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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 2.1.02.12a.iv [Index Number 56]

Ladies and Gentlemen:

Pursuant to 10 CFR 52.99(c)(3), Southern Nuclear Operating Company hereby notifies the NRC that as of February 27, 2018, Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Uncompleted Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.1.02.12a.iv [Index Number 56] 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  
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Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4  
Completion Plan for Uncompleted ITAAC 2.1.02.12a.iv [Index Number 56]

MJY/LBP/amw

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**Southern Nuclear Operating Company  
ND-18-0293  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4  
Completion Plan for Uncompleted ITAAC 2.1.02.12a.iv [Index Number 56]**

## **ITAAC Statement**

### **Design Commitment**

12.a) The automatic depressurization valves identified in Table 2.1.2-1 perform an active safety-related function to change position as indicated in the table.

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

iv) Tests or type tests of squib valves will be performed that demonstrate the capability of the valve to operate under its design conditions.

v) Inspection will be performed for the existence of a report verifying that the as-built squib valves are bounded by the tests or type tests.

### **Acceptance Criteria**

iv) A test report exists and concludes that each squib valve changes position as indicated in Table 2.1.2-1 under design conditions.

v) A report exists and concludes that the as-built squib valves are bounded by the tests or type tests.

## **ITAAC Completion Description**

Multiple Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) are performed to demonstrate that the Reactor Coolant System (RCS) automatic depressurization (squib) valves identified in the Combined License (COL) Appendix C, Table 2.1.2-1 perform an active safety-related function to change position as indicated in the table.

iv) A test report exists and concludes that each squib valve changes position as indicated in Table 2.1.2-1 under design conditions.

This acceptance criteria requires tests or type tests of squib valves to be performed to demonstrate the capability of the valve to operate under its design conditions.

The functional qualification program for the AP1000 squib valves is developed based on American Society of Mechanical Engineers (ASME) QME-1-2007, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants" (Reference 1). The qualification was based on the ASME QME-1-2007 requirements for power operated valve assemblies.

Functional qualification is performed under the design conditions identified in the design specification for the valves (Reference 2) to demonstrate that each squib valve is qualified to perform its designated function when used in its intended service. In accordance with ASME QME-1-2007, qualification is substantiated by demonstrating the relationship between the service requirements and the type-testing and analysis that was conducted as part of this qualification program.

Type testing is performed, including natural frequency determination, sealing capability testing, functional operation, and flow characteristics, for the ranges of the pressure, temperature and

flow for each valve. In accordance with ASME QME-1-2007, the functional qualification process for these valves also included valve internal inspections, actuator inspection and testing, orientation requirements, leakage limitations, diagnostic data collection and analysis methods, static and dynamic flow diagnostic testing, and thermal binding evaluations.

The results of the qualification are documented in the Equipment Qualification (EQ) Reports (Reference 3) which are identified in Attachment A for each applicable valve. These reports summarize the test methodology and ASME QME-1-2007 functional qualification that demonstrate that each squib valve changes position as indicated in VEGP Unit 3 and Unit 4 COL Appendix C Table 2.1.2-1 under design conditions.

v) A report exists and concludes that the as-built squib valves are bounded by the tests or type tests.

This acceptance criteria requires that an inspection is performed for the existence of a report verifying that the as-built squib valves are bounded by tests or type tests.

The squib valves in VEGP Unit 3 and Unit 4 COL Appendix C Table 2.1.2-1 are verified by the type tests in accordance with ITAAC 2.1.02.12a.iv (above) to demonstrate the capability of the valves to operate under their design conditions. The EQ Reports in Attachment A identify the equipment mounting employed for the testing and the specific conditions tested.

In accordance with the EQ Walkdown Inspection ITAAC Guideline (Reference 4), an inspection is conducted of the RCS to confirm the satisfactory installation of the squib valves. The inspection includes verification of equipment make/model/serial number, verification of equipment mounting and location, and verification that the mechanical and electrical connections are bounded by the tested conditions.

The documentation of installed configuration of the squib valves includes photographs and/or sketches of equipment mounting and connections. The verification of installed component configuration is documented in the EQ As-Built Reconciliation Report(s) (EQRR) (Reference 5).

Attachment A identifies the EQRR which verify that the installed configuration of the squib valves identified in VEGP Unit 3 and Unit 4 COL Appendix C Table 2.1.2-1 are bounded by the tests or type tests.

Together, these EQ Reports and EQRR (References 3 and 5), provide evidence that the ITAAC Acceptance Criteria requirements are met:

- A test report exists and concludes that each squib valve changes position as indicated in Table 2.1.2-1 under design conditions; and
- A report exists and concludes that the as-built squib valves are bounded by the tests or type tests.

References 3 and 5 are available for NRC inspection as part of the Unit 3 and Unit 4 ITAAC 2.1.02.12a.iv Completion Packages (References 6 and 7, 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 Index 57, found the following relevant ITAAC findings associated with this ITAAC:

- Notice of Nonconformance 99900080/2013-201-01 (Closed)
- Notice of Nonconformance 99900080/2013-201-02 (Closed)
- Notice of Nonconformance 99900080/2012-201-01 (Closed)

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

1. American Society of Mechanical Engineers (ASME) QME-1-2007, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants"
2. APP-PV70-Z0-001 Revision X, "Squib (Pyrotechnic Actuated) Valves, ASME Boiler and Pressure Vessel Code, Section III Class 1"
3. Equipment Qualification (EQ) Reports as identified in Attachment A
4. ND-XX-XX-001, "EQ Walkdown ITAAC Guideline"
5. As-Built Equipment Qualification Reconciliation Reports (EQRR) as identified in Attachment A for Units 3 and 4
6. 2.1.02.12a.iv-U3-CP-Rev X, "Completion Package for Unit 3 ITAAC 2.1.02.12a.iv [Index Number 56]"
7. 2.1.02.12a.iv-U4-CP-Rev X, "Completion Package for Unit 4 ITAAC 2.1.02.12a.iv [Index Number 56]"
8. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"



**Attachment A**

System: Reactor Coolant System (RCS)

<b>Equipment Name +</b>	<b>Tag No. +</b>	<b>Active Function +</b>	<b>EQ Reports (Reference 3)</b>	<b>As-Built EQRR (Reference 5)*</b>
Fourth-stage ADS Squib Valve	RCS-PL-V004A	Transfer Open	APP-PV70-VBR-005 / APP-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCDXXX
Fourth-stage ADS Squib Valve	RCS-PL-V004B	Transfer Open	APP-PV70-VBR-005 / APP-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCDXXX
Fourth-stage ADS Squib Valve	RCS-PL-V004C	Transfer Open	APP-PV70-VBR-005 / APP-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCDXXX
Fourth-stage ADS Squib Valve	RCS-PL-V004D	Transfer Open	APP-PV70-VBR-005 / APP-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCDXXX

Notes:

+ Excerpt from COL Appendix C Table 2.1.2-1

\* The Unit 4 As-Built EQRR are numbered "2.1.02.12a.iv-U4-EQRR-PCDXXX"