

December 21, 2022

Docket No.: 52-026

ND-22-0747
10 CFR 52.99(c)(1)U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC 2.1.02.08d.ii [Index Number 33]

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 4 Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) Item 2.1.02.08d.ii [Index Number 33] for verifying the line routing is consistent with the line routing used for design flow resistance calculations and is less than or equal to the calculated flow resistance of each Automatic Depressurization System (ADS) fourth-stage sub-loops. The closure process for this ITAAC is based on 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.

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,

Jamie M. Coleman
Regulatory Affairs Director Vogtle 3 & 4Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.1.02.08d.ii [Index Number 33]

JMC/PAW/sfr

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cc: Regional Administrator, Region II
 Director, Office of Nuclear Reactor Regulation (NRR)
 Director, Vogtle Project Office NRR
 Senior Resident Inspector – Vogtle 3 & 4

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Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.1.02.08d.ii [Index Number 33]**

ITAAC Statement

Design Commitment:

8.d) The RCS provides automatic depressurization during design basis events.

Inspections, Tests, Analyses:

ii) Inspections and associated analysis of each fourth-stage ADS valve group (four valves and associated piping connected to each hot leg) will be conducted to verify the line routing is consistent with the line routing used for design flow resistance calculations.

Acceptance Criteria:

ii) The calculated flow resistance for each group of fourth-stage ADS valves and piping with all valves open is:

Loop 1:

Sub-loop A: $\leq 5.91 \times 10^{-7}$ ft/gpm²

Sub-loop C: $\leq 6.21 \times 10^{-7}$ ft/gpm²

Loop 2:

Sub-loop B: $\leq 4.65 \times 10^{-7}$ ft/gpm²

Sub-loop D: $\leq 6.20 \times 10^{-7}$ ft/gpm²

ITAAC Determination Basis

Multiple ITAAC are performed to demonstrate the Reactor Coolant System (RCS) provides automatic depressurization during design basis events. This ITAAC performed inspections and analysis of each fourth-stage Automatic Depressurization System (ADS) valve group (four valves and associated piping connected to each hot leg) to verify the line routing is consistent with the line routing used for design flow resistance calculations.

A flow resistance was calculated with Darcy's formula for each of the fourth-stage ADS sub-loops flow paths A, B, C, and D using line routing information (i.e., pipe length, pipe diameter, number and type of pipe fittings, entrance/exit losses, and valves) (Reference 1). Following installation, inspections of each sub-loop's as-built construction records were performed to verify the line routing information from the hot leg of the RCS to the discharge of the fourth-stage squib valves remained consistent with the information in the flow resistance design calculation. The results were used to calculate the as-built flow resistance for each sub-loop using the same methodology used in the flow resistance design calculation and compared to the ITAAC acceptance criteria (Reference 2).

The results documented in Reference 2 and shown in Attachment A demonstrate the ITAAC acceptance criteria is met.

References 1 and 2 are available for NRC inspection as part of the Unit 4 ITAAC 2.1.02.08d.ii Completion Package (Reference 3).

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 review found that there are no relevant ITAAC findings associated with this ITAAC. This ITAAC completion review is documented in the ITAAC Completion Package (Reference 3) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.1.02.08d.ii was performed for VEGP Unit 4 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 approved plant programs and procedures.

References (available for NRC inspection)

1. APP-PXS-M3C-019, Rev. 5, "IRWST / Containment Sump Injection Lines and ADS Line Resistances"
2. SV4-RCS-ITR-800033, Rev. 0, "Unit 4 Inspections and Associated Analysis of each fourth-stage ADS Sub-loop: ITAAC 2.1.02.08d.ii"
3. 2.1.02.08d.ii-U4-CP-Rev0, ITAAC Completion Package

Attachment A

Fourth-Stage ADS Loop Flow Resistance

Loop	Fourth-stage Squib valve Tag No.*	Calculated As-built Flow Resistance* (ft/gpm²)	ITAAC Acceptance Criteria* (ft/gpm²)
Sub-loop A	RCS-PL-V004A	$< 5.76 \times 10^{-7}$	$\leq 5.91 \times 10^{-7}$
Sub-loop B	RCS-PL-V004B	$< 4.48 \times 10^{-7}$	$\leq 4.65 \times 10^{-7}$
Sub-loop C	RCS-PL-V004C	$< 5.98 \times 10^{-7}$	$\leq 6.21 \times 10^{-7}$
Sub-loop D	RCS-PL-V004D	$< 5.97 \times 10^{-7}$	$\leq 6.20 \times 10^{-7}$

* Excerpt from COL App C Tables 2.1.2-1 and 2.1.2-4

+ Results are Unit specific