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June 26, 2017
NND-17-0357
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 3
Combined License No. NPF-94
Docket Number 52-028
ITAAC Closure Notification on Completion of ITAAC 2.5.05.02.ii [Index No. 566]

Attachments: (1) References
(2) Excerpt from COL Appendix C Table 2.5.5-1

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 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.5.05.02.ii to verify a report exists and concludes that the seismic Category I equipment in the In-Core Instrumentation System (IIS) can withstand seismic design basis dynamic loads without loss of safety function. 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:

2. *The seismic Category I equipment identified in Table 2.5.5-1 can withstand seismic design basis dynamic loads without loss of safety function.*

Inspections, Tests, Analyses:

ii) Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.

Acceptance Criteria:

ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of safety function.

ITAAC Determination Basis

Multiple ITAAC are performed to demonstrate the seismic Category I equipment identified in Combined License (COL) Appendix C Table 2.5.5-1 (Attachment 2) can withstand seismic design basis dynamic loads without loss of safety function. The equipment identified in Table 2.5.5-1 as being seismic Category I are the In-Core Instrument Thimble Assemblies (IITAs). The subject ITAAC requires type tests, analyses, or a combination of type tests and analyses be performed to verify the seismic Category I equipment identified in Table 2.5.5-1 can withstand seismic design basis dynamic loads without loss of safety function.

The seismic Category I IITAs listed in Table 2.5.5-1 were qualified using a combination of type tests and analyses to demonstrate structural integrity and operability. Structural integrity of the portions of the IITA located inside the reactor vessel was demonstrated by analysis in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section III, Rules for Construction of Nuclear Power Plant Components, 1998 Edition with 2000 Addenda (Reference 2). The safety-related (Class 1E) portions of the IITA outside of the reactor vessel were seismically qualified to demonstrate structural integrity and operability by type testing combined with analysis in accordance with the Institute of Electrical and Electronics Engineers (IEEE) Std 344-1987 (Reference 3).

Additional information about the methods used to qualify safety-related equipment supplied for the AP1000 is provided in V. C. Summer Unit 2 & 3 Updated Final Safety Analysis (UFSAR) Appendix 3D, “Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment” (Reference 4).

The Equipment Qualification Data Package (Reference 5), Equipment Qualification Summary Report (Reference 6), and design analysis (Reference 7) are identified in Attachment 2 for the seismic Category I equipment identified in COL Appendix C Table 2.5.5-1. These documents contain applicable test reports and associated documentation and conclude the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of safety function.

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 2.5.05.02.ii (Reference 8) and available for NRC inspection.

ITAAC Completion Statement

Based on the above information, SCE&G hereby notifies the NRC that ITAAC 2.5.05.02.ii was performed for VCSNS Unit 3 and 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 Ryder Thompson at (803) 941-9812.

Sincerely,

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New Nuclear Deployment

RT/AR/rc

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Attachment 1

References (available for NRC inspection):

1. NEI 08-01, “Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52”

2. ASME Boiler & Pressure Vessel Code, 1998 Edition with 2000 Addenda, Section III, “Rules for Construction of Nuclear Power Plant Components”

3. IEEE STD 344-1987, “IEEE Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations”

4. Updated Final Safety Analysis Report, Appendix 3D, “Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment”

5. APP-JS94-VBR-002, “Equipment Qualification Data Package for In-core Instrumentation System (IIS) Cables and Connectors for Use in the AP1000 Plant”

6. APP-JS94-VBR-001, “Equipment Qualification Summary Report for In-core Instrumentation System (IIS) Cables and Connectors for Use in the AP1000 Plant”

7. APP-MI01-S3C-018, “AP1000 Instrumentation Grid Assembly ASME Code Qualification”

8. ITAAC 2.5.05.02.ii Completion Package

Attachment 2

Excerpt from COL Appendix C Table 2.5.5-1

System: In-Core Instrumentation System

Equipment Name	Seismic Cat. I	Type of Qualification	Qualification Report Numbers
Incore Thimble Assemblies (at least three assemblies in each core quadrant)	Yes(1)	Type Tests & Analysis	APP-JS94-VBR-001 APP-JS94-VBR-002 APP-MI01-S3C-018

1. Only applies to the safety-related assemblies. There are at least two safety-related assemblies in each core quadrant.