Southern Nuclear

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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 3
ITAAC Closure Notification on Completion of ITAAC 2.2.03.09a.i [Index Number 201]

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 2.2.03.09a.i [Index Number 201], for verifying the In-containment Refueling Water Storage Tank (IRWST) drain line flow resistance values. 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 is 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 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 ITAAC Closure Notification on Completion of ITAAC 2.2.03.09a.i [Index Number 201]

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Southern Nuclear Operating Company
ND-20-0198
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 3
ITAAC Closure Notification on Completion of ITAAC 2.2.03.09a.i [Index Number 201]

ITAAC Statement

Design Commitment

9.a) The PXS provides a function to cool the outside of the reactor vessel during a severe accident.

Inspections/Tests/Analyses

i) A flow test and analysis for each IRWST drain line to the containment will be conducted. The test is initiated by opening isolation valves in each line. Test fixtures may be used to simulate squib valves.

Acceptance Criteria

i) The calculated flow resistance for each IRWST drain line between the IRWST and the containment is $\leq 4.44 \times 10^{-6}$ ft/gpm^2.

ITAAC Determination Basis

Multiple ITAAC were performed to verify that the Passive Core Cooling System (PXS) provides a function to cool the outside of the reactor vessel during a severe accident. This ITAAC performed a flow test and analysis on each In-containment Refueling Water Storage Tank (IRWST) drain line to the containment to demonstrate that the calculated flow resistance meets acceptance criteria.

Performance tests were conducted in accordance with the Unit 3 preoperational test procedure 3-PXS-ITPP-507 (Reference 1 and 2) which demonstrated that the flow resistance in each IRWST drain line to the containment was $\leq 4.44 \times 10^{-6}$ ft/gpm^2.

The test installed a temporary valve in the IRWST screen drain lines, installed a jumper between the A and B containment sump injection lines, installed flow test fixtures for the squib valves in the containment recirculation sump lines, filled the IRWST with demineralized water to act as a temporary water supply, and initiated flow from the A screen in the IRWST into the containment recirculation sump A to recirculation injection line B to the reactor vessel. All valves in the flow path were opened during the test and sufficient flow was provided to open the check valves. The flow rate between the IRWST and containment sump A, differential pressure, and IRWST level were monitored and recorded. The process was then repeated with IRWST screen B to containment sump B to reactor vessel injection line A. The constant value for each flow resistance was calculated based on IRWST level, differential pressure and discharge flow, adjusted for measurement uncertainty, and compared to the acceptance criteria.

The flow resistance for each Unit 3 IRWST drain line between the IRWST and the containment was calculated to be 3.57×10^{-6} ft/gpm^2 (drain line A) and 2.49×10^{-6} ft/gpm^2 (drain line B) (References 4 and 5). The Unit 3 test results were documented in Reference 3 and confirmed that the calculated flow resistance between each IRWST drain line to the containment sump meets the ITAAC acceptance criteria.

References 1 through 5 are available for NRC inspection as well as the ITAAC 2.2.03.09a.i Completion Package (Reference 6).

List of ITAAC Findings

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found there were no relevant ITAAC findings associated with this ITAAC.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.09a.i was performed for VEGP Unit 3 and that the prescribed acceptance criteria were 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. 3-PXS-ITPP-507, Rev. 3, "IRWST Flow Tests"
2. Work Order 1071722, "(ITAAC) Perform Preop Test 3-PXS-ITPP-507"
3. SV3-PXS-ITR-800201, Rev. 0, ITAAC Technical Report, "Unit 3 Recorded Results of PXS IRWST Drain Line Flow Resistance: ITAAC 2.2.03.09a.i"
4. SV3-PXS-T1R-003, Rev. 0, "Vogtle Unit 3 3-PXS-ITPP-507 Section 4.3.1 and 4.3.3 IRWST to Containment Recirc Sump Flow Resistance Test Engineering Report"
5. SV3-PXS-T2C-003, Rev. 0, "Vogtle Unit 3 3-PXS-ITPP-507 Section 4.3.1 and 4.3.3 IRWST to Containment Recirc Sump Flow Resistance Test Calculation"
6. 2.2.03.09a.i-U3-CP-Rev0, ITAAC Completion Package
7. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"