



FEB 23 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-18-0266
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 2.3.02.05.i [Index Number 291]

Ladies and Gentlemen:

Pursuant to 10 CFR 52.99(c)(3), Southern Nuclear Operating Company hereby notifies the NRC that as of February 23, 2018, Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Uncompleted Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.3.02.05.i [Index Number 291] 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 2.3.02.05.i [Index Number 291]

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. Ernestes
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. 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-18-0266
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4
Completion Plan for Uncompleted ITAAC 2.3.02.05.i [Index Number 291]**

ITAAC Statement

Design Commitment

5. The seismic Category I equipment identified in Table 2.3.2-1 can withstand seismic design basis loads without loss of safety function.

6.a) The Class 1E equipment identified in Table 2.3.2-1 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 2.3.2-1 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 2.3.2-1 is located on the Nuclear Island.

ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic 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 the Class 1E equipment identified in Table 2.3.2-1 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.

ii) A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 2.3.2-1 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 Chemical and Volume Control System (CVS) equipment identified as seismic Category I or Class 1E in the Combined License (COL) Appendix C, Table 2.3.2-1 (the Table) is designed and constructed in accordance with applicable requirements.

i) The seismic Category I equipment identified in Table 2.3.2-1 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 CVS 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 dynamic 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, are seismically bounded by the tested or analyzed conditions, IEEE Standard 344-1987 (Reference 5), and NRC Regulatory Guide (RG) 1.100 (Reference 8).

i) A report exists and concludes that the Class 1E equipment identified in Table 2.3.2-1 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.

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 9) and RG 1.89 (Reference 10) 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 mechanical 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 6). EQ Reports (Reference 7) 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 2.3.2-1 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 CVS 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 9).

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 2.3.2-1 is located on the Nuclear Island;
- A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic 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 the Class 1E equipment identified in Table 2.3.2-1 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; and
- A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 2.3.2-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

References 2 and 7 are available for NRC inspection as part of the Unit 3 and Unit 4 ITAAC 2.3.02.05.i Completion Packages (References 11 and 12, 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 and associated corrective actions. This review, which included now consolidated ITAAC Indexes 292, 293, 294 and 295, found the following relevant ITAAC findings associated with this ITAAC:

- 1) Notice of Nonconformance (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. IEEE Standard 323-1974, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations"
10. Regulatory Guide 1.89, Rev 1, "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants"
11. 2.3.02.05.i-U3-CP-Rev X, "Completion Package for Unit 3 ITAAC 2.3.02.05.i [Index Number 291]"
12. 2.3.02.05.i-U4-CP-Rev X, "Completion Package for Unit 4 ITAAC 2.3.02.05.i [Index Number 291]"
13. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"

Attachment A

System: Chemical and Volume Control System (CVS)

Equipment Name ⁺	Tag No. ⁺	Seismic Cat. I ⁺	Class 1E/ Qual. for Harsh Envir.⁺³	Envir. Zone¹	Envir Qual Program²	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
RCS Purification Motor-operated Isolation Valve	CVS-PL-V001	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	APP-PV01-VBR-012 / APP-PV01-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
RCS Purification Motor-operated Isolation Valve	CVS-PL-V002	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	APP-PV01-VBR-012 / APP-PV01-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
RCS Purification Motor-operated Isolation Valve	CVS-PL-V003	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	APP-PV01-VBR-014 / APP-PV01-VBR-013	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Resin Flush Line Containment Isolation Valve	CVS-PL-V040	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV10-VBR-008 / APP-PV10-VBR-007	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Resin Flush Line Containment Isolation Valve	CVS-PL-V041	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV10-VBR-008 / APP-PV10-VBR-007	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Demineralizer Resin Flush Line Containment Isolation Thermal Relief Valve	CVS-PL-V042	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV16-VBR-002 / APP-PV16-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Letdown Containment Isolation Valve	CVS-PL-V045	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	APP-PV14-VBR-002 / APP-PV14-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Letdown Containment Isolation Valve	CVS-PL-V047	Yes	Yes/No	NA	NA	Type Testing & Analysis	APP-PV14-VBR-002 / APP-PV14-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Letdown Line Containment Isolation Thermal Relief Valve	CVS-PL-V058	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV16-VBR-002 / APP-PV16-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Makeup Return Line Bypass Check Valve	CVS-PL-V067	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV02-VBR-012 / APP-PV02-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0

Equipment Name ⁺	Tag No. ⁺	Seismic Cat. I ⁺	Class 1E/ Qual. for Harsh Envir. ^{+ 3}	Envir. Zone ¹	Envir Qual Program ²	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
CVS Purification Return Line Pressure Boundary Check Valve	CVS-PL-V080	Yes	- / -	NA	NA	Analysis	APP-PV03-VBR-014 / APP-PV03-VBR-013	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Purification Return Line Pressure Boundary Isolation Check Valve	CVS-PL-V081	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV14-VBR-190002 / APP-PV14-VBR-190001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Purification Return Line Pressure Boundary Check Valve	CVS-PL-V082	Yes	- / -	NA	NA	Analysis	APP-PV03-VBR-014 / APP-PV03-VBR-013	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Auxiliary Pressurizer Spray Line Pressure Boundary Valve	CVS-PL-V084	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	APP-PV14-VBR-002 / APP-PV14-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Auxiliary Pressurizer Spray Line Pressure Boundary Check Valve	CVS-PL-V085	Yes	- / -	NA	NA	Analysis	APP-PV02-VBR-012 / APP-PV02-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Makeup Line Containment Isolation Motor-operated Valve	CVS-PL-V090	Yes	Yes/No	NA	NA	Type Testing & Analysis	APP-PV01-VBR-012 / APP-PV01-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Makeup Line Containment Isolation Motor-operated Valve	CVS-PL-V091	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	APP-PV01-VBR-012 / APP-PV01-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Zinc Injection Containment Isolation Valve ORC	CVS-PL-V092	Yes	Yes/Yes	10	M * E S	Type Testing & Analysis	APP-PV14-VBR-002 / APP-PV14-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Zinc Injection Containment Isolation Valve IRC	CVS-PL-V094	Yes	Yes / Yes	1	M * E S	Type Testing & Analysis	APP-PV14-VBR-002 / APP-PV14-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Zinc Addition Line Cmtt Isol Thermal Relief Valve	CVS-PL-V098	Yes	- / -	NA	NA	Type Testing & Analysis	APP-PV16-VBR-002 / APP-PV16-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0

Equipment Name ⁺	Tag No. ⁺	Seismic Cat. I ⁺	Class 1E/Qual. for Harsh Envir. ^{+ 3}	Envir. Zone ¹	Envir Qual Program ²	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
CVS Makeup Line Containment Isolation Thermal Relief Valve	CVS-PL-V100	Yes	- / -	NA	NA	Analysis	APP-PV02-VBR-012 / APP-PV02-VBR-011	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Demineralized Water Isolation Valve	CVS-PL-V136A	Yes	Yes/No	NA	NA	Type Testing & Analysis	APP-PV11-VBR-004 / APP-PV11-VBR-003	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Demineralized Water Isolation Valve	CVS-PL-V136B	Yes	Yes/No	NA	NA	Type Testing & Analysis	APP-PV11-VBR-004 / APP-PV11-VBR-003	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Hydrogen Injection Containment Isolation Check Valve IRC	CVS-PL-V217	Yes	- / -	NA	NA	Analysis	APP-PV02-VBR-017 / APP-PV02-VBR-018	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0
CVS Hydrogen Injection Containment Isolation Valve ORC	CVS-PL-V219	Yes	Yes/Yes	10	M * E S	Type Testing & Analysis	APP-PV14-VBR-002 / APP-PV14-VBR-001	2.3.02.05.i-U3-EQRR-PCDXXX-Rev 0

Notes:

+ Excerpt from COL Appendix C Table 2.3.2-1

- See Table 3D.5-1 of UFSAR
- E - Electrical Equipment Program (limit switch and the motor operator, squib operator, solenoid operator)
M - Mechanical Equipment Program (valve)
S = Qualified for submergence or operation with spray
* - Harsh Environment
- Dash (-) indicates not applicable
- The Unit 4 As-Built EQRR are numbered "2.3.02.05.i-U4-EQRR-PCDXXX-Rev 0"