

**DEC 15 2021**

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Docket No.: 52-025

ND-21-1030  
10 CFR 52.99(c)(1)

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

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 3  
ITAAC Closure Notification on Completion of ITAAC 2.1.02.12a.iv [Index Number 56]

Ladies and Gentlemen:

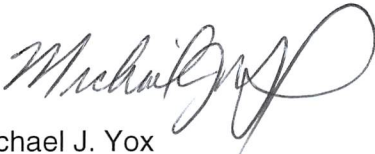
In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.1.02.12a.iv [Index Number 56]. This ITAAC confirms that the Reactor Coolant System squib valves identified in the VEGP Unit 3 Combined License (COL) Appendix C, Table 2.1.2-1 can perform an active safety-related function.

The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (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.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,



Michael J. Yox  
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3  
Completion of ITAAC 2.1.02.12a.iv [Index Number 56]

MJY/BSZ/sfr

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**Southern Nuclear Operating Company  
ND-21-1030  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3  
Completion of 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 Determination Basis**

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 was 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 was 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 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 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 ITAAC As-Built Walkdown Guideline and the EQ ITAAC As-built Installation Documentation Guideline (References 4 & 5), an inspection was 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 (EQRR) (Reference 6).

Attachment A identifies the EQRR which verify that the installed configuration of the squib valves identified in VEGP Unit 3 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 6), 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 6 are available for NRC inspection as part of the Unit 3 ITAAC 2.1.02.12a.iv Completion Package (Reference 7).

### **ITAAC Finding Review**

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)

### **ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.1.02.12a.iv was performed for VEGP Unit 3 and that the prescribed acceptance criteria are met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with the approved plant programs and procedures.

### **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 7, "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-RA-001-014, "EQ ITAAC As-built Walkdown Guideline", Version 3.1
5. ND-RA-001-016, "EQ ITAAC As-built Installation Documentation Guideline", Version 1.0
6. As-Built Equipment Qualification Reconciliation Reports (EQRR) as identified in Attachment A for Unit 3
7. 2.1.02.12a.iv-U3-CP-Rev 0, ITAAC Completion Package

**Attachment A**

System: Reactor Coolant System (RCS)

<b>Equipment Name <sup>+</sup></b>	<b>Tag No. <sup>+</sup></b>	<b>Active Function <sup>+</sup></b>	<b>EQ Reports (Reference 3)</b>	<b>As-Built EQRR (Reference 6)</b>
Fourth-stage ADS Squib Valve	RCS-PL-V004A	Transfer Open	SV3-PV70-VBR-005 / SV3-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCD001
Fourth-stage ADS Squib Valve	RCS-PL-V004B	Transfer Open	SV3-PV70-VBR-005 / SV3-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCD001
Fourth-stage ADS Squib Valve	RCS-PL-V004C	Transfer Open	SV3-PV70-VBR-005 / SV3-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCD001
Fourth-stage ADS Squib Valve	RCS-PL-V004D	Transfer Open	SV3-PV70-VBR-005 / SV3-PV70-VBR-004	2.1.02.12a.iv-U3-EQRR-PCD001

Notes:

<sup>+</sup> Excerpt from COL Appendix C Table 2.1.2-1