

May 30, 2023

Docket No.: 52-026

ND-23-0171  
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 2.3.09.03.ii [Index Number 424]

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 2.3.09.03.ii [Index Number 424] to verify that 66 hydrogen igniters are provided at the locations specified, that the surface temperature meets or exceeds 1700°F, that controls in the main control room (MCR) operate to energize the igniters, and that displays identified in the Combined License (COL) Appendix C Table 2.3.9-1 can be retrieved in the MCR. 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 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 of ITAAC 2.3.09.03.ii [Index Number 424]

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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-23-0171  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.3.09.03.ii [Index Number 424]**

## **ITAAC Statement**

### **Design Commitment**

3. The VLS provides the nonsafety-related function to control the containment hydrogen concentration for beyond design basis accidents.
- 4.a) Controls exist in the MCR to cause the components identified in Table 2.3.9-2 to perform the listed function.
5. Displays of the parameters identified in Table 2.3.9-1 can be retrieved in the MCR.

### **Inspections/Tests/Analyses**

- i) Inspection for the number of igniters will be performed.
- ii) Operability testing will be performed on the igniters.

Testing will be performed on the igniters using the controls in the MCR.

Inspection will be performed for retrievability of the displays identified in Table 2.3.9-1 in the MCR.

### **Acceptance Criteria**

- i) At least 66 hydrogen igniters are provided inside containment at the locations specified in Table 2.3.9-2.
- ii) The surface temperature of the igniter meets or exceeds 1700°F.

Controls in the MCR operate to energize the igniters.

Displays identified in Table 2.3.9-1 can be retrieved in the MCR.

## **ITAAC Determination Basis**

This ITAAC performed testing and inspections to verify that the Containment Hydrogen Control System (VLS) provides the nonsafety-related function to control the containment hydrogen concentration for beyond design basis accidents by ensuring that the required number of hydrogen igniters were installed in the appropriate locations as specified by VEGP Combined License (COL) Appendix C Table 2.3.9-2 (Attachment A) and that the surface temperature of the igniters met or exceeded 1700°F. This ITAAC also verifies that controls exist in the Main Control Room (MCR) to cause the components identified in COL Appendix C Table 2.3.9-2 (Attachment A) to perform the listed function and that displays of the parameters identified in COL Appendix C Table 2.3.9-1 (Attachment B) can be retrieved in the MCR.

i) At least 66 hydrogen igniters are provided inside containment at the locations specified in Table 2.3.9-2.

An inspection was performed in accordance with the Unit 4 ITAAC Technical Report SV4-VLS-ITR-800424 (Reference 1) to verify that at least 66 hydrogen igniters are provided inside containment at the locations specified in Attachment A.

The inspection was conducted by reviewing installation records of the hydrogen igniters to verify the correct number of hydrogen igniters were installed and that they were all in their proper locations. The results of the inspection verified that for Unit 4 there are at least 66 hydrogen igniters provided inside containment at the locations specified in Table 2.3.9-2.

ii) The surface temperature of the igniter meets or exceeds 1700°F.

Testing was performed in accordance with Unit 4 preoperational test procedure and work orders listed in Reference 2 to verify that the surface temperature of the igniter meets or exceeds 1700°F.

Testing began by installing appropriate personnel protection barriers and closing the power supply breakers for the hydrogen igniters and control cabinets. Each hydrogen igniter group control was placed to ON and the temperature of each igniter was taken and verified to meet acceptance criteria.

The results of the testing on Unit 4 verifies the surface temperature of each igniter meets or exceeds 1700°F.

Controls in the MCR operate to energize the igniters.

Testing was performed in accordance with Unit 4 preoperational test procedures and work orders listed in Reference 2 to verify that controls in the MCR operate to energize the igniters.

Testing was performed at an operator workstation in Unit 4 MCR and placed the hydrogen igniter controls to ON. All of the igniters listed in Attachment A were verified to energize by measuring the temperature which was performed by item ii) above.

Displays identified in Table 2.3.9-1 can be retrieved in the MCR.

An inspection was performed as documented in Reference 2 for VLS indication verifications, and visually confirmed that when each of the displays of parameters identified in Attachment B was summoned at an MCR workstation, the summoned plant parameter appeared on a display monitor at that MCR workstation.

The completed test and inspection results (References 1 and 2) confirm that at least 66 hydrogen igniters are provided inside containment at the locations specified in Table 2.3.9-2, that the surface temperature of the igniters meets or exceeds 1700°F, that controls in the MCR operate to energize the igniters, and that the displays identified in Table 2.3.9-1 can be retrieved in the MCR.

References 1 and 2 are available for NRC inspection as part of Unit 4 ITAAC Completion Package (Reference 3).

### **ITAAC Finding Review**

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. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.3.09.03.ii (Reference 3) and is available for NRC review.

### **ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.3.09.03.ii was performed for VEGP Unit 4 and that the prescribed acceptance criteria were 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. SV4-VLS-ITR-800424, Rev. 0, "Unit 4 Containment Hydrogen Control (VLS) Igniter Locations Inspection: ITAAC 2.3.09.03.ii Item 3.i) NRC Index Number: 424"
2. SV4-VLS-ITR-801424, Rev. 0, "Unit 4 Containment Hydrogen Control (VLS) Igniter Functionality Test and Parameter Displays: ITAAC 2.3.09.03.ii, Items 3.ii), 4.a), and 5 NRC Index Number: 424"
3. 2.3.09.03.ii-U4-CP-Rev0, "ITAAC Completion Package"

**Attachment A**

COL Appendix C Table 2.3.9-2

<b>Equipment Name</b>	<b>Tag Number</b>	<b>Function</b>	<b>Power Group Number</b>	<b>Location</b>	<b>Room No.</b>
Hydrogen Igniter 01	VLS-EH-01	Energize	1	Tunnel connection loop compartments	11204
Hydrogen Igniter 02	VLS-EH-02	Energize	2	Tunnel connection loop compartments	11204
Hydrogen Igniter 03	VLS-EH-03	Energize	1	Tunnel connection loop compartments	11204
Hydrogen Igniter 04	VLS-EH-04	Energize	2	Tunnel connection loop compartments	11204
Hydrogen Igniter 05	VLS-EH-05	Energize	1	Loop compartment 02	11402
Hydrogen Igniter 06	VLS-EH-06	Energize	2	Loop compartment 02	11502
Hydrogen Igniter 07	VLS-EH-07	Energize	2	Loop compartment 02	11402
Hydrogen Igniter 08	VLS-EH-08	Energize	1	Loop compartment 02	11502
Hydrogen Igniter 09	VLS-EH-09	Energize	1	In-containment refueling water storage tank (IRWST) sparger side	11305
Hydrogen Igniter 10	VLS-EH-10	Energize	2	IRWST sparger side	11305
Hydrogen Igniter 11	VLS-EH-11	Energize	2	Loop compartment 01	11401
Hydrogen Igniter 12	VLS-EH-12	Energize	1	Loop compartment 01	11501

**Attachment A (con't)**

<b>Equipment Name</b>	<b>Tag Number</b>	<b>Function</b>	<b>Power Group Number</b>	<b>Location</b>	<b>Room No.</b>
Hydrogen Igniter 13	VLS-EH-13	Energize	1	Loop compartment 01	11401
Hydrogen Igniter 14	VLS-EH-14	Energize	2	Loop compartment 01	11501
Hydrogen Igniter 15	VLS-EH-15	Energize	2	IRWST vacuum breaker vents	11305
Hydrogen Igniter 16	VLS-EH-16	Energize	1	IRWST vacuum breaker vents	11305
Hydrogen Igniter 17	VLS-EH-17	Energize	2	Northeast valve room	11207
Hydrogen Igniter 18	VLS-EH-18	Energize	1	Northeast accumulator room	11207
Hydrogen Igniter 19	VLS-EH-19	Energize	2	East valve room	11208
Hydrogen Igniter 20	VLS-EH-20	Energize	2	Southeast accumulator room	11206
Hydrogen Igniter 21	VLS-EH-21	Energize	1	Southeast valve room	11206
Hydrogen Igniter 22	VLS-EH-22	Energize	1	Lower compartment area (core makeup tank [CMT] and valve area)	11400
Hydrogen Igniter 23	VLS-EH-23	Energize	2	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 24	VLS-EH-24	Energize	2	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 25	VLS-EH-25	Energize	2	Lower compartment area (CMT and valve area)	11400



**Attachment A (con't)**

<b>Equipment Name</b>	<b>Tag Number</b>	<b>Function</b>	<b>Power Group Number</b>	<b>Location</b>	<b>Room No.</b>
Hydrogen Igniter 26	VLS-EH-26	Energize	2	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 27	VLS-EH-27	Energize	1	Lower compartment area (CMT and valve area)	11300
Hydrogen Igniter 28	VLS-EH-28	Energize	1	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 29	VLS-EH-29	Energize	1	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 30	VLS-EH-30	Energize	2	Lower compartment area (CMT and valve area)	11403
Hydrogen Igniter 31	VLS-EH-31	Energize	1	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 32	VLS-EH-32	Energize	1	Lower compartment area (CMT and valve area)	11400
Hydrogen Igniter 33	VLS-EH-33	Energize	2	North CVS equipment room	11209
Hydrogen Igniter 34	VLS-EH-34	Energize	1	North CVS equipment room	11209
Hydrogen Igniter 35	VLS-EH-35	Energize	1	IRWST hooded vents	11500
Hydrogen Igniter 36	VLS-EH-36	Energize	2	IRWST hooded vents	11500
Hydrogen Igniter 37	VLS-EH-37	Energize	1	IRWST hooded vents	11500

**Attachment A (con't)**

<b>Equipment Name</b>	<b>Tag Number</b>	<b>Function</b>	<b>Power Group Number</b>	<b>Location</b>	<b>Room No.</b>
Hydrogen Igniter 38	VLS-EH-38	Energize	2	IRWST hooded vents	11500
Hydrogen Igniter 39	VLS-EH-39	Energize	1	Upper compartment lower region	11500
Hydrogen Igniter 40	VLS-EH-40	Energize	2	Upper compartment lower region	11500
Hydrogen Igniter 41	VLS-EH-41	Energize	2	Upper compartment lower region	11500
Hydrogen Igniter 42	VLS-EH-42	Energize	1	Upper compartment lower region	11500
Hydrogen Igniter 43	VLS-EH-43	Energize	1	Upper compartment lower region	11500
Hydrogen Igniter 44	VLS-EH-44	Energize	1	Upper compartment lower region	11500
Hydrogen Igniter 45	VLS-EH-45	Energize	2	Upper compartment lower region	11500
Hydrogen Igniter 46	VLS-EH-46	Energize	2	Upper compartment lower region	11500
Hydrogen Igniter 47	VLS-EH-47	Energize	1	Upper compartment lower region	11500
Hydrogen Igniter 48	VLS-EH-48	Energize	2	Upper compartment lower region	11500
Hydrogen Igniter 49	VLS-EH-49	Energize	1	Pressurizer compartment	11503
Hydrogen Igniter 50	VLS-EH-50	Energize	2	Pressurizer compartment	11503
Hydrogen Igniter 51	VLS-EH-51	Energize	1	Upper compartment mid-region	11500

**Attachment A (con't)**

<b>Equipment Name</b>	<b>Tag Number</b>	<b>Function</b>	<b>Power Group Number</b>	<b>Location</b>	<b>Room No.</b>
Hydrogen Igniter 52	VLS-EH-52	Energize	2	Upper compartment mid-region	11500
Hydrogen Igniter 53	VLS-EH-53	Energize	2	Upper compartment mid-region	11500
Hydrogen Igniter 54	VLS-EH-54	Energize	1	Upper compartment mid-region	11500
Hydrogen Igniter 55	VLS-EH-55	Energize	1	Refueling cavity	11504
Hydrogen Igniter 56	VLS-EH-56	Energize	2	Refueling cavity	11504
Hydrogen Igniter 57	VLS-EH-57	Energize	2	Refueling cavity	11504
Hydrogen Igniter 58	VLS-EH-58	Energize	1	Refueling cavity	11504
Hydrogen Igniter 59	VLS-EH-59	Energize	2	Pressurizer compartment	11503
Hydrogen Igniter 60	VLS-EH-60	Energize	1	Pressurizer compartment	11503
Hydrogen Igniter 61	VLS-EH-61	Energize	1	Upper compartment-upper region	11500
Hydrogen Igniter 62	VLS-EH-62	Energize	2	Upper compartment-upper region	11500
Hydrogen Igniter 63	VLS-EH-63	Energize	1	Upper compartment-upper region	11500
Hydrogen Igniter 64	VLS-EH-64	Energize	2	Upper compartment-upper region	11500
Hydrogen Igniter 65	VLS-EH-65	Energize	1	IRWST roof vents	11500
Hydrogen Igniter 66	VLS-EH-66	Energize	2	IRWST roof vents	11500

**Attachment B**

COL Appendix C Table 2.3.9-1

<b>Equipment</b>	<b>Tag No.</b>	<b>Display</b>
Containment Hydrogen Monitor	VLS-001	Yes
Containment Hydrogen Monitor	VLS-002	Yes
Containment Hydrogen Monitor	VLS-003	Yes