



January 22, 2016  
NND-16-0003  
10 CFR 52.99(c)(1)

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

Subject: Virgil C. Summer Nuclear Station (VCSNS) Unit 2  
Combined License No. NPF-93  
Docket Number 52-027  
ITAAC Closure Notification for ITAAC 2.2.03.08c.vi.01 [Index No. 189]

Attachments: References

The purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) in accordance with 10 CFR 52.99(c)(1) of the completion of Virgil C. Summer Nuclear Station (VCSNS) Unit 2 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.03.08c.vi.01 for verifying that the calculated volume of each of the Core Makeup Tanks (CMTs) results in a volume greater than or equal to 2,487 ft<sup>3</sup>. The closure process for this ITAAC is based on the guidance described in NEI 08-01 (Reference 1), which was endorsed by the NRC in Regulatory Guide 1.215.

### **ITAAC Statement**

#### **Design Commitment:**

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

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

*vi) Inspections of each of the following tanks will be conducted:*

1. CMTs

#### **Acceptance Criteria:**

*vi) The calculated volume of each of the following tanks is as follows:*

1. CMTs  $\geq 2,487 \text{ ft}^3$

### **ITAAC Determination Basis**

Multiple ITAAC are performed to ensure the Passive Core Cooling System (PXS) system provides Reactor Coolant System (RCS) makeup, boration, and safety injection during design basis events. This ITAAC requires measurements be taken and calculations conducted to confirm that the volume of each of the Core Makeup Tanks is greater than or equal to 2,487 ft<sup>3</sup>. Inspections of each Core Makeup Tank (CMT) were conducted and it has been verified that the calculated volume of each CMT is greater than or equal to 2,487 ft<sup>3</sup>.

Measurements were performed on site using a laser scanning system that utilizes a 3-dimensional coordinate measurement system with phase shift laser technology. Two scanner locations were used to provide complete scanning coverage of the internal surface of the CMT tanks. Data points were recorded every 4.5mm, for a total of over 4 million data points per tank.

One complete data file consisting of the composite of the scans performed at scan location 1 and scan location 2, and representative of the entire internal surface of the CMT, was analyzed. Features not representative of the final tank configuration such as control point targets, cables, tripod, inlet diffuser and other features that are not part of the final operating tank condition were removed from the data file. The inlet diffuser is located in the upper head and reduces the overall volume of the Core Makeup Tank. The volume of the inlet diffuser was conservatively calculated and determined to have a negligible impact on total tank volume. Once the data represented a closed geometric shape, the volume was calculated from the model and recorded in the AP1000 V.C. Summer Unit 2 Core Makeup Tanks Volumetric Scanning Report (Reference 2).

The volume of the Unit 2, Component 1 (CMT A) Core Makeup Tank is 2,503.38 ft<sup>3</sup>, and the Unit 2, Component 2 (CMT B) Core Makeup Tank volume is 2,497.25 ft<sup>3</sup>. This shows that the volume of both CMTs is greater than or equal to 2,487 ft<sup>3</sup> which is the ITAAC acceptance criteria requirement.

### **ITAAC Finding Review**

In accordance with plant procedures for ITAAC completion, SCE&G performed a review of all 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.vi.01 (Reference 3) and available for NRC inspection.

**ITAAC Completion Statement**

Based on the above information, SCE&G hereby notifies the NRC that ITAAC 2.2.03.08c.vi.01 was performed for VCSNS Unit 2 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.

We request NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99(e)(1).

If there are any questions, please contact Nick Kellenberger at (803) 941-9834.

Sincerely,



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**References (available for NRC inspection):**

1. NEI 08-01, Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52.
2. VS2-MT01-VDR-001, AP1000 V.C. Summer Unit 2 Core Makeup Tanks Volumetric Scanning Report
3. ITAAC 2.2.03.08c.vi.01 Completion Package