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NND-17-0028
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 on Completion of ITAAC 2.2.01.06d.i [Index
No. 105]

Attachments: (1) References
(2) Equipment Qualification ITAAC Compliance Matrix for Harsh
Environment Qualified Non-Class 1E Electrical Penetrations
Listed in VCSNS Combined License 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 2 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.01.06d.i for verifying the non-Class 1E electrical penetrations 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 without loss of containment pressure boundary integrity. 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.d) *The non-Class 1E electrical penetrations 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 containment pressure boundary integrity.*

Inspections, Tests, Analyses:

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

Acceptance Criteria:

- i) *A report exists and concludes that the non-Class 1E electrical penetrations 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 containment pressure boundary integrity.*

ITAAC Determination Basis

Multiple ITAAC are performed to demonstrate that the non-Class 1E electrical penetrations identified in Table 2.2.1-1 (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 containment pressure boundary integrity. The subject ITAAC requires type tests, analyses, or a combination of type tests and analyses to be performed on non-Class 1E equipment located in a harsh environment.

Equipment qualification reports for the non-Class 1E electrical penetrations 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 containment pressure boundary integrity.

For non-Class 1E electrical penetrations, a combination of type testing and analysis was performed in accordance with IEEE 317-1983 (Reference 2) 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." Additional information about the methods used to qualify equipment supplied for the AP1000 is provided in the V.C. Summer Units 2 and 3 Updated Final Safety Analysis Report, Appendix 3D, "Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment" (Reference 3).

Equipment Qualification Data Packages (EQDPs) and Equipment Qualification Summary Reports (EQSRs) (References 4 through 7) are identified in Attachment 2 for each non-Class 1E electrical penetration located in a harsh environment. These documents contain the applicable test reports, analyses, and associated documentation and conclude the non-Class 1E electrical penetrations 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 containment pressure boundary integrity.

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 2.2.01.06d.i (Reference 8) and available for NRC inspection.

ITAAC Completion Statement

Based on the above information, SCE&G hereby notifies the NRC that ITAAC 2.2.01.06d.i 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 Ryder Thompson at (803) 941-9812.

Sincerely,



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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. IEEE Std. 317-1983, "IEEE Standard for Electrical Penetration Assemblies in Containment Structures for Nuclear Power Generating Stations"
3. V.C. Summer Unit 2 and 3 Updated Final Safety Analysis Report, Appendix 3D, "Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment"
4. APP-EY01-VBR-001, "Equipment Qualification Summary Report for Medium Voltage Electrical Penetration Assemblies for Use in the AP1000 Plant"
5. APP-EY01-VBR-002, "Equipment Qualification Data Package for Medium Voltage Electrical Penetration Assembly for Use in the AP1000 Plant"
6. 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"
7. 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"
8. ITAAC 2.2.01.06d.i Completion Package

Attachment 2

EQUIPMENT QUALIFICATION ITAAC COMPLIANCE MATRIX FOR HARSH ENVIRONMENT QUALIFIED NON-CLASS 1E ELECTRICAL PENETRATIONS LISTED IN VCSNS COMBINED LICENSE APPENDIX C, TABLE 2.2.1-1

SYSTEM: CONTAINMENT SYSTEM

Equipment Name	Tag No.	Class 1E/Qual. for Harsh Envir.	EQDP Document Number	EQSR Document Number
Electrical Penetration P03	DAS-EY-P03Z	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P01	ECS-EY-P01X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P02	ECS-EY-P02X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P06	ECS-EY-P06Y	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P07	ECS-EY-P07X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P09	ECS-EY-P09W	No/Yes	APP-EY01-VBR-001	APP-EY01-VBR-002
Electrical Penetration P10	ECS-EY-P10W	No/Yes	APP-EY01-VBR-001	APP-EY01-VBR-002
Electrical Penetration P17	ECS-EY-P17X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P18	ECS-EY-P18X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P19	ECS-EY-P19Z	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P20	ECS-EY-P20Z	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P21	EDS-EY-P21Z	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P22	ECS-EY-P22X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P23	ECS-EY-P23X	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P24	ECS-EY-P24	No/Yes	APP-EY01-VBR-003	APP-EY01-VBR-004
Electrical Penetration P25	ECS-EY-P25W	No/Yes	APP-EY01-VBR-001	APP-EY01-VBR-002
Electrical Penetration P26	ECS-EY-P26W	No/Yes	APP-EY01-VBR-001	APP-EY01-VBR-002