



MAR 05 2018

Docket Nos.: 52-025  
52-026

Michael J. Yox  
Regulatory Affairs Director  
Vogtle 3 & 4

7825 River Road  
Waynesboro, GA 30830  
706-848-6459 tel  
410-474-8587 cell  
myox@southernco.com

ND-18-0290  
10 CFR 52.99(c)(3)

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-0001

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 3.5.00.01.i [Index Number 823]

Ladies and Gentlemen:

Pursuant to 10 CFR 52.99(c)(3), Southern Nuclear Operating Company hereby notifies the NRC that as of March 1, 2018, Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Uncompleted Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 3.5.00.01.i [Index Number 823] 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

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4  
Completion Plan for Uncompleted ITAAC 3.5.00.01.i [Index Number 823]

MJY/PGL/amw

**To:**

**Southern Nuclear Operating Company / Georgia Power Company**

Mr. D. A. Bost (w/o enclosures)

Mr. M. D. Rauckhorst (w/o enclosures)

Mr. M. D. Meier

Mr. D. H. Jones (w/o enclosures)

Mr. D. L. McKinney

Mr. M. J. Yox

Mr. D. L. Fulton

Mr. J. D. Williams

Mr. F. H. Willis

Ms. A. L. Pugh

Mr. A. S. Parton

Mr. W. A. Sparkman

Mr. C. E. Morrow

Ms. K. M. Stacy

Mr. M. K. Washington

Mr. J. P. Redd

Ms. A. C. Chamberlain

Mr. D. R. Culver

Mr. T. G. Petrak

Document Services RTYPE: VND.LI.L06

File AR.01.02.06

**cc:**

**Nuclear Regulatory Commission**

Mr. W. Jones (w/o enclosures)

Ms. J. M. Heisserer

Mr. C. P. Patel

Mr. M. E. Ernstes

Mr. G. J. Khouri

Mr. T. E. Chandler

Ms. S. E. Temple

Ms. P. Braxton

Mr. N. D. Karlovich

Mr. P. B. Donnelly

Mr. A. J. Lerch

Mr. C. J. Even

Mr. F. D. Brown

Mr. B. J. Kemker

Ms. A. E. Rivera-Varona

Ms. L. A. Kent

**Oglethorpe Power Corporation**

Mr. R. B. Brinkman

**Municipal Electric Authority of Georgia**

Mr. J. E. Fuller

Mr. S. M. Jackson

**Dalton Utilities**

Mr. T. Bundros

**Westinghouse Electric Company, LLC**

Dr. L. Oriani (w/o enclosures)

Mr. D. C. Durham (w/o enclosures)

Mr. M. M. Corletti

Ms. L. G. Iller

Mr. D. Hawkins

Ms. J. S. Monahan

Mr. J. L. Coward

Ms. N. E. Deangelis

**Other**

Mr. J. E. Hesler, *Bechtel Power Corporation*

Ms. L. Matis, *Tetra Tech NUS, Inc.*

Dr. W. R. Jacobs, Jr., Ph.D., *GDS Associates, Inc.*

Mr. S. Roetger, *Georgia Public Service Commission*

Ms. S. W. Kernizan, *Georgia Public Service Commission*

Mr. K. C. Greene, *Troutman Sanders*

Mr. S. Blanton, *Balch Bingham*

**Southern Nuclear Operating Company  
ND-18-0290  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4  
Completion Plan for Uncompleted ITAAC 3.5.00.01.i [Index Number 823]**

## **ITAAC Statement**

### **Design Commitment**

1. The seismic Category I equipment identified in Table 3.5-1 can withstand seismic design basis loads without loss of safety function.
2. The Class 1E equipment identified in Table 3.5-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

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

- i) Inspection will be performed to verify that the seismic Category I equipment identified in Table 3.5-1 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.
- i) Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E equipment located in a harsh environment.
- ii) Inspection will be performed of the as-built Class 1E equipment and the associated wiring, cables, and terminations located in a harsh environment.

### **Acceptance Criteria**

- i) The seismic Category I equipment identified in Table 3.5-1 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.
- i) A report exists and concludes that Class 1E equipment identified in Table 3.5-1 as being located in a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.
- ii) A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 3.5-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

### **ITAAC Completion Description**

This ITAAC requires that inspections, tests, and analyses be performed and documented to ensure the Radiation Monitoring System (RMS) equipment identified as seismic Category I or Class 1E in the Combined License (COL) Appendix C, Table 3.5-1 (the Table) is designed and constructed in accordance with applicable requirements.

**i) The seismic Category I equipment identified in Table 3.5-1 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 RMS 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. 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 3). This equipment includes safety-related (Class 1E) field sensors. 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 4). The EQ Reports (Reference 5) 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 5) 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, are seismically bounded by the tested or analyzed conditions, IEEE Standard 344-1987 (Reference 3) and NRC Regulatory Guide (RG) 1.100 (Reference 6).

i) A report exists and concludes that Class 1E equipment identified in Table 3.5-1 as being located in a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

The harsh environment Class 1E equipment in the Table is qualified by type testing and/or analyses. Class 1E electrical equipment type testing is performed in accordance with IEEE Standard 323-1974 (Reference 7) and RG 1.89 (Reference 8) to meet the requirements of 10 CFR 50.49. Type testing of safety-related equipment meets the requirements of 10 CFR Part 50, Appendix A, General Design Criterion 4. Attachment A identifies the EQ program and specific qualification method for each piece of safety-related Class 1E electrical equipment located in a harsh environment. Additional information about the methods used to qualify AP1000 safety-related equipment is provided in the UFSAR Appendix 3D (Reference 4). EQ Reports (Reference 5) identified in Attachment A contain applicable test reports and associated documentation and conclude that the equipment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

ii) A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 3.5-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

An inspection (Reference 1) is conducted of the RMS to confirm the satisfactory installation of the Class 1E equipment in the Table. The inspection verifies the equipment location, make/model/serial number, as-designed equipment mounting, wiring, cables, and terminations, and confirms that the environmental conditions for the zone (Attachment A) in which the equipment is mounted are bounded by the tested and/or analyzed conditions. It also documents the installed configuration with photographs or sketches/drawings of equipment mounting and connections. The EQRR (Reference 2) identified in Attachment A document this inspection and conclude that the as-built harsh environment Class 1E equipment and the associated wiring, cables, and terminations are bounded by the qualified configuration and IEEE Standard 323-1974 (Reference 7).

Together, these reports (References 2 and 5) provide evidence that the ITAAC Acceptance Criteria requirements are met:

- The seismic Category I equipment identified in Table 3.5-1 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;
- A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions;
- A report exists and concludes that Class 1E equipment identified in Table 3.5-1 as being located in a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function; and
- A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 3.5-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

References 2 and 5 are available for NRC inspection as part of the Unit 3 and Unit 4 ITAAC 3.5.00.01.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 824, 825, 826, and 827, found there are no relevant ITAAC findings associated with this ITAAC.

#### **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. IEEE Standard 344-1987, "IEEE Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations"
4. Vogtle 3&4 Updated Final Safety Analysis Report Appendix 3D, "Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment"
5. Equipment Qualification (EQ) Reports as identified in Attachment A
6. Regulatory Guide 1.100, Rev. 2, "Seismic Qualification of Electric and Mechanical Equipment for Nuclear Power Plants"
7. IEEE Standard 323-1974, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations"
8. Regulatory Guide 1.89, Rev 1, "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants"



9. 3.5.00.01.i-U3-CP-Rev X, "Completion Package for Unit 3 ITAAC 3.5.00.01.i [Index Number 823]"
10. 3.5.00.01.i-U4-CP-Rev X, "Completion Package for Unit 4 ITAAC 3.5.00.01.i [Index Number 823]"
11. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"

**Attachment A**

System: Radiation Monitoring System (RMS)

<b>Equipment Name<sup>+</sup></b>	<b>Tag No.<sup>+</sup></b>	<b>Seismic Cat. I<sup>+</sup></b>	<b>Class 1E/ Qual. For Harsh Envir.<sup>+</sup></b>	<b>Envir. Zone<sup>1</sup></b>	<b>Envir Qual Program<sup>2</sup></b>	<b>Type of Qual.</b>	<b>EQ Reports (Reference 5)</b>	<b>As-Built EQRR (Reference 2)<sup>3</sup></b>
Containment High Range Monitor	PXS-RE160	Yes	Yes/Yes	1	E * S	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX
Containment High Range Monitor	PXS-RE161	Yes	Yes/Yes	1	E * S	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX
Containment High Range Monitor	PXS-RE162	Yes	Yes/Yes	1	E * S	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX
Containment High Range Monitor	PXS-RE163	Yes	Yes/Yes	1	E * S	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX
MCR Radiation Monitoring Package A <sup>4</sup>	VBS-JS01A	Yes	Yes/No	NA	NA	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX
MCR Radiation Monitoring Package B <sup>4</sup>	VBS-JS01B	Yes	Yes/No	NA	NA	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/ Qual. For Harsh Envir. <sup>+</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 5)	As-Built EQRR (Reference 2) <sup>3</sup>
Containment Atmosphere Monitor (Gaseous)	PSS-RE026	Yes	No/No	NA	NA	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX
Containment Atmosphere Monitor (particulate, for RCS pressure boundary leakage detection)	PSS-RE027	Yes	No/No	NA	NA	Type Testing & Analysis	APP-XXX-XXX-XXX	3.5.00.01.i-U3-EQRR-PCDXXX

**Notes:**

<sup>+</sup> Excerpt from COL Appendix C Table 3.5-1

1. See Table 3D.5-1 of UFSAR
2. E = Electrical Equipment Program  
S = Qualified for submergence or operation with spray  
\* = Harsh Environment
3. The Unit 4 As-Built EQRR are numbered "3.5.00.01.i-U4-EQRR-PCDXXX-Rev 0"
4. Each MCR Radiation Monitoring Package includes particulate, iodine and gaseous radiation monitors.