



Michael J. Yox
Regulatory Affairs Director
Vogtle 3 & 4

7825 River Road
Waynesboro, GA 30830
706-848-6459 tel

Docket Nos.: 52-025

ND-20-0174
10 CFR 52.99(c)(1)

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 3
ITAAC Closure Notification on Completion of ITAAC 2.2.03.08c.i.03 [Index Number 179]

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 2.2.03.08c.i.03 [Index Number 179], for verifying the In-containment Refueling Water Storage Tank injection 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 2.2.03.08c.i.03 [Index Number 179]

MJY/DLW/sfr

To:

Southern Nuclear Operating Company/ Georgia Power Company

Mr. Peter P. Sena III (w/o enclosures)

Mr. D. L. McKinney (w/o enclosures)

Mr. M. D. Meier (w/o enclosures)

Mr. D. H. Jones (w/o enclosures)

Mr. G. Chick

Mr. M. Page

Mr. P. Martino

Mr. M. J. Yox

Mr. A. S. Parton

Ms. K. A. Roberts

Mr. T. G. Petrak

Mr. C. T. Defnall

Mr. C. E. Morrow

Mr. R. L. Beilke

Mr. S. Leighty

Ms. A. C. Chamberlain

Mr. J. C. Haswell

Document Services RTYPE: VND.LI.L06

File AR.01.02.06

cc:

Nuclear Regulatory Commission

Mr. W. Jones (w/o enclosures)

Mr. C. P. Patel

Mr. G. J. Khouri

Ms. S. E. Temple

Mr. N. D. Karlovich

Mr. A. Lerch

Mr. C. J. Even

Mr. B. J. Kemker

Ms. N. C. Covert

Mr. C. Welch

Mr. J. Gaslevic

Mr. V. Hall

Mr. G. Armstrong

Ms. T. Lamb

Mr. M. Webb

Mr. T. Fredette

Mr. C. Weber

Mr. S. Smith

Mr. C. Santos

Mrs. M. Bailey

Mr. S. Rose

Mr. B. Davis

Mr. J. Vasquez

Mr. J. Eargle

Ms. K. Carrington

Mr. P. Heher
Mr. M. King
Mr. E. Davidson

Oglethorpe Power Corporation

Mr. R. B. Brinkman
Mr. E. Rasmussen

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
Mr. Z. S. Harper
Mr. J. L. Coward

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*

U.S. Nuclear Regulatory Commission
ND-20-0174 Enclosure
Page 1 of 4

**Southern Nuclear Operating Company
ND-20-0174
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3
ITAAC Closure Notification on Completion of ITAAC 2.2.03.08c.i.03 [Index Number 179]**

ITAAC Statement

Design Commitment

8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.

Inspections/Tests/Analyses

i) A low-pressure injection test and analysis for each CMT, each accumulator, each IRWST injection line, and each containment recirculation line will be conducted. Each test is initiated by opening isolation valve(s) in the line being tested. Test fixtures may be used to simulate squib valves.

3. IRWST Injection:

The IRWST will be partially filled with water. All valves in these lines will be open during the test. Sufficient flow will be provided to open the check valves.

Acceptance Criteria

i) The injection line flow resistance from each source is as follows:

3. IRWST Injection:

The calculated flow resistance for each IRWST injection line between the IRWST and the reactor vessel is:

Line A: $\geq 5.35 \times 10^{-6} \text{ ft/gpm}^2$ and $\leq 9.09 \times 10^{-6} \text{ ft/gpm}^2$ and
Line B: $\geq 6.15 \times 10^{-6} \text{ ft/gpm}^2$ and $\leq 1.05 \times 10^{-5} \text{ ft/gpm}^2$.

ITAAC Determination Basis

Multiple ITAAC are performed to verify that the Passive Core Cooling System (PXS) provides Reactor Coolant System (RCS) makeup, boration, and safety injection during design basis events. This ITAAC performs a low pressure injection test and analysis for each In-containment Refueling Water Storage Tank (IRWST) by testing and calculating the flow resistance of each injection line.

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 path from each Unit 3 IRWST injection line to the reactor vessel has a flow resistance $\geq 5.35 \times 10^{-6} \text{ ft/gpm}^2$ and $\leq 9.09 \times 10^{-6} \text{ ft/gpm}^2$ for line A and a flow resistance $\geq 6.15 \times 10^{-6} \text{ ft/gpm}^2$ and $\leq 1.05 \times 10^{-5} \text{ ft/gpm}^2$ for line B.

The test installed flow test fixtures for the squib valves in the IRWST injection lines, isolated the containment sump recirculation lines, filled the IRWST with demineralized water to act as a temporary water supply, and initiated flow between the IRWST injection line A and the reactor vessel. All valves in these lines were opened during the test and sufficient flow was provided to open the check valves. The flow rate between the IRWST and injection line A to the reactor vessel, differential pressure, and IRWST level were measured. This test was repeated for the IRWST injection line B to the reactor vessel. The constant value for flow resistance was

calculated based on measured tank level, differential pressure, discharge flow, adjusted for measurement uncertainty, and compared to the acceptance criteria.

The flow resistance for Unit 3 was calculated to be 7.33×10^{-6} ft/gpm² for the IRWST injection line A flow path and 9.37×10^{-6} ft/gpm² for the IRWST injection line B flow path (References 4 and 5). The Unit 3 test results were documented in Reference 3 and confirm that the calculated flow resistance between each IRWST injection line flow path and the reactor vessel meet the ITAAC acceptance criteria.

References 1 through 5 are available for NRC inspection as well as the ITAAC 2.2.03.08c.i.03 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 one (1) closed Notice of Nonconformance (NON) associated with this ITAAC.

1. NON 99900404/2011-201-02 (Closed) – Contrary to the above, as of July 15, 2011, Westinghouse failed to establish measures to assure that the design of the check valves, piping, and related components located in-between the IRWST and the Direct Vessel Injection Line appropriately considered the potentially large hydrodynamic forces that could occur due to a spurious actuation of the IRWST squib valves while the reactor is at operating pressure.
 - a. The ITAAC completion review determined that all corrective actions associated with this NON were completed and closed. NRC closure of this NON was documented in NRC Safety Evaluation dated November 22, 2017 and closure letter dated December 18, 2017.

The ITAAC findings review is documented in the ITAAC Completion Package for ITAAC 2.2.03.08c.i.03 (Reference 6) and available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.08c.i.03 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-800179, Rev. 0, ITAAC Technical Report, "Unit 3 Recorded Results of PXS IRWST Injection Line Flow Resistance: ITAAC 2.2.03.08c.i.03"
4. SV3-PXS-T1R-001, Rev. 0, "Vogtle Unit 3 3-PXS-ITPP-507 Section 4.2 IRWST Injection to DVI Nozzle Flow Resistance Test Engineering Report"

5. SV3-PXS-T2C-001, Rev. 0, "Vogtle Unit 3 3-PXS-ITPP-507 Section 4.2 IRWST Injection to DVI Nozzle Flow Resistance Test Calculation"
6. 2.2.03.08c.i.03-U3-CP-Rev0, ITAAC Completion Package
7. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"