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

August 8, 2019

Mr. Michael Yox
Regulatory Affairs Director
Southern Nuclear Operating Company
Vogtle 3 & 4
7835 River Road, Bldg. 140
Waynesboro, GA 30830

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4 – U. S. NUCLEAR REGULATORY COMMISSION SECURITY BASELINE INSPECTION REPORT 05200025/2019401 AND 05200026/2019401

Dear Mr. Yox,

On June 30, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant Units 3 and 4. The enclosed inspection report documents the inspection results, which the inspector discussed on July 15, 2019, with you and other members of your security staff.

The inspection examined a sample of activities conducted under your Combined License (COL) as they relate to security and compliance with the Commission's rules and regulations and with the conditions of your license. The inspector reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified.

This letter, its enclosure 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 10 CFR 2.390, "Public inspections, exemptions, Requests for Withholding.

Sincerely,

/RA/

Christopher Even, Acting Chief
Construction Inspection Branch 2
Division of Construction Oversight

Docket Nos.: 52-00025, 52-00026
License Nos: NPF-91, NPF-92

Enclosure:
NRC Inspection Report (IR) 05200025/2019401,
05200026/2019401
w/attachment: Supplemental Information

cc w/encl: (See next page)

cc:

Southern Nuclear Operating Company
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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4 U.S. NUCLEAR REGULATORY COMMISSION SECURITY BASELINE INSPECTION REPORT 05200025/2019401 AND 05200026/2019401

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U.S. NUCLEAR REGULATORY COMMISSION
Region II

Docket Numbers:	5200025 and 5200026
License Numbers:	NPF-91 (Unit 3) and NPF-92 (Unit 4)
Report Numbers:	05200025/2019401 and 05200026/2019401
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Vogtle Electric Generating Plant, Units 3 and 4
Location:	Waynesboro, GA 30830
Inspection Dates:	April 1, 2019 through June 30, 2019
Inspectors:	B. Kemker, Senior Resident Inspector, Construction Inspection Branch 1 (CIB1), Division of Construction Oversight (DCO)
Approved by:	Christopher Even, CIB2, DCO

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05200025/2019401, 05200026/2019401; 04/01/2019 through 06/30/2019; Vogtle Electric Generating Plant, Units 3 and 4; Security

This report covers a three-month period of announced security related inspections performed by the resident inspector. No findings of significance were identified. The Nuclear Regulatory Commission (NRC)'s program for overseeing the construction of commercial nuclear power reactors is described in IMC 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

A. NRC-Identified and Self Revealed Findings

None

B. Licensee-Identified Violations

None

REPORT DETAILS

1. CONSTRUCTION REACTOR SAFETY

Cornerstones: Design/Engineering, Procurement/Fabrication, Construction/Installation, Inspection/Testing

IMC 2503, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) - Related Work Inspections

1A01 (Unit 3) ITAAC Number 2.6.09.05b (645) / Family 17A

a. Inspection Scope

The inspector performed a direct inspection of construction activities associated with ITAAC Number 2.6.09.05b (645). The inspector used the following Nuclear Regulatory Commission (NRC) inspection procedure and section to perform this inspection:

- 65001.17- 02.12 - Alarm Stations

The inspector performed an inspection to verify the central alarm station (CAS) and secondary alarm station (SAS) were located inside the protected area (PA) and the interior of both alarm stations were not visible from the perimeter of the PA to satisfy the ITAAC requirement, Title 10 of the Code of Federal Regulations (10 CFR) 73.55(i)(4)(ii)(A), and 10 CFR 73.55(i)(4)(iii)).

The inspector reviewed the CAS and SAS functional specification and site arrangement drawings for the location of the CAS and SAS to verify both alarm stations were located inside the PA. The inspector performed direct observations of the CAS and SAS to verify they were located inside the PA and the interior of the alarm stations was not visible from the perimeter of the PA.

b. Findings

No findings were identified.

1A02 (Unit 3) ITAAC Number C.2.6.09.08a (668) / Family 17A

a. Inspection Scope

The inspector performed a direct inspection of construction activities associated with ITAAC Number C.2.6.09.08a (668). The inspector used the following NRC inspection procedure and section to perform this inspection:

- 65001.17- 03.02 – Vital Areas and Vital Barriers

The inspector performed a limited scope inspection to verify openings in Vogtle Unit 3 vital area (VA) barriers for heating, ventilation, and cooling (HVAC) system vents were secured to prevent exploitation of the openings to satisfy the ITAAC requirement and 10 CFR 73.55(e)(4). Inspections to verify the licensee's monitoring of these openings in a manner that prevents exploitation by either intrusion detection devices or surveillance by security

personnel will be performed and documented separately. Inspections of the remaining barriers in protected area and VA openings (i.e., non-HVAC system openings) will also be performed and documented separately.

The inspector reviewed the design specification and associated drawings to identify designated HVAC system openings through VA barriers and the manner in which they will be secured and monitored. The inspector examined the physical installation of the barrier at one HVAC system opening (SV3-VXS-AS-05) to the VA during this inspection period. The inspector performed direct observation to verify the opening was secured in a manner that delays and prevents exploitation. Specifically, the inspector directly inspected the barrier, locking mechanisms, welds, bolts, etc., associated with the opening to verify they were secure.

b. Findings

No findings were identified.

1A03 (Unit 4) ITAAC Number 2.6.09.05b (645) / Family 17A

a. Inspection Scope

The inspector performed a direct inspection of construction activities associated with ITAAC Number 2.6.09.05b (645). The inspector used the following NRC inspection procedure and section to perform this inspection:

65001.17- 02.12 - Alarm Stations

The inspector performed an inspection to verify the CAS and SAS were located inside the PA and the interior of both alarm stations was not visible from the perimeter of the PA to satisfy the ITAAC requirement, 10 CFR 73.55(i)(4)(ii)(A), and 10 CFR 73.55(i)(4)(iii)).

The inspector reviewed the CAS and SAS functional specification and site arrangement drawings for the location of the CAS and SAS to verify both alarm stations were located inside the PA. The inspector performed direct observations of the CAS and SAS to verify they were located inside the PA and the interior of the alarm stations were not visible from the perimeter of the PA.

b. Findings

No findings were identified.

2. SAFEGUARDS PROGRAMS

Cornerstones: Security Programs for Construction Inspection and Operations

IMC 2504, Construction Inspection Program – Inspection of Construction and Operational Programs

1P01 Material Control and Accountability (MC&A)

- 81000.11-02.01- Event Logs
- 81000.11-02.02- Special Nuclear Material (SMN) Records

- 81000.11-02.03- MC&A Programs and Procedures
- 81000.11-02.04- Physical Inventory of SNM
- 81000.11-02.05- SNM Reports
- 81000.11-02.06- Problem Identification and Resolution

a. Inspection Scope

The inspector performed an inspection of the licensee's MC&A program for controlling and accounting of nuclear reactor fuel and non-fuel (e.g. detectors and sealed sources) SNM. The inspector reviewed documents and interviewed the MC&A custodian to verify the licensee had established measures to implement and maintain an effective program to control and account for SNM in its possession and to detect loss, theft, or diversion of SNM in a timely manner in accordance with 10 CFR 74 and the guidance in American National Standards Institute N15.8-2009, "Material Control Systems – Special Nuclear Material Control and Accounting Systems for Nuclear Power Plants." Specifically, the inspector reviewed:

- the fleet-wide MC&A program procedures
- the site-specific implementation procedures,
- records of all SNM inventories and transactions
- the safeguards log entries related to MC&A, and
- the 10 CFR 74, Subpart B report creation and distribution process.

The inspector reviewed the fleet-wide and site-specific MC&A program and implementation procedures to verify whether the following provisions established MC&A measures and controls:

- changes made to MC&A related procedures were reviewed and approved by licensee management and those changes did not decrease the effectiveness of the MC&A program;
- roles and responsibilities were clearly identified of site personnel for the control and accounting of SNM;
- physical inventory of all SNM to be completed at least every 12 months;
- control and accounting for SNM during fuel handling, fuel receipt, receipt of other non-fuel SNM, movement of fuel and non-fuel items into and within the spent fuel pool, assembly repair and reconstitution, fuel shipment, instrument replacement, core loading, and fuel shuffles;
- physical observation of all types and forms of SNM during inventories, including fuel assemblies, rods and rod fragments, containers with rod pieces and/or pellets, and non-fuel SNM, to include who has responsibility for each physical inventory activity;
- oversight of vendors performing operations in the spent fuel pool;
- prevents placing fuel pieces (rods, rod pieces, rod fragments, instruments, unclad pellets, etc.) in a shipping cask with irradiated hardware and inadvertently shipping them to a low-level waste burial site;
- assemblies maintained in the spent fuel pool are accounted for at all times;
- a second person to independently verify all movements of SNM;
- all personnel with potential access to SNM be trained on pertinent MC&A procedures, and

- the SNM Custodian to be informed of the receipt of all SNM on site and direct all moves of SNM located within the protected area.

The inspector reviewed records of all SNM inventories and transactions. The inspector reviewed and compared the SNM inventory list dated June 2019, to the Nuclear Materials Management and Safeguards System database. The inspector reviewed the event reports and safeguards log entries related to MC&A and interviewed the Vogtle 3 and 4 MC&A custodian to verify that the licensee had adequately implemented measures and controls in accordance with the requirements of 10 CFR 74.31.

The inspector reviewed the safeguards log entries to verify if there were any entries related to MC&A in accordance with 10 CFR 74.

The inspector reviewed the report creation and distribution process and interviewed the MC&A Custodian to verify measures had been established that satisfy the requirements of 10 CFR 74, Subpart B.

The inspector also reviewed a sample of condition reports written to address MC&A performance issues to verify the licensee had established measures to identify performance issues related to MC&A and promptly entered the corrective actions into its corrective action program for resolution.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA6 Meetings, Including Exit

On July 15, 2019, the inspector presented the inspection results to Mr. Michael Yox, Regulatory Affairs Director, and other licensee and contractor staff members. Proprietary information was reviewed during the inspection period but was not included in the inspection report.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensees and Contractor Personnel

R. Beilke, ITAAC Project Manager
B. Bennett, Security Supervisor
L. Grissom, Licensing Engineer
L. Meert, Reactor Engineer, MC&A Custodian
A. Wichman, Systems and Reactor Engineering Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Sections 1A01 and 1A03

APP-SES-Z0-001, "CAS & SAS Functional Specification," Revision 3
APP-4031-E2-003, "Annex Building Equipment Arrangement Plan Plant Security System (SES) Area 1 Elevation 100'-0"," Revision 2
SV0-0000-X2-800012, "Vogtle Electric Generating Plant Units 3 & 4 Powerblock General Arrangement," Revision 2
SV0-0000-X2-800013, "Vogtle Electric Generating Plant Units 3 & 4 Powerblock General Arrangement," Revision 3

Section 1A02

APP-VXS-MD-514, "HVAC Layout VXS Exh & Ret Duct Annex Building Area 1 EL 135'-3"," Revision 3
APP-AB01-AB-010, "Blockouts and Barriers (Penetrations, Seals and Fire Stops) Details Sheet 10," Revision 4
APP-AS21-Z0D-101, "AS21 HVAC Data Sheet," Revision 0
APP-AS21-A1-001, "AP1000 Security Barrier Design Requirements," Revision 1
APP-SES-GEF-031, "Updates to Barrier Matrix," Revision 0

Section 1P01
NMP-RE-002, "Special Nuclear Material Control and Accountability," Version 1.3
NMP-RE-003, "The Use and Administration of TracWorks and its Database," Version 6.0
NMP-RE-003-001, "TracWorks Move Sheet Generation and General Use," Version 1.0
NMP-RE-003-002, "TracWorks Calculations," Version 1.0
NMP-RE-007, "Core Verification," Version 4.1
NMP-RE-011, "Special Nuclear Material Movement," Version 1.0
NMP-RE-011-004, "Vogtle 3&4 Move Sheet Instructions," Version 3.1
B-GEN-REP-007, "Physical Inventories of Special Nuclear Material," Version 3.1
NF-205, "Special Nuclear Material Accounting for Plants Hatch, Farley, and Vogtle," Version 7.1
NF-CAP-305, "Use of BEACON-TracWorks for Fuel Assembly Burnup and Isotopics Determination," Version 5.0

Vogtle 3&4 UFSAR, Section 13.5.2.2.9, "Special Nuclear Material (SNM) Material Control and Accounting Procedures," Revision 8
ANSI N15.8-2009, "Material Control Systems Special Nuclear Material Control and Accounting Systems for Nuclear Power Plants," 2/18/09
Intracompany Correspondence, Designation of Vogtle 3&4 SNM Custodian, from A. Wichman to M. Rauckhorst, 1/23/18
Work Order SNC981822, "(12M) Perform Annual SNM Inventory," Revision 0, 6/4/19

Corrective Action Documents
SNC Condition Report 10504214, "Serial Number Discrepancy Noted and Corrected during Receipt of Unit 4 Intermediate Range Detectors"
SNC Condition Report 50016494, "Storage Conditions Not Met for Intermediate Range Detectors"

LIST OF ACRONYMS

10 CFR	Title 10 of the Code of Federal Regulations
ADAMS	Agencywide Documentation Access and Management System
CAS	Central Alarm Station
COL	Combined License
DCO	Division of Construction Oversight
VAC	Heating, Ventilation, and Cooling System
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria
IMC	Inspection Manual Chapter
MC&A	Material Control and Accountability
NRC	Nuclear Regulatory Commission
PA	Protected Area
PARs	Publicly Available Records
SAS	Secondary Alarm Station
SNC	Southern Nuclear Company
SNM	Special Nuclear Material
VA	Vital Area

ITAAC INSPECTED

645	2.6.09.05b	The central and secondary alarm stations are located inside the protected area and the interior of each alarm station is not visible from the perimeter of the protected area	Inspections of the central and secondary alarm stations will be performed	The central and secondary alarm stations are located inside the protected area and the interior of each alarm station is not visible from the perimeter of the protected area
668	C.2.6.09.08a	Penetrations through the protected area barrier are secured and monitored. Unattended openings (such as underground pathways) that intersect the protected area boundary or vital area boundary will be protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.	Inspections will be performed of penetrations through the protected area barrier. Inspections will be performed of unattended openings that intersect the protected area boundary or vital area boundary.	Penetrations and openings through the protected area barrier are secured and monitored Unattended openings (such as underground pathways) that intersect the protected area boundary or vital area boundary are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.