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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC Item 2.2.03.10 [Index Number 206]

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 2.2.03.10 [Index Number 206]. This ITAAC confirms that for Passive Core Cooling System (PXS); specified displays can be retrieved in the Main Control Room (MCR), specified controls in the MCR operate remotely operated valves and that valves function as required. The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (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) request 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,

Kelli Roberts for JMC

Jamie M. Coleman
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.2.03.10 [Index Number 206]

JMC/MKO/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-23-0478
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC Item 2.2.03.10 [Index Number 206]

ITAAC Statement

Design Commitment

10. Safety-related displays of the parameters identified in Table 2.2.3-1 can be retrieved in the MCR.

11.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.2.3-1 to perform their active function(s).

11.b) The valves identified in Table 2.2.3-1 as having PMS control perform their active function after receiving a signal from the PMS.

12.b) After loss of motive power, the remotely operated valves identified in Table 2.2.3-1 assume the indicated loss of motive power position.

13. Displays of the parameters identified in Table 2.2.3-3 can be retrieved in the MCR.

Inspections/Tests/Analyses

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

ii) Stroke testing will be performed on remotely operated valves other than squib valves identified in Table 2.2.3-1 using the controls in the MCR.

ii) Testing will be performed on the remotely operated valves other than squib valves identified in Table 2.2.3-1 using real or simulated signals into the PMS.

iii) Testing will be performed to demonstrate that remotely operated PXS isolation valves PXS-V014A/B, V015A/B, V108A/B open within the required response times.

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 displays identified in Table 2.2.3-3 in the MCR.

Acceptance Criteria

Safety-related displays identified in Table 2.2.3-1 can be retrieved in the MCR.

ii) Controls in the MCR operate to cause remotely operated valves other than squib valves to perform their active functions.

ii) Remotely operated valves other than squib valves perform the active function identified in the table after a signal is input to the PMS.

iii) These valves open within 20 seconds after receipt of an actuation signal.

After loss of motive power, each remotely operated valve identified in Table 2.2.3-1 assumes the indicated loss of motive power position.

Displays identified in Table 2.2.3-3 can be retrieved in the MCR.

ITAAC Determination Basis

Multiple ITAAC are performed to verify by inspections and tests that:

- Safety-related displays of the parameters identified in the Combined License (COL) Table 2.2.3-1 (Attachment A) can be retrieved in the Main Control Room (MCR).
- Controls exist in the MCR to cause the remotely operated valves identified in COL Table 2.2.3-1 (Attachment B) to perform their active function(s).
- The valves identified in Table 2.2.3-1 (Attachment C) as having Protection and Safety Monitoring System (PMS) control perform their active function after receiving a signal from the PMS.
- Remotely operated PXS isolation valves PXS-V014A/B, V015A/B, V108A/B open within the required response times. (Attachment D)
- After loss of motive power, the remotely operated valves identified in COL Table 2.2.3-1 (Attachment E) assume the indicated loss of motive power position.
- Displays of the parameters identified in COL Table 2.2.3-3 (Attachment F) can be retrieved in the MCR.

Safety-related displays identified in Table 2.2.3-1 can be retrieved in the MCR.

Inspections were performed, as documented in Reference 1, which visually confirmed that when each of the displays of the plant parameter identified in Attachment A was summoned using the MCR PMS Visual Display Units (VDUs), the expected display appeared on the PMS VDU.

The completed inspection results in Reference 1 confirms that safety-related displays identified in Table 2.2.3-1 can be retrieved in Unit 4 MCR.

ii) Controls in the MCR operate to cause remotely operated valves other than squib valves to perform their active functions.

Using Plant Control System (PLS) controls in the MCR, stroke testing each valve in Attachment B was performed in accordance with testing listed in Reference 2. Each valve was stroked to its active function and proper valve position indication was verified locally and in the MCR. This testing demonstrated PLS controls in the MCR operate to cause the remotely operated valves identified in COL Appendix C Table 2.2.3-1 to perform their active functions.

The completed test results in Reference 2 confirms that controls in the Unit 4 MCR operated to cause the remotely operated valves identified in Table 2.2.3-1 to perform active functions.

ii) Remotely operated valves other than squib valves perform the active function identified in the table after a signal is input to the PMS.

Testing was performed in accordance with Unit 4 component test packages listed in Reference 3 to confirm that the remotely operated valves other than squib valves performed the active function identified in Attachment C after a signal is input to the PMS.

The component test packages established initial conditions with each valve verified locally and in the MCR to be in the required position. An actuation signal was generated by PMS using the PMS Maintenance and Test Panel (MTP) to generate a signal to cause the valves in Attachment C to transfer to the active function position and each valve was verified locally and in the MCR.

The completed test results in Reference 3 confirmed the remotely operated valves other than squib valves perform the active function identified in the table after a signal is input to the PMS for Unit 4.

iii) These valves open within 20 seconds after receipt of an actuation signal.

Testing was performed in accordance with Unit 4 component test packages listed in Reference 3 to confirm that remotely operated PXS isolation valves PXS-V014A/B, V015A/B, V108A/B opened within 20 seconds after receipt of an actuation signal.

The component test packages established initial conditions with each valve verified locally and in the MCR to be in the closed position and a digital trend was established to time the valve actuation. An actuation signal was generated by PMS using the PMS Maintenance and Test Panel (MTP) to generate a signal to cause the valves in Attachment D to transfer open and each valve is verified locally and in the MCR.

The completed test results in Reference 3 confirm that remotely operated PXS isolation valves PXS-V014A/B, V015A/B, V108A/B opened within 20 seconds after receipt of an actuation signal for Unit 4 and the test results are documented in Attachment D.

After loss of motive power, each remotely operated valve identified in Table 2.2.3-1 assumes the indicated loss of motive power position.

Testing was performed in accordance with Unit 4 component test packages listed in Reference 4 to verify that each remotely operated valve identified in Attachment E assumed the indicated loss of motive power position upon a loss of motive power.

Testing was performed on the Motor-Operated Valves (MOVs) listed in Attachment E by ensuring each MOV was in their pretest position of closed. 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 on the air operated valves listed in Attachment E was performed by placing the valves in a position opposite their loss of motive power position and opening the power supply to their air supply solenoid. This caused the solenoid to de-energize which closed the air supply to the valve and opened a vent port to vent off the air in the actuator. The valves were verified locally and in the MCR to transfer to their loss of motive power position.

The motive power for the squib valves is a single-use explosive device powered by Direct Current (DC) Power. By design, this configuration results in the squib valves maintaining their as-is position upon a loss of motive power, as power is required to ignite the explosive device which repositions the valve. As a result, no loss of motive power testing is required for the squib valves. Functional testing of the squib valve actuation circuits is performed by other ITAAC.

The completed test results in Reference 4 confirms that after loss of motive power, each remotely operated valve identified in Table 2.2.3-1 assumes the indicated loss of motive power position for Unit 4.

Displays identified in Table 2.2.3-3 can be retrieved in the MCR.

An inspection was performed as documented in Reference 1 to confirm displays identified in Attachment F can be retrieved in the MCR.

Testing was performed at an operator workstation by navigating to several PXS system screens, locating the items identified in Attachment F, and ensuring the items identified can be retrieved in the MCR.

Reference 1 confirms that the displays identified in Table 2.2.3-3 can be retrieved in the Unit 4 MCR.

References 1 through 4 are available for NRC inspection as part of Unit 4 ITAAC Completion Package (Reference 5).

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of 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 (Reference 5) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.10 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. SV4-PXS-ITR-800206, Rev. 0, “Unit 4 Inspection Results of: ITAAC 2.2.03.10 (Items 10 and 13) NRC Index Number: 206”
2. SV4-PXS-ITR-801206, Rev. 0, “Unit 4 Testing Results of: ITAAC 2.2.03.10 (Item 11.a) NRC Index Number: 206”
3. SV4-PXS-ITR-802206, Rev. 0, “Unit 4 Inspection Results of: ITAAC 2.2.03.10 (Item 11.b) NRC Index Number:206”
4. SV4-PXS-ITR-803206, Rev. 0, “Unit 4 Recorded Results of Remotely Operated PXS Valves Response to Loss of Motive Power: ITAAC 2.2.03.10 Item 12.b) NRC Index Number: 206”
5. 2.2.03.10-U4-CP-Rev0, “ITAAC Completion Package”

Attachment A

*Excerpt from COL Appendix C Table 2.2.3-1

Table 2.2.3-1		
***Equipment Name**	***Tag No.**	***Safety-Related Display**
CMT A Inlet Isolation Motor-operated Valve	PXS-PL-V002A	Yes (Position)
CMT B Inlet Isolation Motor-operated Valve	PXS-PL-V002B	Yes (Position)
CMT A Discharge Isolation Valve	PXS-PL-V014A	Yes (Position)
CMT B Discharge Isolation Valve	PXS-PL-V014B	Yes (Position)
CMT A Discharge Isolation Valve	PXS-PL-V015A	Yes (Position)
CMT B Discharge Isolation Valve	PXS-PL-V015B	Yes (Position)
Nitrogen Supply Containment Isolation Valve	PXS-PL-V042	Yes (Position)
PRHR HX Inlet Isolation Motor-operated Valve	PXS-PL-V101	Yes (Position)
PRHR HX Control Valve	PXS-PL-V108A	Yes (Position)
PRHR HX Control Valve	PXS-PL-V108B	Yes (Position)
Containment Recirculation A Isolation Motor-operated Valve	PXS-PL-V117A	Yes (Position)
Containment Recirculation B Isolation Motor-operated Valve	PXS-PL-V117B	Yes (Position)
Containment Recirculation A Squib Valve	PXS-PL-V118A	Yes (Position)
Containment Recirculation B Squib Valve	PXS-PL-V118B	Yes (Position)
Containment Recirculation A Squib Valve	PXS-PL-V120A	Yes (Position)
Containment Recirculation B Squib Valve	PXS-PL-V120B	Yes (Position)
IRWST Injection A Squib Valve	PXS-PL-V123A	Yes (Position)
IRWST Injection A Squib Valve	PXS-PL-V123B	Yes (Position)
IRWST Injection A Squib Valve	PXS-PL-V125A	Yes (Position)
IRWST Injection A Squib Valve	PXS-PL-V125B	Yes (Position)
IRWST Gutter Isolation Valve	PXS-PL-V130A	Yes (Position)
IRWST Gutter Isolation Valve	PXS-PL-V130B	Yes (Position)
CMT A Level Sensor	PXS-011A	Yes
CMT A Level Sensor	PXS-011B	Yes
CMT A Level Sensor	PXS-011C	Yes
CMT A Level Sensor	PXS-011D	Yes
CMT B Level Sensor	PXS-012A	Yes
CMT B Level Sensor	PXS-012B	Yes
CMT B Level Sensor	PXS-012C	Yes
CMT B Level Sensor	PXS-012D	Yes
CMT A Level Sensor	PXS-013A	Yes
CMT A Level Sensor	PXS-013B	Yes
CMT A Level Sensor	PXS-013C	Yes
CMT A Level Sensor	PXS-013D	Yes
CMT B Level Sensor	PXS-014A	Yes
CMT B Level Sensor	PXS-014B	Yes
CMT B Level Sensor	PXS-014C	Yes
CMT B Level Sensor	PXS-014D	Yes
IRWST Wide Range Level Sensor	PXS-046	Yes
IRWST Wide Range Level Sensor	PXS-047	Yes
IRWST Wide Range Level Sensor	PXS-048	Yes
PRHR HX Flow Sensor	PXS-049A	Yes

Attachment A

*Excerpt from COL Appendix C Table 2.2.3-1

Table 2.2.3-1		
***Equipment Name**	***Tag No.**	***Safety-Related Display**
PRHR HX Flow Sensor	PXS-049B	Yes
Containment Flood-up Level Sensor	PXS-050	Yes
Containment Flood-up Level Sensor	PXS-051	Yes
Containment Flood-up Level Sensor	PXS-052	Yes
IRWST Lower Narrow Range Level Sensor	PXS-066	Yes
IRWST Lower Narrow Range Level Sensor	PXS-067	Yes
IRWST Lower Narrow Range Level Sensor	PXS-068	Yes
IRWST Lower Narrow Range Level Sensor	PXS-069	Yes

Attachment B

*Excerpt from COL Appendix C Table 2.2.3-1

Table 2.2.3-1			
***Equipment Name**	***Tag No.**	***Remotely Operated Valve**	***Active Function**
CMT A Discharge Isolation Valve	PXS-PL-V014A	YES	Transfer Open
CMT B Discharge Isolation Valve	PXS-PL-V014B	YES	Transfer Open
CMT A Discharge Isolation Valve	PXS-PL-V015A	YES	Transfer Open
CMT B Discharge Isolation Valve	PXS-PL-V015B	YES	Transfer Open
Nitrogen Supply Containment Isolation Valve	PXS-PL-V042	YES	Transfer Closed
PRHR HX Control Valve	PXS-PL-V108A	YES	Transfer Open
PRHR HX Control Valve	PXS-PL-V108B	YES	Transfer Open
IRWST Gutter Isolation Valve	PXS-PL-V130A	YES	Transfer Closed
IRWST Gutter Isolation Valve	PXS-PL-V130B	YES	Transfer Closed

Attachment C

*Excerpt from COL Appendix C Table 2.2.3-1

Table 2.2.3-1			
***Equipment Name**	***Tag No.**	***Control PMS**	***Active Function**
CMT A Discharge Isolation Valve	PXS-PL-V014A	YES	Transfer Open
CMT B Discharge Isolation Valve	PXS-PL-V014B	YES	Transfer Open
CMT A Discharge Isolation Valve	PXS-PL-V015A	YES	Transfer Open
CMT B Discharge Isolation Valve	PXS-PL-V015B	YES	Transfer Open
Nitrogen Supply Containment Isolation Valve	PXS-PL-V042	YES	Transfer Closed
PRHR HX Control Valve	PXS-PL-V108A	YES	Transfer Open
PRHR HX Control Valve	PXS-PL-V108B	YES	Transfer Open
IRWST Gutter Isolation Valve	PXS-PL-V130A	YES	Transfer Closed
IRWST Gutter Isolation Valve	PXS-PL-V130B	YES	Transfer Closed

Attachment D

*Excerpt from COL Appendix C Table 2.2.3-1

Table 2.2.3-1					
Unit	***Equipment Name**	***Tag No.**	***Remotely Operated Valve**	***Control PMS**	**Opening Time**
4	CMT A Discharge Isolation Valve	PXS-PL-V014A	Yes	Yes	10.84
4	CMT B Discharge Isolation Valve	PXS-PL-V014B	Yes	Yes	6.84
4	CMT A Discharge Isolation Valve	PXS-PL-V015A	Yes	Yes	10.84
4	CMT B Discharge Isolation Valve	PXS-PL-V015B	Yes	Yes	12.84
4	PRHR HX Control Valve	PXS-PL-V108A	Yes	Yes	12.84
4	PRHR HX Control Valve	PXS-PL-V108B	Yes	Yes	11.84

Attachment E

*Excerpt from COL Appendix C Table 2.2.3-1

Table 2.2.3-1			
***Equipment Name**	***Tag No.**	***Remotely Operated Valve**	***Loss of Motive Power Position**
CMT A Inlet Isolation Motor-operated Valve	PXS-PL-V002A	Yes	As Is
CMT B Inlet Isolation Motor-operated Valve	PXS-PL-V002B	Yes	As Is
CMT A Discharge Isolation Valve	PXS-PL-V014A	Yes	Open
CMT B Discharge Isolation Valve	PXS-PL-V014B	Yes	Open
CMT A Discharge Isolation Valve	PXS-PL-V015A	Yes	Open
CMT B Discharge Isolation Valve	PXS-PL-V015B	Yes	Open
Accumulator A Discharge Isolation Valve	PXS-PL-V027A	Yes	As Is
Accumulator B Discharge Isolation Valve	PXS-PL-V027B	Yes	As Is
Nitrogen Supply Containment Isolation Valve	PXS-PL-V042	Yes	Closed
PRHR HX Inlet Isolation Motor-operated Valve	PXS-PL-V101	Yes	As Is
PRHR HX Control Valve	PXS-PL-V108A	Yes	Open
PRHR HX Control Valve	PXS-PL-V108B	Yes	Open
Containment Recirculation A Isolation Motor-operated Valve	PXS-PL-V117A	Yes	As Is
Containment Recirculation B Isolation Motor-operated Valve	PXS-PL-V117B	Yes	As Is
Containment Recirculation A Squib Valve	PXS-PL-V118A	Yes	As Is
Containment Recirculation B Squib Valve	PXS-PL-V118B	Yes	As Is
Containment Recirculation A Squib Valve	PXS-PL-V120A	Yes	As Is
Containment Recirculation B Squib Valve	PXS-PL-V120B	Yes	As Is
IRWST Injection A Squib Valve	PXS-PL-V123A	Yes	As Is
IRWST Injection A Squib Valve	PXS-PL-V123B	Yes	As Is
IRWST Injection A Squib Valve	PXS-PL-V125A	Yes	As Is
IRWST Injection A Squib Valve	PXS-PL-V125B	Yes	As Is
IRWST Gutter Isolation Valve	PXS-PL-V130A	Yes	Closed
IRWST Gutter Isolation Valve	PXS-PL-V130B	Yes	Closed

Attachment F

*Excerpt from COL Appendix C Table 2.2.3-3

Table 2.2.3-3		
***Equipment**	***Tag No.**	***Display**
CMT A Discharge Isolation Valve (Position)	PXS-PL-V014A	Yes (Position)
CMT B Discharge Isolation Valve (Position)	PXS-PL-V014B	Yes (Position)
CMT A Discharge Isolation Valve (Position)	PXS-PL-V015A	Yes (Position)
CMT B Discharge Isolation Valve (Position)	PXS-PL-V015B	Yes (Position)
Accumulator A Nitrogen Vent Valve (Position)	PXS-PL-V021A	Yes (Position)
Accumulator B Nitrogen Vent Valve (Position)	PXS-PL-V021B	Yes (Position)
Accumulator A Discharge Isolation Valve (Position)	PXS-PL-V027A	Yes (Position)
Accumulator B Discharge Isolation Valve (Position)	PXS-PL-V027B	Yes (Position)
PRHR HX Control Valve (Position)	PXS-PL-V108A	Yes (Position)
PRHR HX Control Valve (Position)	PXS-PL-V108B	Yes (Position)
Containment Recirculation A Isolation Motor-operated Valve (Position)	PXS-PL-V117A	Yes (Position)
Containment Recirculation B Isolation Motor-operated Valve (Position)	PXS-PL-V117B	Yes (Position)
Containment Recirculation A Squib Valve (Position)	PXS-PL-V118A	Yes (Position)
Containment Recirculation B Squib Valve (Position)	PXS-PL-V118B	Yes (Position)
Containment Recirculation A Squib Valve (Position)	PXS-PL-V120A	Yes (Position)
Containment Recirculation B Squib Valve (Position)	PXS-PL-V120B	Yes (Position)
IRWST Line A Isolation Valve (Position)	PXS-PL-V121A	Yes (Position)
IRWST Line B Isolation Valve (Position)	PXS-PL-V121B	Yes (Position)
IRWST Injection A Squib Valve (Position)	PXS-PL-V123A	Yes (Position)
IRWST Injection A Squib Valve (Position)	PXS-PL-V123B	Yes (Position)
IRWST Injection A Squib Valve (Position)	PXS-PL-V125A	Yes (Position)
IRWST Injection A Squib Valve (Position)	PXS-PL-V125B	Yes (Position)
IRWST Gutter Isolation Valve (Position)	PXS-PL-V130A	Yes (Position)
IRWST Gutter Isolation Valve (Position)	PXS-PL-V130B	Yes (Position)
Accumulator A Level Sensor	PXS-JE-L021	Yes
Accumulator B Level Sensor	PXS-JE-L022	Yes
Accumulator A Level Sensor	PXS-JE-L023	Yes
Accumulator B Level Sensor	PXS-JE-L024	Yes
PRHR HX Inlet Temperature Sensor	PXS-JE-L064	Yes
IRWST Surface Temperature Sensor	PXS-JE-L041	Yes
IRWST Surface Temperature Sensor	PXS-JE-L042	Yes
IRWST Bottom Temperature Sensor	PXS-JE-L043	Yes
IRWST Bottom Temperature Sensor	PXS-JE-L044	Yes