



**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 4 – INTEGRATED
INSPECTION REPORT 05200026/2023-003**

Dear Jamie Coleman:

On September 30, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant (VEGP), Unit 4. 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.

No findings or violations of more than minor significance were identified during this inspection.

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. 05200026
License No. NPF-92

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 4 – INTEGRATED INSPECTION REPORT 05200026/2023003 Dated November 14, 2023

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DATE	11/9/2023	11/13/2023	11/14/2023		

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

Docket Number: 05200026

License Number: NPF-92

Report Number: 05200026/2023003

Enterprise Identifier: I-2023-003-0074

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant, Unit 4

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, Senior Construction Inspector
C. Even, Senior Construction Inspector
R. Patel, Senior Construction Inspector

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 4, 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

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

PLANT STATUS

On July 28, the NRC staff issued the 10 CFR 52.103(g) finding for Vogtle Unit 4 based on its determination that all of the inspections, tests, analyses, and acceptance criteria in Appendix C of the Vogtle Unit 4 combined license were successfully completed (ML22348A094). This finding allows the licensee to load fuel and begin operation of the unit in accordance with the terms and conditions of the combined license.

On August 17, the licensee began initial fuel load, with Unit 4 entering Mode 6 (Refueling) for the first time when the first fuel assembly entered the reactor vessel. The licensee completed initial fuel load on August 19. On August 25, the licensee completed assembly of the reactor and the unit entered Mode 5 (Cold Shutdown). On September 21, the licensee completed required testing and established conditions to begin plant heat up and the unit entered Mode 4 (Safe Shutdown). On September 25, the licensee completed additional required testing and continued plant heat up for the unit to enter Mode 3 (Hot Standby). On September 29, the 2A reactor coolant pump (RCP) tripped on an instantaneous overcurrent condition.

At the end of this inspection period, the unit was in Mode 3 and the licensee was investigating the cause for the RCP trip and performing pre-critical testing in preparation for plant start up.

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

71111.04 - Equipment Alignment

Complete Walkdown Sample [AP1000] (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the passive core cooling system prior to containment closeout for initial plant start up during the weeks of August 27, September 3, and September 10.

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) Class 1E direct current (DC) and uninterruptible power supply (UPS) system (IDS) division A/B/C/D DC equipment rooms and protection and safety monitoring system (PMS) division A/B/C/D equipment rooms on August 17.

Fire Brigade Drill Performance Sample [AP1000] (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the onsite fire brigade training and performance during an unannounced fire drill on August 9.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

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

- (1) The inspectors observed and evaluated licensed operators during evaluated simulator training on July 17.
- (2) The inspectors observed and evaluated licensed operators during evaluated simulator training on July 31.

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 for RCS fill and vent following initial fuel load from August 22 to August 23.

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (1 Sample)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determination:

- (1) 11009438-Unit 4-ODS, "Missed VES [Main Control Room Emergency Habitability System] Surveillance on Unit 4"

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications [AP1000] (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary modification:

- (1) SNC1536874 SV4 Alternate VFS [Containment Air Filtration System] Air Sample Point Location to Support the ODCM [Offsite Dose Calculation Manual]

71111.20 - Refueling and Other Outage Activities

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

- (1) Unit 4 Initial Fuel Loading and Initial Plant Startup Activities

The inspectors evaluated the licensee's conduct of outage activities to assess the control of plant configuration and management of shutdown risk for initial fuel load and initial plant start up activities from entry into Mode 6 through Mode 3.

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) (4 Samples)

- (1) DDS-HS316, cumulative time delay reset handswitch after replacement of fiber optic cable on August 14
- (2) 4-PMS-HS040, steam dump stage 2 cooldown division D after cleaning the contacts on August 14
- (3) Base metal repairs on the Unit 4 core barrel and upper core plate during the week of August 8
- (4) 4-PXS-V014B and V015B, core makeup tank B outlet isolation air-operated valves repairs on September 19

Surveillance Testing (IP Section 03.01) (1 Sample)

- (1) 4-IDSB-OTS-06-002, "31 Day Surveillance Test of Station Batteries 4-IDSB-DB-1a and 4-IDSB-DB-1B," on August 9

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

- (1) 4-ECS-OT-17-003, "Ancillary AC Diesel Generator 10 Year Operational Test," on August 7

INSPECTION RESULTS

No findings were identified.

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.

THIRD PARTY REVIEWS

The inspectors reviewed World Association of Nuclear Operators (WANO) Pre-Startup Peer Review Report for Vogtle Unit 4 dated May 2023. During this review, the inspectors did not identify any new safety significant issues.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Corrective Action Documents Resulting from Inspection	10993187	NRC Resident identified that Unit 3 & 4 river water intake structure doors were unlocked.	
		10993195	NRC Resident identified unattended debris during Unit 3 & 4 river water intake walkdown	
		CR 11002200	NRC Identified Gap Implementing NMP-OS-017	08/30/2023
	Procedures	4-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	Revision 2
71111.04	Miscellaneous	4-PXS-SOP-001, Attachment 11	Shutdown Alignment Inside Containment	Version 2.0
	Procedures	4-PXS-SOP-001	Passive Core Cooling System	Revision 2
71111.05	Fire Plans	B-PFP-ENG-001-F4110	Pre-Fire Plan - Auxiliary Building Non-RCS EI 66'-6"	Revision 1
		B-PFP-ENG-001-F4111	Pre-Fire Plan - Auxiliary Building Non-RCA EI 82'-6"	Revision 1
		B-PFP-ENG-001F4113	Pre-Fire Plan - Auxiliary building Non-RCA EI 100'-0"	Revision 1
71111.11Q	Procedures	3-GEN-ITPS-633	100% Load Rejection Startup Test Procedure	Version 5.0
		3-GEN-ITPS-638	Loss of Offsite Power Startup Test Procedure	Version 7.0
71111.13	Corrective Action Documents Resulting from Inspection	CR 11000120	Protected Equipment Procedure implementation shortfall	08/24/2023
	Drawings	APP-FPS-M6-002	Piping and Instrumentation Diagram Fire Protection System	Revision 10
	Procedures	B-ADM-OPS-018	Protected Division and Protected Equipment Program	Revision 2
71111.15	Corrective Action Documents	11009438	Missed VES Surveillance on Unit 4	09/23/2023
	Procedures	4-VES-OTS-16-001	Main Control Room Differential Pressure Calibration	Version 1.0
	Work Orders	WO 1202930	Perform Component Test on SV4-VES-JE-PDT004A IAW B-GEN-ITPCI-019-457	Revision 0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		WO 1261930	Perform Component Testing on SV4-VES-JE-PDT004B IAW B-GEN-ITPCI-019-458	Revision 0
71111.18	Corrective Action Documents Resulting from Inspection	10999635	Temp Power Tagging not Present	
	Engineering Changes	SNC1535127	Temporary SV4 Alternate VFS Air Sample Point Location to Support ODCM	Revision 0
	Procedures	B-GEN-ENG-038-001	Vogtle 3 & 4 Temporary Configuration Change Process	Revision 1.1
		NMP-ES-095-002	Temporary Configuration Change Process	Revision 2.0
		NMP-FLS-003-001	Temporary Power	Revision 5.1
Work Orders	SNC1536874	Install Temporary SV4 Alternate VFS Air Sample Point Location to Support ODCM	Revision 0	
71111.20	Drawings	APP-PXS-M6-001	Piping and Instrumentation Diagram Passive Core Cooling System	Revision 16
	Engineering Evaluations	ND-LI-VNP-002-F01	Nuclear Fuel Assessment of Foreign Material in 4-PXS-V014B and 4-PXS-V015B (Vogtle 4)	Revision 1.0
	Miscellaneous	B-ADM-WCO-001-001	Operational Readiness Repetitive Task Management	Version 7.0
		NMP-RE-011-F01	Move Sheet Package Cover Sheet	Version 1.1
	Procedures	4-GEN-ITPS-601	Initial Fuel Loading Startup Test Procedure	Version 1.0
		4-GEN-ITPS-618	Power Ascension Test Sequence Startup Test Procedure	Version 2.0
		4-GOP-102	Draining the Reactor Coolant System	Version 3.0
		4-GOP-205	Plant Cooldown Mode 3 to Mode 5	Version 1.0
		4-GOP-301	Mode Change Checklists	Version 1.0
		4-GOP-303	Plant Heatup Mode 5 to Normal Operating Temperature	Version 1.0
		4-GOP-304	Refueling to Cold Shutdown Mode 6 to Mode 5	Version 2.0
		4-GOP-305	Refueling Mode 6	Version 1.0
		4-RCS-OTS-17-004	Reactor Coolant System Boron Concentration During Refueling	Version 1.0
4-RCS-SOP-001	Reactor Coolant System	Version 1.0		
4-RNS-SOP-001	Normal Residual Heat Removal System	Version		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
				E=0.4
		B-GEN-ENG-032	Containment Cleanliness and Sampling Program	Version 1.0
		B-GEN-ENG-032-001	Containment Debris Sampling	Version A=0.0
		B-GEN-ENG-032-002	Control of Unattended Temporary Material in Containment in Modes 1-4	Version 1.1
		B-GEN-OPS-006	Containment Entry	Version 3.1
		B-RXS-CSP-001	Reactor Vessel Sampling Prior to Fuel Load	Version 2.0
71111.24	Corrective Action Documents	CR 50179480	SV4-MI01 Upper Core Plate Damage	
		CR 50179667	CR to Document Repairs to Unit 4 Upper Core Plate	
		CR 50179703	There Are Indications of Scratch Marks on the Core Barrel	
	Engineering Changes	ESR 5017914	Request IWA to Make Repairs to the Core Barrel	
		ESR 5017916	Request for N&D to Accept the As-Found Condition on the Vessel Upper Internal	
	Miscellaneous		Photographs: CoreBarrel11691414376678, CoreBarrel21691414392363, Core Barrel 31691414408232, CoreBarrel41691414422236	
		NMP-MA-050-F03	Work Planning Clearance Request From for MWO 1306041	Revision 0
	NDE Reports		Core Barrel Inspection Report	
	Procedures	4-ECS-OTS-17-003	Ancillary AC Diesel Generator 10 Year Operational Test	Revision 1.0
		4-IDSB-OTS-06-002	31 Day Surveillance Test of Station Batteries 4-IDSB-DB-1A and 4-IDSB-DB-1B	Version 1.0
		4-PMS-OTS-20-001	Remote Shutdown Workstation 24-Month Surveillance	Version 1.0
		4-PXS-OTS-10-006	PXS Valve Actuation and Exercise Test	Version 1.0
	Work Orders	IWA #1-SV4-ESR50179516		
		MWO 1306041	Work Package for SV4-RXS-MI-25	
		SNC 1558695	Disassemble/Inspect/Reassemble Valve 4-PXS-V014B	Revision 0
		SNC 1558696	Disassemble/Inspect/Reassemble Valve 4-PXS-V015B	Revision 0
			SNC1490953	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		SNC1490966		