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Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 3  
Notification of Completion of ITAAC 2.2.03.08c.x [Index Number 195]

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 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.03.08c.x [Index Number 195]. This ITAAC confirms the Passive Core Cooling System (PXS) provides Reactor Coolant System (RCS) makeup, boration, and safety injection during design basis events. 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,

 for JMC

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Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3  
Completion of ITAAC 2.2.03.08c.x [Index Number 195]

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U.S. Nuclear Regulatory Commission  
ND-22-0225 Enclosure  
Page 1 of 6

**Southern Nuclear Operating Company  
ND-22-0225  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 3  
Completion of ITAAC 2.2.03.08c.x [Index Number 195]**

### **ITAAC Statement**

#### **Design Commitment:**

8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.

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

x) Inspections will be conducted of the as-built nonsafety-related coatings or of plant records of the nonsafety-related coatings used inside containment on walls, floors, ceilings, and structural steel except in the CVS room. Inspections will be conducted of the as-built nonsafety-related coatings or of plant records of the nonsafety-related coatings used on components below the maximum flood level of a design basis LOCA or located above the maximum flood level and not inside cabinets or enclosures.

Inspections will be conducted on caulking, tags, and signs used inside containment below the maximum flood level of a design basis LOCA or located above the maximum flood level and not inside cabinets or enclosures.

Inspections will be conducted of ventilation filters and fiber-producing fire barriers used inside containment within the ZOI or below the maximum flood level of a design basis LOCA.

#### **Acceptance Criteria:**

x) A report exists and concludes that the coatings used on these surfaces have a dry film density of  $\geq 100 \text{ lb/ft}^3$ . If a coating is used that has a lower dry film density, a report must exist and conclude that the coating will not transport. A report exists and concludes that inorganic zinc coatings used on these surfaces are Safety – Service Level I or have been quantified and justified in a program for management of unqualified coatings to demonstrate the unqualified coatings are acceptable for use.

A report exists and concludes that tags and signs used in these locations are made of steel or another metal with a density  $\geq 100 \text{ lb/ft}^3$ . In addition, a report exists and concludes that caulking used in these locations or coatings used on these signs or tags have a dry film density of  $\geq 100 \text{ lb/ft}^3$ . If a material is used that has a lower density, a report must exist and conclude that there is insufficient water flow to transport lightweight caulking, signs, or tags.

A report exists and concludes that the ventilation filters and fire barriers in these locations have a density of  $\geq 100 \text{ lb/ft}^3$ .

### **ITAAC Determination Basis**

Multiple ITAAC are performed to demonstrate that the Passive Core Cooling System (PXS) provides Reactor Coolant System (RCS) makeup, boration, and safety injection during design basis events. The subject ITAAC requires inspections to verify that:

1. Coatings - Nonsafety-related coatings used inside containment on walls, floors, ceilings and structural steel (except in the Chemical and Volume Control System (CVS) room), and components below the maximum flood level (MFL) of a design basis Loss of Coolant Accident (LOCA), or located above the MFL and not inside cabinets or



enclosures, have a dry film density of  $\geq 100 \text{ lb/ft}^3$ , and inorganic zinc (IOZ) coatings used on these surfaces are Safety – Service Level I or have been quantified and justified in a program for management of unqualified coatings to demonstrate the unqualified coatings are acceptable for use.

2. Caulking, Tags, and Signs - Tags and signs used below the MFL of a design basis LOCA or located above the MFL and not inside cabinets or enclosures are made of steel or another metal with a density of  $\geq 100 \text{ lb/ft}^3$ , including coatings used on these signs and tags, and that caulking in these areas have a density of  $\geq 100 \text{ lb/ft}^3$ .
3. Ventilation Filters and Fiber-producing Fire Barriers - Ventilation filters and fiber-producing fire barriers used inside containment within the Zone of Influence (ZOI) of a LOCA pipe break or below the MFL of a design basis LOCA have a density of  $\geq 100 \text{ lb/ft}^3$ .

#### 1. – Coatings

Containment equipment design specifications required that the selected coating system meets the minimum dry film density requirement of  $\geq 100 \text{ lb/ft}^3$ , and that inorganic zinc coatings used on containment equipment surfaces were Safety – Service Level I (SLI). The minimum dry film unit weight was specified by the coating manufacturer's conformance documentation. The applied coatings are limited to those approved in the design specification (Reference 1), where the dry film density is an intrinsic property of each coating that is determined by testing prior to approval of that coating.

The acceptance criteria of this ITAAC was modified (Reference 2) to allow for a quantity of unqualified SLI coating areas to be administratively controlled under SNC's quality assurance program. An unqualified coating is one that has not passed the required laboratory testing or lacks adequate quality documentation to support its use as qualified. Each instance of unqualified coatings was documented and dispositioned and was consolidated into a unit-specific tracking log (Unit 3 Unqualified Coatings Log (UCL), (Reference 3)). Use of the unit-specific tracking log for unqualified SLI coatings facilitates compliance with the design specification requirements and provides a means for tracking and retaining a record of these unqualified coatings as a quality record throughout the operational life of the plant in compliance with ASTM D 7491-08 (Reference 4).

For coatings applied off-site at a vendor facility prior to shipment of items to the site, Quality Assurance Data Packages (QADPs) were generated in accordance with the vendor's approved Quality Plan and included documentation of the dry film density of the selected coating system, as well as application / inspection certifications for SLI coating applications. Independent personnel reviewed application and inspection records of ITAAC-related coatings by performing an inspection of the QADPs using the guidance of EPRI TR-017218-R1 (Reference 5). This review was expanded to include all ITAAC-related commodity codes present in containment. Records of all QADPs for ITAAC-related off-site coated components were identified and contained in Unit 3 Coating Receipt Inspection Reports (Reference 6).

This inspection confirmed that vendor QADPs for the applied coatings include documentation of the dry film density for the selected coating system, as well as application / inspection certifications for SLI coating applications. Any unqualified coatings were tracked within the UCL for Unit 3.

The basis for inspecting coatings of as-built SSCs at other than their final installed locations is provided in NEI 08-01, Section 9.5, "As-built Inspections." Installation of coated walls, floors, ceilings, structural steel and piping was performed in accordance with applicable procedures to assure that coatings are not adversely impacted during installation.

For coatings applied on-site, process control documents included documentation of the dry film density of the selected coating system, as well as application / inspection certifications for SLI coating applications.

The coating contractor QC personnel reviewed application and inspection records of ITAAC-related coatings by performing an inspection of the process control documents; these were identified and contained in Unit 3 On-Site Coating Inspection Report (Reference 7). This inspection confirmed that the process control documents for the applied coatings included documentation of the dry film density for the selected coating system, as well as application / inspection certifications for SLI coating applications. Any unqualified coatings were tracked within the UCL for Unit 3.

Inspection of on-site application of coatings includes repairs or "touch-ups" applied following the initial application, as well as following installation of SSCs coated at the vendor facility. A batch of coating of lower density was used in containment; Reference 8 evaluated this batch and concluded the coating will not transport.

Inspections of the QADPs for SSCs coated at the vendor facility and process control documents associated with on-site application of coatings concluded that the coatings used on these surfaces have a dry film density  $\geq 100 \text{ lb/ft}^3$ , and that IOZ applications were Safety – Service Level I or were quantified and justified in a program for management of unqualified coatings to demonstrate the unqualified coatings were acceptable for use.

## 2. – Caulking, Tags, and Signs

Prior to application of tags, signs or caulking inside containment, design specifications required that the selected material was either steel or another material with a density of  $\geq 100 \text{ lb/ft}^3$ . Signs or tags that are coated were also required to have approved coatings with a dry film density of  $\geq 100 \text{ lb/ft}^3$ .

For tags, signs, and caulking used, the Construction Work Packages (CWP)s included documentation of the material and the density, and the dry film density of the selected coating system used on any tags or signs.

Caulking contractor personnel reviewed application and inspection records of signs, tags and caulking by performing an inspection of the CWPs; these are identified and contained in Unit 3 Caulking Inspection Reports (Reference 9), and in Unit 3 Tag and Sign Inspection Reports (Reference 10).

This inspection confirmed that CWPs included documentation of the material and the density of the tags, signs, and caulking, and the dry film density of the selected coating system used on any tags or signs. No materials of lower density were utilized for caulking, tags, and signs in these locations.



Inspection of the CWPs concluded that the tags and signs are made of steel or other metal with a density of  $\geq 100 \text{ lb/ft}^3$  and that caulking used in these locations, or coatings used on these tags or signs, have a dry film density  $\geq 100 \text{ lb/ft}^3$ .

### 3. – Ventilation Filters and Fiber-producing Fire Barriers

By design, there are no ventilation filters installed within the AP1000 containment; filters for the containment air filtration system (VFS) are located in the annex building.

Prior to installation of fire barriers inside containment that were within the ZOI or below the MFL, design specifications required that the fire barriers are either non-fiber-producing type barriers, or fiber-producing barriers that have a density of  $\geq 100 \text{ lb/ft}^3$ .

For fire barriers installed, the CWPs included documentation of the material and the density.

Site fire protection personnel reviewed application and inspection records of fire barriers by performing an inspection of the CWPs; these are identified and contained in Unit 3 Ventilation Filter and Fire Barrier Inspection Reports (Reference 11). This inspection confirmed that CWPs include documentation of the material and the density of the fire barrier.

Inspection of the CWPs concluded that fire barriers have a density  $\geq 100 \text{ lb/ft}^3$ .

Together, these inspections, tests, and reports (References 3 through 11) provide evidence that the ITAAC Acceptance Criteria requirements were met:

- x) A report exists and concludes that the coatings used on these surfaces have a dry film density of  $\geq 100 \text{ lb/ft}^3$ . If a coating is used that has a lower dry film density, a report must exist and conclude that the coating will not transport. A report exists and concludes that inorganic zinc coatings used on these surfaces are Safety – Service Level I or have been quantified and justified in a program for management of unqualified coatings to demonstrate the unqualified coatings are acceptable for use;
- A report exists and concludes that tags and signs used in these locations are made of steel or another metal with a density  $\geq 100 \text{ lb/ft}^3$ . In addition, a report exists and concludes that caulking used in these locations or coatings used on these signs or tags have a dry film density of  $\geq 100 \text{ lb/ft}^3$ . If a material is used that has a lower density, a report must exist and conclude that there is insufficient water flow to transport lightweight caulking, signs, or tags; and
- A report exists and concludes that the ventilation filters and fire barriers in these locations have a density of  $\geq 100 \text{ lb/ft}^3$ .

References 3 through 11 are available for NRC inspection as part of the ITAAC 2.2.03.08c.x Completion Package (Reference 12).



### **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 two (2) closed violations associated with this ITAAC.

1. 05200025/2016007-01, 05200026/2016007-01 Licensee Identified Violation (LIV), Failure to Provide Adequate Procurement Specifications for Coatings (closed) (ML20042E292)
2. 05200025/2019004-02, 05200026/2019004-02 NCV Conversion Factor Rounded in a Non-conservative Manner (closed) (ML20042E292)

The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.2.03.08c.x (Reference 12) and is available for NRC review.

### **ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.08c.x was performed for VEGP Unit 3 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. SV3-GW-Z0-604 Rev.9, "Application of Protective Coatings to Systems, Structures and Components for the AP1000 Reactor Plant"
2. "Unqualified Service Level I Coatings Program (LAR 17-039)" submitted by Southern Nuclear Operating Company (SNC) for the Vogtle Electric Generating Plant (VEGP), Units 3 and 4, on November 3, 2017, and supplemented March 28, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML17307A201 and ML18087A147, respectively).
3. SV3-AX01-GEC-000001 Rev.1, "Unqualified Coatings Log for Vogtle Unit 3"
4. ASTM D 7491-08, "Standard Guide for Management of Non-Conforming Coatings in Coating Service Level I Areas of Nuclear Power Plants,"
5. TR-017218-R1, "Guideline for Sampling in the Commercial-Grade Item Acceptance Process", January 1999
6. SV3-GW-ITR-001 Rev.1, "QADP Inspection Report Summary"
7. SV3-PXS-ITR-801195, Rev.0 "Unit 3 On-Site Coating Inspection in Containment: ITAAC 2.2.03.08c.x"
8. ND-19-1556, "Notification of Partial Completion of ITAAC 2.2.03.08c.x [Index Number 195]", ML19357A036, dated Dec. 20, 2019
9. SV3-PXS-ITR-803195, Rev.0 "Caulking Inspection Report, Unit 3"
10. SV3-1100-ITR-800195-4, Rev.0 "Tag and Sign Inspection Report, Unit 3"
11. SV3-PXS-ITR-805195, Rev.0 "Ventilation Filter and Fire Barrier Inspection Report, Unit 3"
12. 2.2.03.08c.x-U3-CP-Rev0, "ITAAC Completion Package"