendix E, "Examples of Minor Issues," dated January 1, 2021, and found no examples related to this issue.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," dated December 20, 2019, Table 3, "SDP [Significance Determination Process] Appendix Router," the inspectors determined this finding would require review using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," dated January 1, 2021, since the reactor was at 100% power. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in IMC 0609, Appendix A, and determined this finding was of very low safety significance (Green) based on "No" answers to all of the Exhibit 2 – Mitigating Systems Screening Questions.

Cross-Cutting Aspect: H.4 - Teamwork: Individuals and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. The licensee failed to establish clear communications between Unit 3 and Unit 4 shift personnel on roles and responsibilities during severe weather events. This led to numerous examples of equipment not being secured that were required to be.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

Unresolved Item (Closed)	Maintenance Rule Evaluations for Plant Level Events URI 05200025/2023002-01	71111.12
<p>Description: In the second quarter of 2023, the inspectors reviewed CAR 411146, "Unit 3 Reactor and Turbine Tripped Multiple Times Resulting in Challenges to Startup," which collectively evaluated multiple main turbine and reactor trips during startup testing in March and April 2023. Four main turbine trips and one reactor trip occurred during plant startup testing in March 2023. A fifth main turbine trip and a second reactor trip occurred in April 2023. During the inspection, the inspectors requested to review the licensee's maintenance rule evaluations associated with the above turbine and reactor trips. In response to the inspectors' questions, the licensee found that only one of reactor trips and one of the turbine trips had been evaluated. No evaluations had been performed for system or component failures associated with any of the other four turbine trips or for the second reactor trip. This was contrary to the licensee's procedure standard (NMP-ES-027, "Maintenance Rule Program") for implementing its maintenance rule program, which required maintenance rule evaluations be performed within 30 days from the event date without an approved extension. The inspectors opened this unresolved item pending review of the licensee's completed maintenance rule evaluations and condition report evaluations to determine whether a performance deficiency or violation of regulatory requirements existed.</p>		

During this quarter, the inspectors reviewed the completed maintenance rule evaluations and condition report evaluations and determined the licensee's failure to complete maintenance rule evaluations in accordance with NMP-ES-027 for system or component failures associated with the four turbine trips and one reactor trip was a performance deficiency of minor safety significance. The mitigating systems cornerstone objectives were not adversely affected because, when the maintenance rule evaluations were subsequently performed, it was still demonstrated that performance of the affected systems or components were being effectively controlled through appropriate preventive maintenance such that the systems or components remained capable of performing their intended functions (i.e., the requirements of 10 CFR 50.65(a)(1)/(a)(2) were always met). Additionally, because the requirements of 10 CFR 50.65(a)(1)/(a)(2) were always met, no violation of regulatory requirements was identified.

Corrective Action Reference(s): CRs 10975594, 10978631 and 10978278

Licensee-Identified Non-Cited Violation	71124.05
This violation of very low safety significance was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.	
<p>Violation: Licensee Technical Specification (TS) 5.4.1 requires that procedures be established for all programs listed in TS 5.5, which includes procedures for surveillance tests on liquid and gaseous effluent monitoring instrumentation, as specified in the Offsite Dose Calculation Manual (ODCM). Contrary to this, on October 14, 2022, when the ODCM became effective during initial fuel load, the procedures required to perform quarterly functional testing on liquid and gaseous effluent monitors had not yet been created. As a result, the initial surveillances required by ODCM Attachments 2 and 7 were not performed within 90 days plus grace period, which lead to multiple effluent monitoring instruments being declared out-of-service and required the implementation of compensatory sampling. The failure to establish procedures for effluent monitoring instrument testing was identified by licensee staff prior to exceeding the grace period and was documented in multiple CRs. All instruments have since been returned to service.</p> <p>Significance/Severity: Green. Using Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process", inspectors determined the Finding was of very low safety significance. Specifically, the issue was a Finding in the effluent release program but did not represent a substantial failure to implement the effluent program and there were no releases from the site that exceeded the public dose limits of 10 CFR 50, Appendix I, or 10 CFR 20.1301(e).</p> <p>Corrective Action References: CRs 10941821, 10936848, 10936851, 10936963, 10936969, 10936972, 10936977, 10936979.</p>	

Failure to Remove Manufacturer Shipping Flanges from the Main Condenser A and C Flashbox Nozzles Results in Turbine/Reactor Trips			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section

Initiating Events	Green FIN 05200025/2023003-02 Open/Closed	[H.1] - Resources	71153
<p>A Green finding of very low safety significance was self-revealed from a manual turbine trip and manual reactor trip during plant startup testing. The licensee failed to remove manufacturer shipping flanges from the main condenser A and C flashbox nozzles, as specified on the installation drawing, which led to the event.</p>			
<p><u>Description:</u></p> <p>On May 2, with Unit 3 in Mode 1 at approximately 77% reactor power, three feedwater heater strings sequentially isolated requiring a manual turbine trip. Operators manually tripped the turbine as directed by procedure based on the loss of two or more feedwater heater strings. The rapid power reduction system actuated as designed to lower reactor power. The turbine trip caused a sudden change in steam flow to the main condenser and feedwater heaters (i.e., extraction steam). This caused corrosion products to become displaced, resulting in the clogging of all three main feedwater/booster pumps suction screens. With high differential pressures across the suction screens, operators had to trip the reactor as directed by procedure and secured the main feedwater/booster pumps.</p> <p>Operators manually tripped the reactor from 14% power prior to an automatic reactor trip on low steam generator levels. All safety related systems responded normally post trip. Operators stabilized the plant with decay heat being removed by discharging steam via the turbine bypass valves to the main condenser.</p> <p>The licensee's cause evaluation attributed the direct cause of the event to be inadequate work instructions and work practices during construction. In late 2013, the main condenser A and C flashboxes were installed with manufacturer shipping flanges in place that rendered ineffective the normal drain paths from the low pressure drain tanks to the main condenser. This, in turn, resulted in overuse and excessive cycling of the feedwater heater drain cooler bypass air-operated valves (3-HDS-V021A/B/C). A failure of 3-HDS-V021B due to excessive cycling initiated the feedwater heater string isolations, which then led to the manual turbine and manual reactor trips. Excessive cycling of the valves was not adequately questioned, evaluated, and addressed prior to the valve's failure. The licensee's review of legacy construction events and work packages identified the work orders that installed the flashboxes on main condensers A and C did not contain instructions to remove the shipping flanges (part FB-119) from flashbox nozzles S-47, S-48, and S-49, as directed by the construction drawing (SV3-ME01-V2-005).</p> <p>The licensee completed a 4-hour notification call (Event Notification 56497) on May 2 to report the reactor protection system (RPS) actuation while critical as required by 10 CFR 50.72(b)(2)(iv)(B). The licensee submitted LER 05200025/2023-004-00 to report this event in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in manual actuation of the RPS.</p> <p>Corrective Actions: The licensee entered this issue into its corrective action program as CR 10968544 to evaluate the causes and to identify appropriate corrective actions. The licensee removed the flanges from the drain lines to restore the normal heater drains flow path to the main condenser, repaired the feedwater heater drain cooler bypass valves, and cleaned/inspected the main feedwater pump suction strainers to restore feedwater flow to the steam generators.</p>			

Corrective Action References: CR 10968544

Performance Assessment:

Performance Deficiency: The inspectors determined the licensee's failure to remove manufacturer shipping flanges from the main condenser A and C flashbox nozzles, as specified on the installation drawing, was a licensee performance deficiency warranting a significance evaluation.

Screening: Consistent with the guidance in IMC 0612, "Issue Screening," Appendix B, "Issue Screening Directions," dated August 8, 2022, the inspectors determined the performance deficiency was a finding of more than minor significance because it was associated with the Procedure Quality attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to remove manufacturer shipping flanges from the main condenser A and C flashbox nozzles, as specified on the installation drawing, resulted in blockage of the normal heater drains flow path through the feedwater heater coolers and excessive cycling of the drain cooler bypass valves, which led to premature failure of the valve stem for 3-HDS-V021B, sequential isolation of feedwater heater strings, and a manual turbine trip. The inspectors also reviewed the examples of minor issues in IMC 0612, Appendix E, "Examples of Minor Issues," dated January 1, 2021, and found no similar examples.

Significance: The inspectors assessed the significance of the finding using Detailed Risk Evaluation (blank significance section) In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," dated December 20, 2019, Table 3, "SDP [Significance Determination Process] Appendix Router," the inspectors determined this finding would require review using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," dated November 30, 2020, since it involved a transient initiator with the unit operating at power. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in IMC 0609, Appendix A, Exhibit 1, "Initiating Events Screening Questions," and determined this finding would require a detailed risk evaluation because the finding caused a reactor trip AND the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition (e.g., loss of condenser, loss of feedwater).

The Region II Senior Risk Analyst (SRA) conducted an assessment of the risk significance of the finding using SAPHIRE 8, Version 8.2.6 and the Vogtle 3&4 SPAR Model, Version 8.81, dated August 14, 2022. The SRA set the exposure time to 57 days (from the date of initial criticality (March 6) until the event on May 2). The RPS actuation was valid since the plant response produce directs operators to manually trip the reactor due to a loss of main feedwater. The SRA modelled the condition as a plant transient with a loss of all main feedwater pumps. The dominant accident sequence was a Loss of Main Feedwater Initiator, with a failure the RPS to trip the reactor, and a failure of secondary relief valves to lift or to reseal. The change in core damage frequency was less than 1E-6.

Based on the results of the detailed risk evaluation, the inspectors determined the finding was of very low safety significance.

Cross-Cutting Aspect: H.1 - Resources: Leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support nuclear safety. The inspectors determined the finding had a cross-cutting aspect of Resources in the Human

Performance area because the proximate cause was attributed to be inadequate work instructions and work practices for installation of the flashboxes on the main condenser.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

EXIT MEETINGS AND DEBRIEFS

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

- On October 24, 2023, the inspectors presented the integrated inspection results to Mr. Glen Chick, VEGP Units 3 & 4 Executive Vice President and other members of the licensee staff.
- On August 25, 2023, the inspectors presented the Radiation Protection Inspection Exit Meeting inspection results to P. Martino, Vogtle Unit 3 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	CR 11002200	NRC Identified Gap Implementing NMP-OS-017	08/30/2023
		CR 11006034	Procedure enhancements from storm prep lessons learned	09/12/2023
	Procedures	3-AOP-901	Acts of Nature	Version 1
		NMP-OS-017	Severe Weather	Version 3.1
		NMP-OS-020	Station Response to Southern Company System Alert Conditions	Version 2
71111.04	Corrective Action Documents Resulting from Inspection	CR 10987144	3-FWS-V015B missing stem protector	
		CR 10987145	3-FWS-V112A Gag Device	
	Drawings	APP-FWS-M6-002	Piping and Instrumentation Diagram Main and Startup Feedwater System	Revision 18
	Procedures	3-FWS-SOP-002	Startup Feedwater System	Revision 4
71111.05	Engineering Evaluations	TE 45001409	As Built Pre-fire Plans based on Walkdowns	9/2/2022
	Fire Plans	B-PFP-ENG-001-F3121	Pre-Fire Plan - Auxiliary Building RCA EI 82'6"	Revision 2
71111.11Q	Engineering Evaluations	SVP-SV0-230225	Westinghouse Letter Subject: Evaluation of Retest Requirements for 3-GEN-ITPS-633 (TE 1132118)	08/25/2023
	Miscellaneous	APP-GW-T1-696	AP1000 Startup Test Specification, Section 2.9, GEN-633A, 100 Percent Load Rejection Startup Test Specification	Revision 2
	Procedures	3-GEN-ITPS-633	100% Load Rejection Startup Test Procedure	Version 4.0
		3-GEN-ITPS-638	Loss of Offsite Power Startup Test Procedure	Version 3.0
71111.12	Corrective Action Documents	CAR 411146	Unit 3 Reactor and Turbine Tripped Multiple Times Resulting in Challenges to Startup	
		CR 10960257	Main Turbine Trip on GCB [Generator Circuit Breaker] BU 86 Lockout	
		CR 10961184	Main Turbine Trip on a GCB BU 86 Lockout	
		CR 10961224	Turbine Reference Load Anomalies During Turbine Trip	
	Corrective Action	CR 10975446	MRule (a)(1) Evaluation Required for PLE [Plant Level	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Documents Resulting from Inspection		Event] on 05/02/2023	
		CR 10975524	MRule (a)(1) for PLE on 05/02/2023	
		CR 10975594	NMP-ES-027 SV34 Procedural Violation Due to Lack of Location Codes	
		CR 10978278	Need Additional Maintenance Rule Evaluation for Event Documented in CR 10956663	
		CR 10978631	Request for MREVAL for 04/10/2023 Turbine and Reactor Trip Events	
		CR 10985562	Perform (a)(1) MRule Assessment of TOS	
	Engineering Evaluations	EVAL-VEGP34-ECS-05850	(a)(1) Review for Unit 3 Reactor Trip on March 15, 2023	05/25/2023
		EVAL-VEGP34-TOS-06070	Main Turbine Control and Diagnostics System Plant Level PC Exceedance	08/07/2023
		TE 1125486	Perform Maintenance Rule Evaluation for CR 10956663 for Unit 3 Reactor Trip	
		TE 1125964	Perform Maintenance Rule Evaluation for CR 10958946 - ZAS	
		TE 1130230	Perform (a)(1) Eval Against FWS for the Reactor Trip of CR 10975446	
		TE 1130272	Perform MREVAL for CR 10978278 (Rx Trip event documented in condition report 10956663 dated 3/16/2023)	
		TE 1130292	Perform MREVAL for CR 10978631 - the turbine trip	
		TE 1130294	Perform MREVAL for CR 10978631 - the Reactor Trip	
		TE 1131983	Perform (a)(1) Assessment of 04/10/2023 Rx Trip	
	Miscellaneous		Maintenance Rule Implementation Guidance for 103(g)	02/14/2022
		NUMARC 93-01	Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	Revision 4F
		Regulatory Guide 1.160	Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	Revision 4
	Procedures	NMP-ES-027	Maintenance Rule Program	Version 10.4
	71111.13	Procedures	NMP-OS-020	Station Response to Southern Company System Alert Conditions
71111.24	Miscellaneous	NMP-02-009	RCS Unidentified Leakage Monitoring Program	Version 5
	Procedures	3-RCS-OTS-17-	Reactor Coolants System and Main Steam Line Leak	Version 1

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		001	Determination		
71124.01	Corrective Action Documents Resulting from Inspection	11000087	RCA scaffolds missing required labeling	08/24//2023	
		Procedures	3-RMS-ITPS-601	Biological Shield Survey Startup Test Procedure	Version 2.0
			NMP-HP-300	Radiation and Contamination Surveys	Version 5.8
	Radiation Surveys		Survey #4784	Unit 3 117' Power Ascension	05/01/2023
			Survey #5413	Unit 3 117' Power Ascension	05/27/2023
71124.05	Procedures	NMP-HP-79	Operation and Calibration of the Mirion RDS-31iTx/RDS-32iTx	Version 7	
71153	Corrective Action Documents	CAR 437717	Feedwater String Isolations Result in Manual Turbine Trip and Manual Reactor Trip	Revision 0	
		CAR 474655	Turbine Trip and Reactor Trip during Performance of Load Reject Test 3-GEN-ITPS-633	Revision 0	
		CR 10968544	U3 Reactor Trip		
		CR 10969579	Blind Flanges Installed on LP Drain Tank Inlets to Condenser		
		CR 10989831	Electrical Maintenance to gather relay data.	07/21/2023	
		TE 1133334	Submit Unit 3 LER 2023-006-00	07/26/2023	
	Miscellaneous	EN 56497	Manual Reactor Trip	05/02/2023	
		EN 56614	Automatic Reactor Trip	07/09/2023	
		LER 05200025/2023-004-00	Manual Reactor Protection System Actuation due to Condenser Flanges Not Removed during Construction	06/30/2023	
		LER 05200025/2023-005-00	Automatic Reactor Protection System Actuation During Startup Testing Due to Inadequate Turbine Trip Logic	09/06/2023	
		Reactor Trip Report No. 3-23-003	Reactor Trip Report	05/03/2023	