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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC 2.3.05.02.i [Index Number 340]

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 2.3.05.02.i [Index Number 340] to demonstrate that the Mechanical Handling System (MHS) equipment identified as seismic Category I in the Combined License (COL) Appendix C, Table 2.3.5-1 is designed and constructed in accordance with applicable requirements.

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 2.3.05.02.i [Index Number 340]

JMC/JRB/sfr

cc: Regional Administrator, Region ll
Director, Office of Nuclear Reactor Regulation (NRR)
Director, Vogtle Project Office NRR
Senior Resident Inspector – Vogtle 3 & 4

Southern Nuclear Operating Company
ND-22-0743
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.3.05.02.i [Index Number 340]

ITAAC Statement

Design Commitment:

2. The seismic Category I equipment identified in Table 2.3.5-1 can withstand seismic design basis loads without loss of safety function.

Inspections, Tests, Analyses:

i) Inspection will be performed to verify that the seismic Category I equipment identified in Table 2.3.5-1 is located on the Nuclear Island.

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

iii) Inspection will be performed for the existence of a report verifying that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

Acceptance Criteria:

i) The seismic Category I equipment identified in Table 2.3.5-1 is located on the Nuclear Island.

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

iii) A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

ITAAC Determination Basis

This ITAAC requires that inspections, tests, and analyses be performed and documented to ensure the Mechanical Handling System (MHS) equipment identified as seismic Category I in the Combined License (COL) Appendix C, Table 2.3.5-1 (the Table) is designed and constructed in accordance with applicable requirements.

i) The seismic Category I equipment identified in Table 2.3.5-1 is located on the Nuclear Island.

To assure that seismic Category I equipment can withstand seismic design basis loads without loss of safety function, all the equipment in the Table is designed to be located on the seismic Category I Nuclear Island. In accordance with Equipment Qualification (EQ) ITAAC As-built Walkdown Guideline and the EQ ITAAC As-built Installation Documentation Guideline (References 1 and 2), an inspection was conducted of the MHS to confirm the satisfactory installation of the seismically qualified equipment. The inspection includes verification of equipment make/model/serial number and verification of equipment location (Building, Elevation, Room). The EQ As-Built Reconciliation Report (EQRR) (Reference 3) identified in Attachment A document the results of the inspection and concludes that the seismic Category I equipment is located on the Nuclear Island.

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

Seismic Category I equipment components in the Table require type tests and/or analyses be performed to verify that the equipment can withstand seismic design basis loads without loss of safety function.

The Containment Polar Crane and Cask Handling Crane were modeled and qualified using structural stress analyses of dynamic and gravity loads to demonstrate structural integrity to support the safety function, which is prevention of uncontrolled lowering of a heavy load in accordance with the American Society of Mechanical Engineers (ASME) NOG-1-1998 (Reference 4). The Hatch Hoists were modeled and qualified using structural stress analyses of all dynamic and gravity loads to demonstrate structural integrity, to support the safety function which is prevention of uncontrolled lowering of a heavy load in accordance with Reference 4 and the American Institute of Steel Construction (AISC) N690-1994 (Reference 5).

The specific qualification method (i.e., type testing, analysis, or combination) used for each piece of equipment in the Table is identified in Attachment A. Additional information about the methods used to qualify AP1000 safety-related equipment is provided in the Updated Final Safety Analysis Report (UFSAR) Appendix 3D (Reference 6).

The EQ Reports (References 7 through 12) are identified in Attachment A for the seismic Category I equipment and conclude that the equipment identified in Table 2.3.5-1 can withstand seismic design basis loads without loss of safety function.

iii) A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

An inspection (References 1 and 2) was conducted to confirm the satisfactory installation of the seismically qualified equipment in the Table. The inspection verifies the equipment make/model/serial number, as-designed equipment mounting orientation, anchorage and clearances, and electrical and other interfaces. The documentation of installed configuration of seismically qualified equipment includes photographs and/or sketches/drawings of equipment/mounting/interfaces.

As part of the seismic qualification program, consideration was given to the definition of the clearances needed around the equipment mounted in the plant to permit the equipment to move during a postulated seismic event without causing impact between adjacent pieces of safety-related equipment. Where required, seismic testing by measuring the maximum dynamic relative displacement of the top and bottom of the equipment was performed. EQ Reports (References 7 through 12) identify the equipment mounting employed for qualification and establish interface requirements for assuring that subsequent in-plant installation does not degrade the established qualification. Interface requirements are defined based on the test configuration and other design requirements.

Attachment A identifies the EQRR (Reference 3) completed to verify that the as-built seismic Category I equipment listed in the Table, including anchorage, is seismically bounded by the tested or analyzed conditions.

Together, these reports (References 3 and 7 through 12) provide evidence that the ITAAC Acceptance Criteria requirements are met.

- The seismic Category I equipment identified in Table 2.3.5-1 is located on the Nuclear Island;

- A report exists and concludes that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function; and

- A report exists and concludes that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

References 3 and 7 through 12 are available for NRC inspection as part of the Unit 4 ITAAC 2.3.05.02.i Completion Package (Reference 13).

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all ITAAC findings and associated corrective actions. This review, which included now consolidated ITAAC Indexes 341 and 342, found no relevant ITAAC findings associated with this ITAAC.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.3.05.02.i was performed for VEGP Unit 4 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 the approved plant programs and procedures.

References (available for NRC inspection)

1. ND-RA-001-014 As-Built Walkdown Guideline, Version 3.1

2. ND-RA-001-016, EQ ITAAC As-built Installation Documentation Guideline, Version 1.0

3. EQ As-Built Reconciliation Report (EQRR) as identified in Attachment A for Unit 4

4. ASME NOG-1-1998, "Rules for Construction of Overhead and Gantry Cranes (Top Running Bridge, Multiple Girder)"

5. AISC N690-1994, "Specification for Safety-Related Steel Structures for Nuclear Facilities"

6. VEGP 3&4 UFSAR Appendix 3D, “Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment”

7. APP-MH01-S2C-006 Revision 2, "Polar Crane Structural Qualification and Bridge Crane Wheel Forces"

8. CN-PAR-15-031 Revision 7, "AP1000 Polar Crane Mechanical Calculations"

9. APP-MH02-S2C-002 Revision 1, "Cask Handling Crane Structural Qualification and Bridge Crane Wheel Forces"

10. CN-PAR-13-043 Revision 7, "AP1000 Cask Crane Mechanical Calculations"

11. APP-MH40-S2C-002 Revision 3, "AP1000 Hatch Hoist and Hoist Platform Structural Qualification"

12. CN-PAR-14-044 Revision 6, "Domestic AP1000 Hatch Hoists Mechanical Calculations"

13. 2.3.05.02.i-U4-CP-Rev0, “Completion Package for Unit 4 ITAAC 2.3.05.02.i [Index Number 340]”

Attachment A

System: Mechanical Handling System (MHS)

Equipment Name +	**Tag No.** +	**Seismic Cat. I** +	**Type of Qual.**	**EQ Reports**	**As-Built EQ Reconciliation Report (EQRR)**
Containment Polar Crane	MHS-MH-01	Yes	Analysis	APP-MH01-S2C-006 / CN-PAR-15-031	2.3.05.02.i-U4-EQRR-PCD001
Cask Handling Crane	MHS-MH-02	Yes	Analysis	APP-MH02-S2C-002 / CN-PAR-13-043	2.3.05.02.i-U4-EQRR-PCD001
Equipment Hatch Hoist	MHS-MH-05	Yes	Analysis	APP-MH40-S2C-002 / CN-PAR-14-044	2.3.05.02.i-U4-EQRR-PCD001
Maintenance Hatch Hoist	MHS-MH-06	Yes	Analysis	APP-MH40-S2C-002 / CN-PAR-14-044	2.3.05.02.i-U4-EQRR-PCD001

+ Excerpt from COL Appendix C Table 2.3.5-1