

July 15, 2023

Docket No.: 52-026

ND-23-0499  
10 CFR 52.99(c)(1)

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-0001

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 4  
ITAAC Closure Notification on Completion of ITAAC 2.7.01.14 [Index Number 700]

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 2.7.01.14 [Index Number 700]. This ITAAC verified that the Nuclear Island Nonradioactive Ventilation System (VBS) fans start and run, controls in the Main Control Room (MCR) operate the designated VBS components, VBS valves are tested as specified, VBS displays can be retrieved in the MCR and the background noise level in MCR and Remote Shutdown Room (RSR) does not exceed 65 dB(A) when VBS is operating. 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" (Reference 1), which is 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 for ITAAC 2.7.01.14 [Index Number 700]

JMC/PAW/sfr

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

**Southern Nuclear Operating Company  
ND-23-0499  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion for ITAAC 2.7.01.14 [Index Number 700]**

## **ITAAC Statement**

### **Design Commitment:**

- 8.d) The VBS provides ventilation cooling via the ancillary equipment in Table 2.7.1-3 to the MCR and the division B&C Class 1E I&C rooms.
9. Safety-related displays identified in Table 2.7.1-1 can be retrieved in the MCR.
- 10.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.7.1-1 to perform their active functions.
- 10.b) The valves identified in Table 2.7.1-1 as having PMS control perform their active safety function after receiving a signal from the PMS.
11. After loss of motive power, the remotely operated valves identified in Table 2.7.1-1 assume the indicated loss of motive power position.
12. Controls exist in the MCR to cause the components identified in Table 2.7.1-3 to perform the listed function.
13. Displays of the parameters identified in Table 2.7.1-3 can be retrieved in the MCR.
14. The background noise level in the MCR and RSR does not exceed 65 dB(A) when the VBS is operating.

### **Inspections, Tests, Analyses:**

Testing will be performed on the components in Table 2.7.1-3.

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

Stroke testing will be performed on the remotely operated valves identified in Table 2.7.1-1 using the controls in the MCR.

Testing will be performed 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.

Testing will be performed on the components in Table 2.7.1-3 using controls in the MCR.

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

The as-built VBS will be operated, and background noise levels in the MCR and RSR will be measured.

Acceptance Criteria:

The fans start and run.

Safety-related displays identified in Table 2.7.1-1 can be retrieved in the MCR.

Controls in the MCR operate to cause the remotely operated valves identified in Table 2.7.1-1 to perform their active functions.

The valves identified in Table 2.7.1-1 as having PMS control perform their active safety function after receiving a signal from PMS.

Upon loss of motive power, each remotely operated valves identified in Table 2.7.1-1 assumes the indicated loss of motive power position.

Controls in the MCR operate to cause the components listed in Table 2.7.1 -3 to perform the listed functions.

The displays identified in Table 2.7.1-3 can be retrieved in the MCR.

The background noise level in the MCR and RSR does not exceed 65 dB(A) when the VBS is operating.

**ITAAC Determination Basis**

Multiple ITAAC were performed to verify by testing and inspections that the Nuclear Island Nonradioactive Ventilation System (VBS) provides ventilation cooling via the ancillary equipment in Combined License (COL) Appendix C Table 2.7.1-3 (Attachment A) to the Main Control Room (MCR) and the division B&C Class 1E I&C rooms. Testing was performed to demonstrate that controls exist in the MCR to cause the remotely operated valves in COL Appendix C Table 2.7.1-1 (Attachment C) to perform their active functions, that the valves identified in Table 2.7.1-1 (Attachment D) as having Protection and Safety Monitoring System (PMS) control perform their active safety function after receiving a signal from PMS and that after a loss of motive power, the remotely operated valves identified in Table 2.7.1-1 (Attachment E) assume the indicated loss of motive power position. Testing was also performed to demonstrate that controls exist in the MCR to cause the components identified in Table 2.7.1-3 (Attachment F) to perform the listed function and the VBS system was operated, and the background noise level was verified to be  $\leq 65$  dB(A) in the MCR and the Remote Shutdown Room (RSR). Inspections were also performed to demonstrate the safety-related displays identified in Table 2.7.1-1 (Attachment B) could be retrieved in the MCR and that the displays of the parameters identified in Table 2.7.1-3 (Attachment G) could be retrieved in the MCR.

The fans start and run.

Testing was performed in accordance with Unit 4 component test work packages identified in SV4-VBS-ITR-801700 (Reference 3) to verify that the ancillary fans listed in Attachment A started and ran. Testing directed the performance of ancillary fan operational tests, which locally started and ran each fan in Attachment A.

This testing confirmed that the fans start and run.

Safety-related displays identified in Table 2.7.1-1 can be retrieved in the MCR.

An inspection was performed as documented in SV4-VBS-ITR-800700 (Reference 2) for VBS component indication verifications, and visually confirmed that when each of the safety-related displays identified in Attachment B was summoned at the MCR PMS Visual Display Units (VDUs), the summoned safety-related display appeared on the PMS VDU.

The Unit 4 component test results (Reference 2) confirmed that the Unit 4 safety-related displays listed in Table 2.7.1-1 can be retrieved in the MCR.

Controls in the MCR operate to cause the remotely operated valves identified in Table 2.7.1-1 to perform their active functions.

Testing was performed in accordance with Unit 4 component test work packages identified in SV4-VBS-ITR-802700 (Reference 4) to verify that controls in the MCR operated to cause the remotely operated valves identified in Attachment C to perform their active function. At a MCR operator workstation, the valves in Attachment C were verified to be Open and verified locally. Then each valve was stroked Closed using the Plant Control System (PLS) at an operator workstation and verified in the MCR and locally to go closed.

Unit 4 component test results (Reference 4) confirmed that controls in the MCR operate to cause the remotely operated valves identified in Table 2.7.1-1 to perform their active function.

The valves identified in Table 2.7.1-1 as having PMS control perform their active safety function after receiving a signal from PMS.

Testing was performed in accordance with Unit 4 component test packages identified in SV4-VBS-ITR-802700 (Reference 4). These component test packages verified that the valves in Attachment D performed their active function after a signal was generated by PMS.

Testing identified in Reference 4 established initial conditions with each valve verified locally to be in the Open position. An actuation signal was generated by PMS using the PMS Maintenance and Test Panel (MTP) to cause each valve to Close. Each valve was verified locally and in the MCR to be Closed after the receipt of the actuation signal.

The Unit 4 component test package results in Reference 4 confirmed that the valves identified in Table 2.7.1-1 as having PMS control performed their active safety function after receiving a signal from PMS.

Upon loss of motive power, each remotely operated valves identified in Table 2.7.1-1 assumes the indicated loss of motive power position.

Testing was performed in accordance with the Unit 4 component test work package identified in SV4-VBS-ITR-802700 (Reference 4) that verified upon loss of motive power, each remotely operated valves identified in Attachment E assumed the indicated loss of motive power position.

Reference 4 established the initial conditions with the remotely operated valves listed in Attachment E by verifying each MOV locally and in the MCR to be in the Closed position. Each MOV was stroked Open by using the valve control circuit to de-energize the contactors, which removed motive power from the valve when the Open position was reached. This loss of power caused by the valve control circuit demonstrated the MOV failed "As-Is" (Open) when motive power was removed. Actual valve position was verified locally and in the MCR. Each MOV was also stroked Closed by using the valve control circuit to de-energize the contactors, which removed motive power from the valve when the Closed position was reached. This loss of power caused by the valve control circuit demonstrated that each MOV failed "As-Is" (Closed) when motive power was removed. Actual valve position was verified locally and in the MCR. Testing continued until all valves in Attachment E were tested.

The Unit 4 component test results (Reference 4) confirmed that upon loss of motive power, each remotely operated valve identified in Table 2.7.1-1 assumed the indicated loss of motive power position.

Controls in the MCR operate to cause the components listed in Table 2.7.1-3 to perform the listed functions.

Testing was performed in accordance with the Unit 4 component test work package identified in SV4-VBS-ITR-801700 (Reference 3) to verify controls in the MCR operated to cause the components listed in Attachment F to perform their listed function.

Reference 3 directed performance of the plant operating procedures for the VBS system at an MCR operator workstation. The VBS ventilation systems were started using the plant operating procedures and the components listed in Attachment F were verified to start.

Unit 4 component test results (Reference 3) confirmed that controls in the MCR operate to cause the components listed in Table 2.7.1-3 to perform the listed function.

The displays identified in Table 2.7.1-3 can be retrieved in the MCR.

An inspection was performed as described in SV4-VBS-ITR-800700 (Reference 2) to verify that the displays identified in Attachment G can be retrieved in the MCR.

Reference 2 performed the VBS verifications and visually confirmed that when each of the displays of the component status identified in Attachment G was summoned at an MCR workstation, the summoned plant component status appeared on a display monitor at the MCR workstation.

The Unit 4 component test results (Reference 2) confirmed that the displays identified in Table 2.7.1-3 can be retrieved in the MCR.

The background noise level in the MCR and RSR does not exceed 65 dB(A) when the VBS is operating.

Testing was performed in accordance with the Unit 4 preoperational test procedure identified in SV4-VBS-ITR-803700 (Reference 5) to verify that the background noise level in the MCR and the Remote Shutdown Room (RSR) does not exceed 65 db(A) when the VBS is operating.

Testing identified in Reference 5 was performed by placing one train of VBS in operation with one train of Division A/C Class 1E Electrical Subsystem, and one train of the Division B/D Class 1E Electrical Subsystem in service. After the ventilation systems were in service for more than 15 minutes, noise level readings were taken at 8 locations in the MCR and 1 location in the RSR. Ten readings were taken at five-minute intervals. The readings at each location were averaged and corrected for measurement uncertainty and verified to be  $\leq 65$  dB(A). Then both supplemental filtration units were also placed in service, and after 15 minutes, the noise level readings were taken again and verified to be  $\leq 65$  dB(A). This testing was repeated with the opposite VBS ventilation train in service. The maximum noise level obtained was 59.3 dB(A) for the Unit 4 MCR and 63.7 dB(A) for the Unit 4 RSR.

The Unit 4 preoperational test results (Reference 5) confirmed that the background noise level in the MCR and RSR does not exceed 65 dB(A) when the VBS is operating.

References 2 through 5 are available for NRC inspection as part of the ITAAC 2.7.01.14 Unit 4 Completion Package (Reference 7).

### **ITAAC Finding Review**

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all ITAAC 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 2.7.01.14 (Reference 7) and is available for NRC review.

### **ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.7.01.14 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 approved plant programs and procedures.



**References (available for NRC inspection)**

1. Combined License Vogtle Electric Generating Plant Unit 4 Appendix C, Amendment 188
2. SV4-VBS-ITR-800700, Rev. 0, "Unit 4 VBS Main Control Room Displays: ITAAC 2.7.01.14 Items 9 and 13"
3. SV4-VBS-ITR-801700, Rev. 0, "Unit 4 VBS Fans Verification ITAAC 2.7.01.14 Items 8d and 12"
4. SV4-VBS-ITR-802700, Rev. 0, "Unit 4 ITAAC 2.7.01.14 VBS Valve Verification Items 10a, 10b, and 11"
5. SV4-VBS-ITR-803700, Rev. 0, "Unit 4 Noise Level: ITAAC 2.7.01.14 Item 14"
6. NEI 08-01, Rev. 5 - Corrected, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52"
7. 2.7.01.14-U4-CP-Rev0, "ITAAC Completion Package"

**Attachment A**

**Excerpt from COL Appendix C Table 2.7.1-3\***

| <b>Table 2.7.1-3*</b>         |                          |                |                         |
|-------------------------------|--------------------------|----------------|-------------------------|
| <b>Equipment</b>              | <b>Tag No.</b>           | <b>Display</b> | <b>Control Function</b> |
| MCR Ancillary Fans            | VBS-MA-10A<br>VBS-MA-10B | No             | -                       |
| Division B Room Ancillary Fan | VBS-MA-11                | No             | -                       |
| Division C Room Ancillary Fan | VBS-MA-12                | No             | -                       |

**Attachment B**

**Excerpt from COL Appendix C Table 2.7.1-1\***

| <b>Table 2.7.1-1*</b>           |                 |                                |
|---------------------------------|-----------------|--------------------------------|
| <b>*Equipment Name</b>          | <b>*Tag No.</b> | <b>*Safety-Related Display</b> |
| MCR Supply Air Isolation Valve  | VBS-PL-V186     | Yes<br>(Valve Position)        |
| MCR Supply Air Isolation Valve  | VBS-PL-V187     | Yes<br>(Valve Position)        |
| MCR Return Air Isolation Valve  | VBS-PL-V188     | Yes<br>(Valve Position)        |
| MCR Return Air Isolation Valve  | VBS-PL-V189     | Yes<br>(Valve Position)        |
| MCR Exhaust Air Isolation Valve | VBS-PL-V190     | Yes<br>(Valve Position)        |
| MCR Exhaust Air Isolation Valve | VBS-PL-V191     | Yes<br>(Valve Position)        |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V001     | Yes<br>(Valve Position)        |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V002     | Yes<br>(Valve Position)        |

**Attachment C**

**Excerpt from COL Appendix C Table 2.7.1-1\***

| <b>Table 2.7.1-1*</b>           |                 |                                 |                         |
|---------------------------------|-----------------|---------------------------------|-------------------------|
| <b>*Equipment Name</b>          | <b>*Tag No.</b> | <b>*Remotely Operated Valve</b> | <b>*Active Function</b> |
| MCR Supply Air Isolation Valve  | VBS-PL-V186     | Yes                             | Transfer Closed         |
| MCR Supply Air Isolation Valve  | VBS-PL-V187     | Yes                             | Transfer Closed         |
| MCR Return Air Isolation Valve  | VBS-PL-V188     | Yes                             | Transfer Closed         |
| MCR Return Air Isolation Valve  | VBS-PL-V189     | Yes                             | Transfer Closed         |
| MCR Exhaust Air Isolation Valve | VBS-PL-V190     | Yes                             | Transfer Closed         |
| MCR Exhaust Air Isolation Valve | VBS-PL-V191     | Yes                             | Transfer Closed         |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V001     | Yes                             | Transfer Closed         |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V002     | Yes                             | Transfer Closed         |

**Attachment D**

**\*Excerpt from COL Appendix C Table 2.7.1-1\***

| <b>Table 2.7.1-1*</b>           |                 |                          |                         |
|---------------------------------|-----------------|--------------------------|-------------------------|
| <b>*Equipment Name</b>          | <b>*Tag No.</b> | <b>* Control PMS/DAS</b> | <b>*Active Function</b> |
| MCR Supply Air Isolation Valve  | VBS-PL-V186     | Yes/No                   | Transfer Closed         |
| MCR Supply Air Isolation Valve  | VBS-PL-V187     | Yes/No                   | Transfer Closed         |
| MCR Return Air Isolation Valve  | VBS-PL-V188     | Yes/No                   | Transfer Closed         |
| MCR Return Air Isolation Valve  | VBS-PL-V189     | Yes/No                   | Transfer Closed         |
| MCR Exhaust Air Isolation Valve | VBS-PL-V190     | Yes/No                   | Transfer Closed         |
| MCR Exhaust Air Isolation Valve | VBS-PL-V191     | Yes/No                   | Transfer Closed         |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V001     | Yes/No                   | Transfer Closed         |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V002     | Yes/No                   | Transfer Closed         |

**Attachment E**

**Excerpt from COL Appendix C Table 2.7.1-1\***

| <b>Table 2.7.1-1*</b>           |                 |                                 |  |
|---------------------------------|-----------------|---------------------------------|--|
| <b>*Equipment Name</b>          | <b>*Tag No.</b> | <b>*Remotely Operated Valve</b> | <b>* Loss of Motive Power Position</b> |
| MCR Supply Air Isolation Valve  | VBS-PL-V186     | Yes                             | As Is                                  |
| MCR Supply Air Isolation Valve  | VBS-PL-V187     | Yes                             | As Is                                  |
| MCR Return Air Isolation Valve  | VBS-PL-V188     | Yes                             | As Is                                  |
| MCR Return Air Isolation Valve  | VBS-PL-V189     | Yes                             | As Is                                  |
| MCR Exhaust Air Isolation Valve | VBS-PL-V190     | Yes                             | As Is                                  |
| MCR Exhaust Air Isolation Valve | VBS-PL-V191     | Yes                             | As Is                                  |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V001     | Yes                             | As Is                                  |
| MCR SDS (Vent) Isolation Valve  | SDS-PL-V002     | Yes                             | As Is                                  |

**Attachment F**

**Excerpt from COL Appendix C Table 2.7.1-3\***

| <b>Table 2.7.1-3*</b>                                    |                          |                          |
|--|--------------------------|--------------------------|
| <b>*Equipment</b>  | <b>*Tag No.</b>          | <b>*Control Function</b> |
| Supplemental Air Filtration Unit Fan A                   | VBS-MA-03A               | Start                    |
| Supplemental Air Filtration Unit Fan B                   | VBS-MA-03B               | Start                    |
| MCR/CSA Supply Air Handling Units (AHU) A Fans           | VBS-MA-01A<br>VBS-MA-02A | Start                    |
| MCR/CSA Supply AHU B Fans                                | VBS-MA-01B<br>VBS-MA-02B | Start                    |
| Division "A" and "C" Class 1E Electrical Room AHU A Fans | VBS-MA-05A<br>VBS-MA-06A | Start                    |
| Division "A" and "C" Class 1E Electrical Room AHU C Fans | VBS-MA-05C<br>VBS-MA-06C | Start                    |
| Division "B" and "D" Class 1E Electrical Room AHU B Fans | VBS-MA-05B<br>VBS-MA-06B | Start                    |
| Division "B" and "D" Class 1E Electrical Room AHU D Fans | VBS-MA-05D<br>VBS-MA-06D | Start                    |
| Division "A" and "C" Class 1E Battery Room Exhaust Fans  | VBS-MA-07A<br>VBS-MA-07C | Start                    |
| Division "B" and "D" Class 1E Battery Room Exhaust Fans  | VBS-MA-07B<br>VBS-MA-07D | Start                    |

**Attachment G**

**Excerpt from COL Appendix C Table 2.7.1-3\***

| <b>Table 2.7.1-3*</b>                                    |                          |                     |
|--|--------------------------|---------------------|
| <b>*Equipment</b>  | <b>*Tag No.</b>          | <b>* Display</b>    |
| Supplemental Air Filtration Unit Fan A                   | VBS-MA-03A               | Yes<br>(Run Status) |
| Supplemental Air Filtration Unit Fan B                   | VBS-MA-03B               | Yes<br>(Run Status) |
| MCR/CSA Supply Air Handling Units (AHU) A Fans           | VBS-MA-01A<br>VBS-MA-02A | Yes<br>(Run Status) |
| MCR/CSA Supply AHU B Fans                                | VBS-MA-01B<br>VBS-MA-02B | Yes<br>(Run Status) |
| Division "A" and "C" Class 1E Electrical Room AHU A Fans | VBS-MA-05A<br>VBS-MA-06A | Yes<br>(Run Status) |
| Division "A" and "C" Class 1E Electrical Room AHU C Fans | VBS-MA-05C<br>VBS-MA-06C | Yes<br>(Run Status) |
| Division "B" and "D" Class 1E Electrical Room AHU B Fans | VBS-MA-05B<br>VBS-MA-06B | Yes<br>(Run Status) |
| Division "B" and "D" Class 1E Electrical Room AHU D Fans | VBS-MA-05D<br>VBS-MA-06D | Yes<br>(Run Status) |
| Division "A" and "C" Class 1E Battery Room Exhaust Fans  | VBS-MA-07A<br>VBS-MA-07C | Yes<br>(Run Status) |
| Division "B" and "D" Class 1E Battery Room Exhaust Fans  | VBS-MA-07B<br>VBS-MA-07D | Yes<br>(Run Status) |