April R. Rice
Manager
New Nuclear Licensing

April 18, 2017
NND-17-0202
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 2.2.01.06a.i [Index No. 101]

Attachments: (1) References
(2) Excerpt from V.C. Summer Unit 3 COL Appendix C Table 2.2.1-1

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 2.2.01.06a.i for verifying the Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis event. 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:

6.a) The Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

Inspections, Tests, Analyses:

i) Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E equipment located in a harsh environment.

Acceptance Criteria:

i) A report exists and concludes that the Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

ITAAC Determination Basis

Multiple ITAAC are performed to demonstrate that the Class 1E equipment identified in the V.C. Summer Unit 3 Combined License (COL) Appendix C Table 2.2.1-1 (see Attachment 2) as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function. The subject ITAAC requires type tests, analyses, or a combination of type tests and analyses to be performed on Class 1E equipment located in a harsh environment.

Equipment qualification reports for the Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment conclude that the equipment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

For Class 1E electrical penetrations, a combination of type testing and analysis was performed in accordance with IEEE 323-1974 (Reference 2), IEEE 317-1983 (Reference 3), and Regulatory Guide 1.89, “Qualification of Class 1E Equipment for Nuclear Power Plants,” to meet the requirements of 10 CFR 50.49, “Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants.” For safety-related mechanical equipment, such as tanks and valves, type testing meets the requirements of Appendix A to 10 CFR Part 50, General Design Criterion 4, “Environmental and Dynamic Effects Design Bases.” Additional information about the methods used to qualify safety-related equipment supplied for the AP1000 is provided in the V.C. Summer Units 2 & 3 Updated Final Safety Analysis Report, Appendix 3D, “Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment” (Reference 4).

Equipment Qualification Data Packages (EQDPs) and Equipment Qualification Summary Reports (EQSRs) (References 5 through 15), are identified in Attachment 2 for each safety-related mechanical or Class 1E electrical component located in a harsh environment. These documents contain the applicable test reports, analyses, and associated documentation and conclude the equipment identified in Table 2.2.1-1, can withstand the environmental conditions that would exist before, during, and following a

design basis accident without loss of safety function for the time required to perform the safety function.

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, SCE&G performed a review of all ITAAC 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. 99900404/2012-201-01

The corrective actions for the above finding have been completed and the finding has been closed. The review is documented in the V.C. Summer Unit 3 ITAAC Completion Package for ITAAC 2.2.01.06a.i (Reference 16) and available for NRC inspection.

ITAAC Completion Statement

Based on the above information, SCE&G hereby notifies the NRC that ITAAC 2.2.01.06a.i was performed for VCSNS Unit 3 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 Ryder Thompson at (803) 941-9812.

Sincerely,

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Manager
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New Nuclear Deployment

RT/AR/hz

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Attachment 1

<u>References (available for NRC inspection):</u>

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

2. IEEE Std. 323-1974, “IEEE Standard for Qualifying Class 1E Equipment for Nuclear Generating Stations”

3. IEEE Std. 317-1983, “IEEE Standard for Electrical Penetration Assemblies in Containment Structures 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-PV11-VBR-005, “Equipment Qualification Summary Report for Motor-Operated TRICENTRIC Butterfly Valves for Use in the AP1000 Plant”

6. APP-PV11-VBR-006, “Equipment Qualification Data Package for Motor-Operated TRICENTRIC Butterfly Valves for Use in the AP1000 Plant”

7. APP-PV11-VBR-003, “Equipment Qualification Summary Report for Air-Operated TRICENTRIC Butterfly Valves for use in the AP1000 Plant”

8. APP-PV11-VBR-004, “Equipment Qualification Data Package for Air-Operated TRICENTRIC Butterfly Valves for Use in the AP1000 Plant”

9. APP-PV14-VBR-001, “Equipment Qualification Summary Report for Fisher HPNS Control Valves for Use in the AP1000 Plant”

10. APP-PV14-VBR-002, “Equipment Qualification Data Package for Fisher HPNS Control Valves for Use in the AP1000 Plant”

11. APP-PV10-VBR-005, “Equipment Qualification Summary Report for Air-Operated Plug Valves for Use in the AP1000 Plant”

12. APP-PV10-VBR-006, “Equipment Qualification Data Package for Air-Operated Plug Valves for Use in the AP1000 Plant”

13. APP-EY01-VBR-003, “Equipment Qualification Summary Report for Low Voltage Power, Control, and I&C Electrical Penetration Assemblies for Use in the AP1000 Plant”

14. APP-EY01-VBR-004, “Equipment Qualification Data Package for Low-Voltage Power, Control, and I&C Electrical Penetration Assemblies for Use in the AP1000 Plant”

15. APP-GW-GEF-1844, “Reduced Qualified Life of ASCO Solenoid Valves for PV10, PV14, and PV20 Commodities to Address CAPAL #100435653”

16. ITAAC 2.2.01.06a.i Completion Package

Attachment 2

EXCERPT FROM V.C. SUMMER UNIT 3 COL APPENDIX C TABLE 2.2.1-1

SYSTEM: CONTAINMENT SYSTEM

Equipment Name	Tag Number	Class 1E/ Qual. For Harsh Environ.	Type of Qualification	Qualification Report Numbers
CCS Containment Isolation MOV – Outlet Line IRC	CCS-PL-V207	Yes/Yes	Type Tests & Analyses	APP-PV11-VBR-005 APP-PV11-VBR-006
SFS Suction Line Containment Isolation MOV – IRC	SFS-PL-V034	Yes/Yes	Type Tests & Analyses	APP-PV11-VBR-005 APP-PV11-VBR-006
Containment Purge Inlet Containment Isolation Valve – IRC	VFS-PL-V004	Yes/Yes	Type Tests & Analyses	APP-PV11-VBR-003 APP-PV11-VBR-004
Containment Purge Discharge Containment Isolation Valve – IRC	VFS-PL-V009	Yes/Yes	Type Tests & Analyses	APP-PV11-VBR-003 APP-PV11-VBR-004
Fan Coolers Return Containment Isolation Valve – IRC	VWS-PL-V082	Yes/Yes	Type Tests & Analyses	APP-PV11-VBR-003 APP-PV11-VBR-004
Reactor Coolant Drain Tank (RCDT) Gas Outlet Containment Isolation Valve – IRC	WLS-PL-V067	Yes/Yes	Type Tests & Analyses	APP-PV14-VBR-001 APP-PV14-VBR-002
Sump Discharge Containment Isolation Valve – IRC	WLS-PL-V055	Yes/Yes	Type Tests & Analyses	APP-PV10-VBR-005 APP-PV10-VBR-006
Electrical Penetration P11	IDSA-EY-P11Z	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P12	IDSA-EY-P12Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P13	IDSA-EY-P13Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P14	IDSD-EY-P14Z	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004

Equipment Name	Tag Number	Class 1E/ Qual. For Harsh Environ.	Type of Qualification	Qualification Report Numbers
Electrical Penetration P15	IDSD-EY-P15Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P16	IDSD-EY-P16Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P27	IDSC-EY-P27Z	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P28	IDSC-EY-P28Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P29	IDSC-EY-P29Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P30	IDSB-EY-P30Z	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P31	IDSB-EY-P31Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004
Electrical Penetration P32	IDSB-EY-P32Y	Yes/Yes	Type Tests & Analyses	APP-EY01-VBR-003 APP-EY01-VBR-004