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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 3 and Unit 4
Notice of Uncompleted ITAAC 225-days Prior to Initial Fuel Load
Item 2.2.05.07a.i [Index Number 265]

Ladies and Gentlemen:

Pursuant to 10 CFR 52.99(c)(3), Southern Nuclear Operating Company hereby notifies the NRC that as of January 6, 2019 Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Uncompleted Inspections Tests Analyses and Acceptance Criteria (ITAAC) Item 2.2.05.07a.i [Index Number 265] has not been completed greater than 225-days prior to initial fuel load. The Enclosure describes the plan for completing ITAAC 2.2.05.07a.i [Index Number 265]. Southern Nuclear Operating Company will, at a later date, provide additional notifications for ITAAC that have not been completed 225-days prior to initial fuel load.

This notification is informed by 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. In accordance with NEI 08-01, this notification includes ITAAC for which required inspections, tests, or analyses have not been performed or have been only partially completed. All ITAAC will be fully completed and all Section 52.99(c)(3) ITAAC Closure Notifications will be submitted to NRC to support the Commission finding that all acceptance criteria are met prior to plant operation, as required by 10 CFR 52.103(g).

This letter contains no new NRC regulatory commitments.

If there are any questions, please contact Tom Petrak at 706-848-1575.

Respectfully submitted,

Michael J. Yox
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4
Completion Plan for Uncompleted ITAAC 2.2.05.07a.i [Index Number 265]

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Southern Nuclear Operating Company
ND-19-1605
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 Completion Plan for Uncompleted ITAAC 2.2.05.07a.i [Index Number 265]

ITAAC Statement

Design Commitment

7.a) The VES provides a 72-hour supply of breathable quality air for the occupants of the MCR.

7.b) The VES maintains the MCR pressure boundary at a positive pressure with respect to the surrounding areas.

7d) The system provides a passive recirculation flow of MCR air to maintain main control room dose rates below an acceptable level during VES operation.

8. Safety-related displays identified in Table 2.2.5-1 can be retrieved in the MCR.

9.a) Controls exist in the MCR to cause remotely operated valves identified in Table 2.2.5-1 to perform their active functions.

9.b) The valves identified in Table 2.2.5-1 as having PMS control perform their active safety function after receiving a signal from the PMS.

10. After loss of motive power, the remotely operated valves identified in Table 2.2.5-1 assume the indicated loss of motive power position.

11. Displays of the parameters identified in Table 2.2.5-3 can be retrieved in the MCR.

12) The background noise level in the MCR does not exceed 65 dB(A) at the operator workstations when VES is operating.

Inspections/Tests/Analyses

i) Testing will be performed to confirm that the required amount of air flow is delivered to the MCR.

iii) MCR air samples will be taken during VES testing and analyzed for quality.

i) Testing will be performed with VES flow rate between 60 and 70 scfm to confirm that the MCR is capable of maintaining the required pressurization of the pressure boundary.

ii) Air leakage into the MCR will be measured during VES testing using a tracer gas.

Testing will be performed to confirm that the required amount of air flow circulates through the MCR passive filtration system,

Inspection will be performed for retrievability of the safety-related displays in the MCR.

Stroke testing will be performed on remotely operated valves identified in Table 2.2.5-1 using the controls in the MCR.

Testing will be performed on remotely operated valves listed in Table 2.2.5-1 using real or simulated signals into the PMS.

Testing of the remotely operated valves will be performed under the conditions of loss of motive power.

Inspection will be performed for retrievability of the parameters in the MCR.

The as-built VES will be operated, and background noise levels in the MCR will be measured at the operator work stations with the plant not operating.

Acceptance Criteria

i) The air flow rate from the VES is at least 60 scfm and not more than 70 scfm.

iii) The MCR air is of breathable quality.

i) The MCR pressure boundary is pressurized to greater than or equal to 1/8-in. water gauge with respect to the surrounding area.

ii) Air leakage into the MCR is less than or equal to 10 cfm.

The air flow rate at the outlet of the MCR passive filtration system is at least 600 cfm greater than the flow measured by VES-003A/B.

Safety-related displays identified in Table 2.2.5-1 can be retrieved in the MCR.

Controls in the MCR operate to cause remotely operated valves identified in Table 2.2.5-1 to perform their active safety functions.

The remotely operated valves identified in Table 2.2.5-1 as having PMS control perform the active safety function identified in the table after receiving a signal from the PMS.

After loss of motive power, each remotely operated valve identified in Table 2.2.5-1 assumes the indicated loss of motive power position.

The displays identified in Table 2.2.5-3 can be retrieved in the MCR.

The background noise level in the MCR does not exceed 65 dB(A) at the operator work stations when the VES is operating.

ITAAC Completion Description

Multiple ITAAC are performed to verify that the Main Control Room Emergency Habitability System (VES) provides a 72-hour supply of breathable quality air for the occupants of the Main Control Room (MCR), maintains the MCR pressure boundary at a positive pressure with respect to the surrounding areas, limits air in-leakage to the MCR, provides a passive recirculation flow of MCR air to maintain main control room dose rates below an acceptable level during VES operation, and the background noise level in the MCR does not exceed 65 dB(A) at the operator workstations when VES is operating. This ITAAC also ensures safety-related displays identified in Combined License (COL) Table 2.2.5-1 can be retrieved in the MCR, controls exist in the MCR to cause remotely operated valves identified in COL Table 2.2.5-1 perform their active functions, the valves identified in COL Table 2.2.5-1 as having PMS control perform their active

safety function after receiving a signal from the PMS, and that after loss of motive power, the remotely operated valves identified in Table COL 2.2.5-1 assume the indicated loss of motive power position. Additionally, this ITAAC verifies displays of the parameters identified in COL Table 2.2.5-3 can be retrieved in the MCR.

i) The air flow rate from the VES is at least 60 scfm and not more than 70 scfm.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-VES-ITPP-501 and 4-VES-ITPP-501 (References 1 & 2) to confirm that the required amount of air flow is delivered to the MCR.

The test manually actuates a MCR isolation and VES actuation from a normal ventilation alignment, verifies proper system alignment and measures the flow rate into the MCR from the VES using VES-FT003A/B (MCR Air Delivery Line A/B Flow rate sensors). The flow from the Unit 3 VES is XX scfm and YY scfm for Unit 4 VES. This demonstrates that the air flow rate from the VES is at least 60 scfm and not more than 70 scfm.

iii) The MCR air is of breathable quality.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-VES-ITPP-501 and 4-VES-ITPP-501 (References 1 & 2) to confirm that the MCR air is of breathable quality.

The test manually actuates a MCR isolation and VES actuation from a normal ventilation alignment, verifies proper system alignment and records data from 3 air quality analyzers for a minimum of 6 hours. The VES provides breathable air from the air storage bottles and maintains the breathability of the MCR air by limiting the carbon dioxide concentration below ½ percent by volume. The MCR air quality is maintained within the guidelines of Table 1 and Appendix C, Table C-1 of ASHRAE Standard 62.1 – 1989 (Reference 10). The Unit 3 and Unit 4 data is analyzed and extrapolated to a 72 hour duration for up to 11 MCR occupants and demonstrates that the Unit 3 and Unit 4 MCR air is of breathable quality.

i) The MCR pressure boundary is pressurized to greater than or equal to 1/8-in. water gauge with respect to the surrounding area.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-VES-ITPP-501 and 4-VES-ITPP-501 (References 1 & 2) to confirm that the MCR is capable of maintaining the required pressurization of the pressure boundary with VES in service.

During the period when the MCR ventilation systems are in an alignment with VES in service, the atmospheric pressure is measured in an adjacent area outside the MCR and the test meter is zeroed. The MCR is entered, the meter is allowed to stabilize and a reading is taken. This is repeated for each adjacent area to the MCR until all adjacent areas have been tested. The test results show the Unit 3 MCR minimum boundary differential pressure is 0.xxx inch Water gauge (WG) and the Unit 4 MCR minimum boundary differential pressure is 0.xxx inch WG which confirms the MCR pressurization boundary is pressurized to greater than or equal to 1/8-in. water gauge with respect to the surrounding area.

ii) Air leakage into the MCR is less than or equal to 10 cfm.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-VES-ITPP-501 and 4-VES-ITPP-501 (References 1 & 2) to confirm that air leakage into the MCR is less than or equal to 10 cfm.

During the period when the MCR ventilation systems are in an alignment with VES in service, a tracer gas is injected into the MCR to establish a known concentration based on MCR volume. Once an equilibrium value is reached, the tracer gas injection is reduced and periodic sampling of the MCR atmosphere is performed. The envelope air leakage into the MCR is calculated and corrected to account for MCR outside air makeup. The results of the test demonstrate the air leakage into the Unit 3 MCR is xx cfm and the air leakage into the Unit 4 MCR is xx cfm which confirms the air leakage into the MCR is less than or equal to 10 cfm.

The air flow rate at the outlet of the MCR passive filtration system is at least 600 cfm greater than the flow measured by VES-003A/B.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-VES-ITPP-501 and 4-VES-ITPP-501 (References 1 & 2) to confirm that the air flow rate at the outlet of the MCR passive filtration system is at least 600 cfm greater than the flow rate measured by VES-003A/B.

During the period when the MCR ventilation systems are in an alignment with VES in service, the MCR air delivery line A/B flow rate (VES-003A/B) and the flow rate at the outlet of the MCR passive filtration system are recorded. The flow differential for Unit 3 is xxx cfm and the flow differential for Unit 4 is yyy cfm. This verifies that the air flow rate at the outlet of the MCR passive filtration system is at least 600 cfm greater than the flow rate measured by VES-003A/B.

Safety-related displays identified in Table 2.2.5-1 can be retrieved in the MCR.

The inspection is performed in accordance with Unit 3 and Unit 4 component test procedures SV3-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 and SV4-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 (References 3 & 4) to confirm that safety-related displays identified in COL Table 2.2.5-1 (Attachment A) can be retrieved in the MCR.

Testing begins at the Primary Dedicated Safety Panel for Division A and verifying all of the safety-related displays in Attachment A can be retrieved. This is repeated for each of the 3 remaining Primary Dedicated Safety Panel Divisions. This confirms that the safety-related displays identified in Table 2.2.5-1 can be retrieved in the Unit 3 and Unit 4 MCR.

Controls in the MCR operate to cause remotely operated valves identified in Table 2.2.5-1 to perform their active safety functions.

Testing is performed in accordance with Unit 3 and Unit 4 component test procedures SV3-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 and SV4-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 (References 3 & 4) to verify controls in the MCR operate to cause remotely operated valves identified in COL Table 2.2.5-1 (Attachment B) to perform their active safety functions.

Testing begins by ensuring each valve listed in Attachment B is closed. At a MCR operator workstation, each valve is operated to the active function position (open), the valve position is verified locally, and documented in the test. This demonstrates that controls in the Unit 3 and Unit 4 MCR operate to cause remotely operated valves identified in Table 2.2.5-1 to perform their active safety functions.

The remotely operated valves identified in Table 2.2.5-1 as having PMS control perform the active safety function identified in the table after receiving a signal from the PMS.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-PMS-ITPP-526 and 4-PMS-ITPP-526 (References 5 & 6) to confirm that the remotely operated valves identified in COL Table 2.2.5-1 (Attachment C) as having PMS control perform the active safety function identified in the table after receiving a signal from the PMS.

The test simulates a high radiation signal from the MCR radiation monitor, which provides an input to PMS. PMS then causes the MCR Isolation and Air Supply Initiation to occur and all the components identified in Attachment C are verified to perform their active function. This verifies that the remotely operated valves identified in Table 2.2.5-1 as having PMS control perform the active safety function identified in the table after receiving a signal from the PMS for both Unit 3 and Unit 4.

After loss of motive power, each remotely operated valve identified in Table 2.2.5-1 assumes the indicated loss of motive power position.

Testing is performed in accordance with Unit 3 and Unit 4 component test procedures SV3-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 and SV4-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 (References 3 & 4) to demonstrate that after a loss of motive power, each remotely operated valve identified in COL Table 2.2.5-1 (Attachment D) assumes the indicated loss of motive power position.

The component test configures and documents the air operated valves (VES-PL-V022A and V022B) in the closed position and then removes power to the solenoid valve supplying air to the valve operator. The valve is verified to fail to the required position (open) locally. Power is restored and the valve is positioned as required by plant conditions. The solenoid operated valves (VES-PL-V005A and V005B) are placed in the closed position, power is removed and the valve is verified to fail to the required position (open) locally. An attempt is made to reposition the valve and it is verified to not change position. Power is restored and the valves are positioned as required by plant conditions. The test results demonstrate that for Unit 3 and Unit 4 after a loss of motive power, each remotely operated valve identified in Table 2.2.5-1 assumes the indicated loss of motive power position.

The displays identified in Table 2.2.5-3 can be retrieved in the MCR.

The inspection is performed in accordance with Unit 3 and Unit 4 component test procedures SV3-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 and SV4-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11 (References 3 & 4) to confirm that the displays identified in COL Table 2.2.5-3 (Attachment E) can be retrieved in the MCR.

Testing begins at an operator work station in the Unit 3 and Unit 4 MCR and verifies all of the displays identified in Attachment E can be retrieved. This confirms that the displays identified in Table 2.2.5-3 can be retrieved in the Unit 3 and Unit 4 MCR.

The background noise level in the MCR does not exceed 65 dB(A) at the operator work stations when the VES is operating.

Testing is performed in accordance with Unit 3 and Unit 4 preoperational test procedures 3-VES-ITPP-501 and 4-VES-ITPP-501 (References 1 & 2) to verify the background noise level in the MCR does not exceed 65 dB(A) at the operator work stations when the as-built VES is operating.

During the period when the MCR ventilation systems are in an alignment with VES in service, the background noise level is recorded for no less than 6 hours at the MCR operator work stations. This data is analyzed, recorded and the results show Unit 3 maximum noise level is XX dB(A) at the MCR operator work stations and Unit 4 maximum noise level is YY dB(A) at the MCR operator work stations. The test results demonstrate the background noise level in the MCR does not exceed 65 dB(A) at the operator work stations when the VES is operating.

References 1 through 6 are available for NRC inspection as part of Unit 3 and Unit 4 ITAAC Completion Packages (Reference 7 and 8).

List of ITAAC Findings

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found there are no relevant ITAAC findings associated with this ITAAC.

References (available for NRC inspection)

1. 3-VES-ITPP-501, "Main Control Room Emergency Habitability System Preoperational Test Procedure"
2. 4-VES-ITPP-501, "Main Control Room Emergency Habitability System Preoperational Test Procedure"
3. SV3-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11, "VES Verifications– ITAAC: SV3-2.2.05.07a.i Items 8, 9a, 10, and 11"
4. SV4-ITAAC-ST-2.2.05.07a.i Items 8, 9a,10, 11, "VES Verifications– ITAAC: SV3-2.2.05.07a.i Items 8, 9a, 10, and 11"
5. 3-PMS-ITPP-526, "PMS Main Control Room Isolation and Passive Containment Cooling Actuation Preoperational Test Procedure"
6. 4-PMS-ITPP-526, "PMS Main Control Room Isolation and Passive Containment Cooling Actuation Preoperational Test Procedure"
7. 2.2.02.07f.i-U3-CP-Rev 0, ITAAC Completion Package
8. 2.2.02.07f.i-U4-CP-Rev 0, ITAAC Completion Package
9. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"
10. ASHRAE Standard 62.1-1989 "Ventilation for Acceptable Indoor Air Quality"

Attachment A

Excerpt from COL Appendix C Table 2.2.5-1

Table 2.2.5-1		
Equipment Name	Tag No.	Safety-Related Display
MCR Load Shed Panel 1	VES-EP-01	Yes
MCR Load Shed Panel 2	VES-EP-02	Yes
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes
MCR Pressure Relief Isolation Valve B	VES-PL-V022B	Yes
MCR Air Delivery Line Flow Sensor	VES-003A	Yes
MCR Air Delivery Line Flow Sensor	VES-003B	Yes
MCR Differential Pressure Sensor A	VES-004A	Yes
MCR Differential Pressure Sensor B	VES-004B	Yes

Attachment B

Excerpt from COL Appendix C Table 2.2.5-1

Table 2.2.5-1			
Equipment Name	Tag No.	Remotely Operated Valve	Active Function
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes	Transfer Open
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes	Transfer Open
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes	Transfer Open
MCR Pressure Relief Isolation Valve A	VES-PL-V022B	Yes	Transfer Open

Attachment C

Excerpt from COL Appendix C Table 2.2.5-1

Table 2.2.5-1				
Equipment Name	Tag No.	Remotely Operated Valve	Control PMS	Active Function
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes	Yes	Transfer Open
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes	Yes	Transfer Open
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes	Yes	Transfer Open
MCR Pressure Relief Isolation Valve B	VES-PL-V022B	Yes	Yes	Transfer Open

Attachment D

Excerpt from COL Appendix C Table 2.2.5-1

Table 2.2.5-1			
Equipment Name	Tag No.	Remotely Operated Valve	Loss of Motive Power Position
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes	Open
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes	Open
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes	Open
MCR Pressure Relief Isolation Valve B	VES-PL-V022B	Yes	Open

Attachment E

Excerpt from COL Appendix C Table 2.2.5-3

Table 2.2.5-3		
Equipment	Tag No.	Display
Air Storage Tank Pressure	VES-001A	Yes
Air Storage Tank Pressure	VES-001B	Yes