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Docket No.: 52-026

ND-23-0187  
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 4  
ITAAC Closure Notification on Completion of ITAAC 2.2.03.08c.viii [Index Number 193]

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 2.2.03.08c.viii [Index Number 193] for the inspection of the as-built components verification of the frontal face area, screen surface area, and screen mesh size of the In-containment Refueling Water Storage Tank (IRWST) and Containment Recirculation Screens in the containment building. 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 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.2.03.08c.viii [Index Number 193]

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

**Southern Nuclear Operating Company  
ND-23-0187  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.2.03.08c.viii [Index Number 193]**

## **ITAAC Statement**

### **Design Commitment**

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

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

viii) Inspections of the IRWST and containment recirculation screens will be conducted. The inspections will include measurements of the pockets and the number of pockets used in each screen. The pocket frontal face area is based on a width times a height. The width is the distance between pocket centerlines for pockets located beside each other. The height is the distance between pocket centerlines for pockets located above each other. The pocket screen area is the total area of perforated plate inside each pocket; this area will be determined by inspection of the screen manufacturing drawings.

### **Acceptance Criteria**

viii) The screens utilize pockets with a frontal face area of  $\geq 6.2 \text{ in}^2$  and a screen surface area  $\geq 140 \text{ in}^2$  per pocket. IRWST Screens A and B each have a sufficient number of pockets to provide a frontal face area  $\geq 25 \text{ ft}^2$ , a screen surface area  $\geq 575 \text{ ft}^2$ , and a screen mesh size of  $\leq 0.0625 \text{ inch}$ . IRWST Screen C has a sufficient number of pockets to provide a frontal face area  $\geq 50 \text{ ft}^2$ , a screen surface area  $\geq 1150 \text{ ft}^2$ , and a screen mesh size  $\leq 0.0625 \text{ inch}$ . Each containment recirculation screen has a sufficient number of pockets to provide a frontal face area  $\geq 105 \text{ ft}^2$ , a screen surface area  $\geq 2500 \text{ ft}^2$ , and a screen mesh size  $\leq 0.0625 \text{ inch}$ .

A debris curb exists in front of the containment recirculation screens which is  $\geq 2 \text{ ft}$  above the loop compartment floor.

The bottoms of the IRWST screens are located  $\geq 6 \text{ in}$  above the bottom of the IRWST.

### **ITAAC Determination Basis**

Multiple ITAAC were performed to demonstrate the Passive Core Cooling System (PXS) provides Reactor Coolant System (RCS) makeup, boration, and safety injection during design basis events. The subject ITAAC requires an inspection of the In Containment Refueling Water Storage Tank (IRWST) screens and containment recirculation screens to verify the frontal face area, screen surface area, and screen mesh size meet the acceptance criteria as shown in Attachment A. In addition, inspections were performed to verify the debris curb in front of the containment recirculation screens is  $\geq 2 \text{ ft}$  above the loop compartment floor, and the bottoms of the IRWST screens are located  $\geq 6 \text{ in}$  above the bottom of the IRWST.

Following fabrication of the IRWST and containment recirculation screens, the vendor determined the pocket screen area based upon the screen manufacturing drawings and verified by vendor field measurements. The screen mesh size, which is the hole diameters in the perforated plates, were measured during production of the plates. Vendor compliance with the design specifications, which included verification of the screen surface area per pocket and screen mesh size, was documented in Reference 1 and shown in Attachment A.

Following receipt of the screens, inspections were performed in accordance with Reference 2 to determine the pocket frontal face area, and the results are shown in Attachment A. The inspection plan utilized guidance provided in Electric Power Research Institute (EPRI) Report TR-017218-R1 (Reference 7) to determine the number of pockets to measure. The pocket frontal face area is based on a width times a height. The width is the distance between pocket centerlines for pockets located beside each other. The height is the distance between pocket centerlines for pockets located above each other.

Following installation of the IRWST screens, containment recirculation screens, and debris curb, inspections were performed to determine the number of pockets in order to calculate the frontal face area of each screen (References 3 and 4). Inspections were performed to determine the distance from the bottom of the IRWST screens to the IRWST floor (Reference 3) the distance from the top of the containment recirculation screen debris curb to the loop compartment floor (Reference 4), and verification that the debris curb in front of the containment recirculation screens is installed in its proper location and final configuration in accordance with design specifications (Reference 4). Measurements are taken using survey equipment in accordance with site survey and measurement procedures (Reference 6).

The total screen surface area was calculated based on the number of pockets installed in each screen and the screen area inside each pocket. The screen area inside each pocket was determined based on the screen manufacturing drawings and verified by vendor field measurements (Reference 1). Conservatively, for calculating the total frontal face area of the screens, the acceptance criteria value of the pocket frontal face area and the number of pockets installed in each screen was used (References 3 and 4).

The results are documented in the Unit 4 Principal Closure Documents SV4-MY03-VDR-002, SV0-PXS-ITR-800193, SV4-PXS-FSK-901193 and SV4-PXS-FSK-900193 (References 1 through 4) and are shown in Attachment A, which meets the ITAAC acceptance criteria.

References 1 through 4 are available for NRC inspection as part of the Unit 4 ITAAC 2.2.03.08c.viii Completion Package (Reference 5).

### **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. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.2.03.08c.viii (Reference 5) and is available for NRC review.

### **ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.08c.viii was performed for VEGP Unit 4 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. SV4-MY03-VDR-002, Rev. 0, "ITAAC 2.2.03.08c.viii Verification Report"
2. SV0-PXS-ITR-800193, Rev. 0, "Units 3 & 4 Frontal Face Area Inspection: ITAAC 2.2.03.08c.viii NRC Index 193"
3. SV4-PXS-FSK-901193, Rev. 0, "Unit 4 PXS ITAAC 193 IRWST Recirc. Screens ITAAC Inspections/Field Measurements"
4. SV4-PXS-FSK-900193, Rev. 0, "PXS ITAAC 193 Containment Recirc. Screens & Weir Inspections/Field Measurements"
5. 2.2.03.08c.viii-U4-CP, Rev. 0, ITAAC Completion Package
6. Nuclear Construction and Startup Procedure (NCSP) 3-24, "Field Surveying"
7. TR-017218-R1, Electric Power Research Institute (EPRI) Report

Attachment A

IRWST and Containment Recirculation Screen Areas and Measured Clearances

Component Name*	Tag No.*	Pocket Frontal Face Area (AC ≥ 6.2 in <sup>2</sup> )	Screen Surface Area per Pocket (AC ≥ 140 in <sup>2</sup> )	Screen Mesh size (AC ≤ 0.0625 inch)	Total Calculated Frontal Face Area	Total Calculated Screen Surface Area
IRWST Screen A	SV4-PXS-MY-Y01A	6.5 in <sup>2</sup>	143 in <sup>2</sup>	0.0622 inch	25.83 ft <sup>2</sup> (AC ≥ 25 ft <sup>2</sup> )	596 ft <sup>2</sup> (AC ≥ 575 ft <sup>2</sup> )
IRWST Screen B	SV4-PXS-MY-Y01B	6.5 in <sup>2</sup>	143 in <sup>2</sup>	0.0622 inch	25.83 ft <sup>2</sup> (AC ≥ 25 ft <sup>2</sup> )	596 ft <sup>2</sup> (AC ≥ 575 ft <sup>2</sup> )
IRWST Screen C	SV4-PXS-MY-Y01C	6.5 in <sup>2</sup>	143 in <sup>2</sup>	0.0622 inch	51.67 ft <sup>2</sup> (AC ≥ 50 ft <sup>2</sup> )	1193 ft <sup>2</sup> (AC ≥ 1150 ft <sup>2</sup> )
Containment Recirculation Screen A	SV4-PXS-MY-Y02A	6.4 in <sup>2</sup>	143 in <sup>2</sup>	0.0622 inch	108.50 ft <sup>2</sup> (AC ≥ 105 ft <sup>2</sup> )	2504 ft <sup>2</sup> (AC ≥ 2500 ft <sup>2</sup> )
Containment Recirculation Screen B	SV4-PXS-MY-Y02B	6.4 in <sup>2</sup>	143 in <sup>2</sup>	0.0622 inch	108.50 ft <sup>2</sup> (AC ≥ 105 ft <sup>2</sup> )	2504 ft <sup>2</sup> (AC ≥ 2500 ft <sup>2</sup> )
<p>Minimum measured distance from the top of the debris curb in front of the containment recirculation screens to the loop compartment floor is 2' - 0¼"</p> <p>(Acceptance Criteria ≥ 2 ft)</p>						
<p>Minimum measured distance from the bottoms of the IRWST screens to the floor of the IRWST</p> <p>IRWST Screen A bottom is 6.0 in. above the floor            IRWST Screen B bottom is 6.2 in. above the floor            IRWST Screen C bottom is 6.1 in. above the floor</p> <p>(Acceptance Criteria ≥ 6 in)</p>						

\* Excerpt from COL Appendix C, Table 2.2.3-1