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10 CFR 52.99(c)(3)

U.S. Nuclear Regulatory Commission  
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Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 3 and Unit 4  
Notice of Uncompleted ITAAC 225-days Prior to Initial Fuel Load  
Item 2.7.01.05.i [Index Number 684]

Ladies and Gentlemen:

Pursuant to 10 CFR 52.99(c)(3), Southern Nuclear Operating Company hereby notifies the NRC that as of February 16, 2018, Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Uncompleted Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.7.01.05.i [Index Number 684] has not been completed greater than 225-days prior to initial fuel load. The Enclosure describes the plan for completing this ITAAC. Southern Nuclear Operating Company will, at a later date, provide additional notifications for ITAAC that have not been completed 225-days prior to initial fuel load.

This notification is informed by the guidance described in NEI 08-01, *Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52*, which was endorsed by the NRC in Regulatory Guide 1.215. In accordance with NEI 08-01, this notification includes ITAAC for which required inspections, tests, or analyses have not been performed or have been only partially completed. All ITAAC will be fully completed and all Section 52.99(c)(1) ITAAC Closure Notifications will be submitted to NRC to support the Commission finding that all acceptance criteria are met prior to plant operation, as required by 10 CFR 52.103(g).

This letter contains no new NRC regulatory commitments.

If there are any questions, please contact Tom Petrak at 706-848-1575.

Respectfully submitted,

Michael J. Yox  
Regulatory Affairs Director Vogtle 3 & 4

U.S. Nuclear Regulatory Commission

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Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4  
Completion Plan for Uncompleted ITAAC 2.7.01.05.i [Index Number 684]

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**Southern Nuclear Operating Company  
ND-18-0225  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4  
Completion Plan for Uncompleted ITAAC 2.7.01.05.i [Index Number 684]**

### **ITAAC Statement**

#### **Design Commitment:**

5. The seismic Category I equipment identified in Table 2.7.1-1 can withstand seismic design basis loads without loss of safety function.

#### **Inspections, Tests, Analyses:**

- i) Inspection will be performed to verify that the seismic Category I equipment identified in Table 2.7.1-1 is located on the Nuclear Island.
- ii) Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.
- iii) Inspection will be performed for the existence of a report verifying that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

#### **Acceptance Criteria:**

- i) The seismic Category I equipment identified in Table 2.7.1-1 is located on the Nuclear Island.
- ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function.
- iii) A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

### **ITAAC Completion Description**

This ITAAC requires that inspections, tests, and analyses be performed and documented to ensure the Nuclear Island Nonradioactive Ventilation System (VBS) equipment identified as seismic Category I in the Combined License (COL) Appendix C, Table 2.7.1-1 (the Table) is designed and constructed in accordance with applicable requirements.

#### **i) The seismic Category I equipment identified in Table 2.7.1-1 is located on the Nuclear Island**

To assure that seismic Category I equipment can withstand seismic design basis loads without loss of safety function, all the equipment in the Table is designed to be located on the seismic Category I Nuclear Island. In accordance with Equipment Qualification (EQ) Walkdown ITAAC Guideline (Reference 1), an inspection is conducted of the VBS to confirm the satisfactory installation of the seismically qualified equipment. The inspection includes verification of equipment make/model/serial number and verification of equipment location (Building, Elevation, Room). The EQ As-Built Reconciliation Reports (EQRR) (Reference 2) identified in Attachment A document the results of the inspection and conclude that the seismic Category I equipment is located on the Nuclear Island.

ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function.

Seismic Category I equipment in the Table requires type tests and/or analyses to demonstrate structural integrity and operability. Structural integrity of the seismic Category I valves is demonstrated by analysis in accordance with American Society of Mechanical Engineers (ASME) Code Section III (Reference 3). Functionality of the subset of active safety-related valves under seismic loads is determined using the guidance of ASME QME-1-2007 (Reference 4).

Safety-related (Class 1E) electrical equipment in the Table is seismically qualified by type testing combined with analysis in accordance with Institute of Electrical and Electronics Engineers (IEEE) Standard 344-1987 (Reference 5). This equipment includes safety-related active valve accessories such as electric actuators, position switches, pilot solenoid valves and electrical connector assemblies. The specific qualification method (i.e., type testing, analysis, or combination) used for each piece of equipment in the Table is identified in Attachment A. Additional information about the methods used to qualify AP1000 safety-related equipment is provided in the Updated Final Safety Analysis Report (UFSAR) Appendix 3D (Reference 6). The EQ Reports (Reference 7) identified in Attachment A contain applicable test reports and associated documentation and conclude that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function.

iii) A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

An inspection (Reference 1) is conducted to confirm the satisfactory installation of the seismically qualified equipment in the Table. The inspection verifies the equipment make/model/serial number, as-designed equipment mounting orientation, anchorage and clearances, and electrical and other interfaces. The documentation of installed configuration of seismically qualified equipment includes photographs and/or sketches/drawings of equipment/mounting/interfaces.

As part of the seismic qualification program, consideration is given to the definition of the clearances needed around the equipment mounted in the plant to permit the equipment to move during a postulated seismic event without causing impact between adjacent pieces of safety-related equipment. This is done as part of seismic testing by measuring the maximum dynamic relative displacement of the top and bottom of the equipment. EQ Reports (Reference 7) identify the equipment mounting employed for qualification and establish interface requirements for assuring that subsequent in-plant installation does not degrade the established qualification. Interface requirements are defined based on the test configuration and other design requirements.

Attachment A identifies the EQRR (Reference 2) completed to verify that the as-built seismic Category I equipment listed in the Table, including anchorage, is seismically bounded by the tested or analyzed conditions, IEEE Standard 344-1987 (Reference 5), and NRC Regulatory Guide 1.100 (Reference 8).

Together, these reports (References 2 and 7) provide evidence that the ITAAC Acceptance Criteria requirements are met:

- The seismic Category I equipment identified in Table 2.7.1-1 is located on the Nuclear Island;
- A report exists and concludes that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function; and
- A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

References 2 and 7 are available for NRC inspection as part of the Unit 3 and Unit 4 ITAAC 2.7.01.05.i Completion Packages (References 9 and 10, respectively).

### **List of ITAAC Findings**

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all ITAAC findings pertaining to the subject ITAAC and associated corrective actions. This finding review, which included now-consolidated ITAAC Indexes 685 and 686, found the following relevant ITAAC finding associated with this ITAAC.

- 1) NON 99901412/2012-201-02 (Closed)

### **References (available for NRC inspection)**

1. ND-xx-xx-001, "EQ Walkdown ITAAC Guideline"
2. EQ As-Built Reconciliation Reports (EQRR) as identified in Attachment A for Units 3 and 4
3. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section III, "Rules for Construction of Nuclear Power Plant Components," 1998 Edition with 2000 Addenda
4. ASME QME-1-2007, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants," The American Society of Mechanical Engineers, June 2007
5. IEEE Standard 344-1987, "IEEE Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations"
6. Vogtle 3&4 Updated Final Safety Analysis Report Appendix 3D, "Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment"
7. Equipment Qualification (EQ) Reports as identified in Attachment A
8. Regulatory Guide 1.100, Rev. 2, "Seismic Qualification of Electric and Mechanical Equipment for Nuclear Power Plants"



9. 2.7.01.05.i-U3-CP-Rev X, "Completion Package for Unit 3 ITAAC 2.7.01.05.i [Index Number 684]"
10. 2.7.01.05.i-U4-CP-Rev X, "Completion Package for Unit 4 ITAAC 2.7.01.05.i [Index Number 684]"
11. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"

**Attachment A**

System: Nuclear Island Nonradioactive Ventilation System

<b>Equipment Name *</b>	<b>Tag No. *</b>	<b>Seismic Cat. I *</b>	<b>Type of Qual.</b>	<b>EQ Reports (Reference 7)</b>	<b>As-Built EQRR (Reference 2) *</b>
MCR Supply Air Isolation Valve	VBS-PL-V186	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR Supply Air Isolation Valve	VBS-PL-V187	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR Return Air Isolation Valve	VBS-PL-V188	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR Return Air Isolation Valve	VBS-PL-V189	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR Exhaust Air Isolation Valve	VBS-PL-V190	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR Exhaust Air Isolation Valve	VBS-PL-V191	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
PWS MCR Isolation Valve	PWS-PL-V418	Yes	Type Test & Analysis	APP-PV02-VBR-010 / APP-PV02-VBR-009	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
PWS MCR Isolation Valve	PWS-PL-V420	Yes	Type Test & Analysis	APP-PV02-VBR-010 / APP-PV02-VBR-009	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
PWS MCR Vacuum Relief	PWS-PL-V498	Yes	Type Test & Analysis	APP-PV18-VBR-002 / APP-PV18-VBR-001	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR SDS (Vent) Isolation Valve	SDS-PL-V001	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0

<b>Equipment Name +</b>	<b>Tag No. +</b>	<b>Seismic Cat. I +</b>	<b>Type of Qual.</b>	<b>EQ Reports (Reference 7)</b>	<b>As-Built EQRR (Reference 2) *</b>
MCR SDS (Vent) Isolation Valve	SDS-PL-V002	Yes	Type Test & Analysis	APP-PV11-VBR-006 / APP-PV11-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0
MCR WWS Isolation Valve	WWS-PL-V506	Yes	Analysis	APP-PV03-VBR-006 / APP-PV03-VBR-005	2.7.01.05.i-U3-EQRR-PCDXXX-Rev 0

+ Excerpt from COL Appendix C Table 2.7.1-1

\* The Unit 4 As-Built EQRR are numbered "2.7.01.05.i-U4-EQRR-PCDXXX-Rev 0"