

## Vogtle PEmails

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**From:** Gleaves, Bill  
**Sent:** Monday, October 30, 2017 1:58 PM  
**To:** Chamberlain, Amy Christine  
**Cc:** Dixon-Herrity, Jennifer; Patel, Chandu; Adam Quarles (AGQUARLE@southernco.com); Vogtle PEmails; Neil Haggerty - SNC (neil.haggerty@excelservices.com)  
**Subject:** Vogtle LAR-16-030R1 Audit Plan for "Ventilation System Changes"  
**Attachments:** Vogtle LAR-16-030Rev 1 Audit Plan approved.pdf

Amy,

Attached you will find a copy of the subject Audit Plan. This email and attachment will be entered into ADAMS by this transmission.

Billy  
William (Billy) Gleaves  
Senior Project Manager  
Licensing Branch 4  
Office OWFN 8H17  
US NRC, Office of New Reactors

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**Hearing Identifier:** Vogtle\_COL\_Docs\_Public  
**Email Number:** 175

**Mail Envelope Properties** (b280d5c5f7d04037823731efccd48fb4)

**Subject:** Vogtle LAR-16-030R1 Audit Plan for "Ventilation System Changes"  
**Sent Date:** 10/30/2017 1:58:28 PM  
**Received Date:** 10/30/2017 1:58:29 PM  
**From:** Gleaves, Bill

**Created By:** Bill.Gleaves@nrc.gov

**Recipients:**

"Dixon-Herrity, Jennifer" <Jennifer.Dixon-Herrity@nrc.gov>  
Tracking Status: None  
"Patel, Chandu" <Chandu.Patel@nrc.gov>  
Tracking Status: None  
"Adam Quarles (AGQUARLE@southernco.com)" <AGQUARLE@southernco.com>  
Tracking Status: None  
"Vogtle PEmails" <Vogtle.PEmails@nrc.gov>  
Tracking Status: None  
"Neil Haggerty - SNC (neil.haggerty@excelservices.com)" <neil.haggerty@excelservices.com>  
Tracking Status: None  
"Chamberlain, Amy Christine" <ACCHAMBE@southernco.com>  
Tracking Status: None

**Post Office:** HQPWMSMRS02.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	659	10/30/2017 1:58:29 PM
Vogtle LAR-16-030Rev 1 Audit Plan approved.pdf		121340

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

October 26, 2017

**U.S. NUCLEAR REGULATORY COMMISSION  
REGULATORY AUDIT OF  
LAR 16-030, REVISION 1  
VENTILATION SYSTEM CHANGES**

Docket Nos. 52-025 and 52-026

**AUDIT PLAN**

**LICENSEES:** Southern Nuclear Operating Company

**LICENSEE CONTACT:** Adam Quarles

**LOCATIONS:** U.S. Nuclear Regulatory Commission  
Electronic Reading Room  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852

**I. BACKGROUND**

By letter dated March 31, 2017, Southern Nuclear Operating Company (SNC), submitted a request for a license amendment and exemption (LAR 17-010) to the combined licenses for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17090A570). By letter dated August 31, 2017, the licensee submitted license amendment request (LAR) 16-030, Revision 1.

The LAR involves changes to the Auxiliary Building and Fuel handling area ventilation systems, including changes to ventilation flow rates. In addition, the LAR reduces the Spent Fuel Pool purification flow rate. These changes and changes to other parameters and assumptions in LAR 16-030, Revision 1, will result in changes to the SFP radionuclide inventory and the design basis airborne radionuclide concentrations in the Auxiliary Building and Fuel Handling areas. In reviewing the information and changes in the LAR and the information in the UFSAR. The staff was unable to confirm the licensee's calculated Auxiliary Building airborne activity concentration values. The staff calculated values for various radionuclides significantly larger than what was calculated by the licensee in the proposed UFSAR changes. In addition, not enough information was provided in the LAR for the staff to completely access the airborne activity values for the fuel handling area and the radionuclide inventory of the spent fuel pool. Therefore, to facilitate the NRC staff's evaluation of the LAR information and to complete its safety review in a timely manner, NRC staff is planning an audit that includes:

- A regulatory audit that will commence on October 25, 2017, and be carried out by accessing an electronic reading room established by the applicant. If clarification of the audit material is needed, the audit material may be discussed in a phone call. During this audit the NRC staff will examine the calculations for the design basis spent fuel pool

radionuclide inventory and airborne radioactivity calculations for the Auxiliary Building and Fuel Handling areas and associated information.

- Should the NRC staff need to re-examine documents after the audit to determine if a request for additional information (RAI) is needed, arrangements will be coordinated with the licensee as needed. The NRC staff does not anticipate the need to augment the audit report under these circumstances.

## **II. PURPOSE AND REGULATORY AUDIT BASES**

The purpose of this audit is for the staff to examine and evaluate non-docketed information:

1. To gain a better understanding of the methodology and calculations for determining the spent fuel pool radionuclide inventory and airborne activity concentrations for the Auxiliary Building and Fuel Handling area.
2. To verify and obtain clarifications on the information in LAR 16-030, Revision 1.
3. To identify any information needed on the docket to support the basis of a reasonable assurance finding.

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 20.1101b, requires that, “The licensee shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).”

10 CFR 20.1701, requires that, “The licensee shall use, to the extent practical, process or other engineering controls (e.g., containment, decontamination, or ventilation) to control the concentration of radioactive material in air.”

10 CFR Part 50, Appendix A, General Design Criterion 61, “Fuel Storage and Handling Radioactivity Control,” requires that the fuel storage and handling radioactive waste and other systems which may contain radioactivity shall be designed to assure adequate safety under normal and postulated accident conditions. These systems shall be designed with suitable shielding for radiation protection and with appropriate containment, confinement, and filtering systems.

The NRC staff must have sufficient information to ensure that the licensee has adequately assessed the potential dose to workers from the spent fuel pool and from airborne activity and that the design of associated systems is adequate.

## **III. REGULATORY AUDIT SCOPE**

The specific scope of this audit will include the following topics.

- Spent Fuel Pool radioactivity source term calculation
- Fuel Handling Area airborne radioactivity concentration calculation
- Auxiliary Building Airborne Radioactivity Concentration calculation

#### **IV. DOCUMENTS/INFORMATION NECESSARY FOR THE AUDIT**

The licensee should make available documents pertaining to topic areas listed in Section III of this audit plan. The audit team expects to look at portions at documents pertaining to these topic areas and documents related to inputs and assumptions to these calculations.

Documents provided by the licensee to support the audit are as follows:

- APP-SSAR-GSC-192, Revision 5, Occupational Dose Rates from Normal Operations from AP1000 Auxiliary Building, Annex Building, and Radwaste Building
- APP-SFS-M3-001, Revision 11, AP1000 Spent Fuel Pool Cooling System - System Specification Document
- APP-GW-N5C-003, Revision 2, AP1000 Fuel Handling Area Airborne Radioactivity Concentrations
- APP-SSAR-GSC-192, Revision 5, Occupational Dose Rates from Normal Operations from AP1000 Auxiliary Building, Annex Building, and Radwaste Building
- APP-GW-N1-021, Revision 3, AP1000 Radiation Analysis Design Manual
- APP-SSAR-GSC-489, Revision 0, AP1000 Reactor Coolant System Specific Activities
- APP-VAS-M3C-001, Revision 7, System Design Calculation for VAS System Seismic Category II
- APP-VAS-N2C-001, Revision 0, Technical Information for HVAC Simplification Radiation Calculation
- APP-VRS-M3C-001, Revision 3, System Design Calculation for the VRS System – Seismic Class NS
- APP-SSAR-GSC-744, Revision 4, AP1000 Nuclear Island Compartment Volume Calculations Supporting Pipe Rupture Hazards Analyses

#### **V. TEAM ASSIGNMENTS**

Edward Stutzcage (NRO/RPAC Health Physicist)  
 Billy Gleaves (NRO/LB4 Project Manager)

#### **VI. Logistics**

The audit will begin on October 25, 2017, at the NRC headquarters office (electronic reading room).

## **VII. SPECIAL REQUESTS**

The NRC staff requests that documents associated with the topic areas listed in Section IV be available to NRC auditors. The NRC staff will schedule a conference call to discuss the details in these documents and their audit findings following its review.

## **VIII. AUDIT ACTIVITIES AND DELIVERABLES**

The audit will be executed by viewing the documentation made available in the electronic reading room site established by the licensee. The NRC staff will view the documents from their NRC workstations. If necessary, the NRC staff will meet with licensee and contractor staff to discuss issues and review documents.

The NRC staff acknowledges the proprietary nature of the information requested and will handle it appropriately throughout the audit. While the NRC staff will take notes, the NRC staff will not remove hard copies or electronic files from the audit site(s).

A non-public entrance meeting will be conducted the first day of the audit, October 25, 2017, and a non-public exit meeting will take place at the end of the audit to present audit results to the licensee representatives. An audit report will be prepared to document the results of the audit. This report will be made publicly available in ADAMS.

The audit will assist the NRC staff in determining if additional RAIs will be necessary to complete the licensing review of LAR 16-030, Revision 1, "Ventilation System Changes"

If necessary, any circumstances related to the conductance of the audit will be communicated to the NRC project manager, Bill Gleaves, 301-415-5848.

## **IX. REFERENCES**

1. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4, Request for License Amendment and Exemption LAR 16-030, Revision 1 "Ventilation System Changes," dated August 31, 2017 (ADAMS Accession No. ML17243A444).
2. NRO-REG-108, "Regulatory Audits," dated April 2, 2009 (ADAMS Accession No. ML081910260).