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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC 2.5.01.03a [Index Number 511]

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 2.5.01.03a [Index Number 511]. This ITAAC confirms that the signal processing hardware of the Diverse Actuation System uses input modules, output modules, and microprocessor or special purpose logic processor boards that are different than those used in the Protection and Safety Monitoring System. 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) 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,

A handwritten signature in black ink that reads "Jamie Coleman".

Jamie M. Coleman
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.5.01.03a [Index Number 511]

JMC/TJC/sfr

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Southern Nuclear Operating Company
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Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 3
Completion of ITAAC 2.5.01.03a [Index Number 511]

ITAAC Statement

Design Commitment

3.a) The signal processing hardware of the DAS uses input modules, output modules, and microprocessor or special purpose logic processor boards that are different than those used in the PMS.

Inspections, Tests, Analyses

Inspection of the as-built DAS and PMS signal processing hardware will be performed.

Acceptance Criteria

The DAS signal processing equipment uses input modules, output modules, and microprocessor or special purpose logic processor boards that are different than those used in the PMS. The difference may be a different design, use of different component types, or different manufacturers.

ITAAC Determination Basis

Inspections were performed to confirm that the as-built signal processing hardware of the Diverse Actuation System (DAS) uses input modules, output modules, and microprocessor or special purpose logic processor boards that are different from those used in the Protection and Safety Monitoring System (PMS). The results of the inspections verified that the DAS utilizes both a different design and different component types of signal processing hardware than that used in the PMS.

Inspection of the DAS and PMS design specifications and topical reports verified that DAS and PMS utilize both a different design and different component types of signal processing hardware. The design of the DAS, documented in the DAS Design Specification (Reference 1), utilizes an Advanced Logic System (ALS) hardware configuration with input, output, core logic, and communications boards. The ALS is a logic-based platform that does not utilize a microprocessor or software for operation, but instead relies on simple hardware architecture. The logic is implemented using field-programmable gate array technology. The ALS design is further described in the ALS Topical Report (Reference 2). This is different from the design of the PMS, documented in the PMS Design Specification (Reference 3), which utilizes the Common Qualified (Q) platform with the AC160 controller with multiprocessing capability for signal processing. The Common Q platform is a computer system consisting of a set of commercial-grade hardware and software components dedicated and qualified for use in nuclear power plants. This design is further described in the Common Q Platform Topical Report (Reference 4).

Inspections of the as-built DAS and PMS cabinets (References 5 and 6) were performed at Westinghouse prior to shipment to the plant site in accordance with NEI 08-01 Section 9.5 (Reference 7) because it is impractical to inspect the signal processing hardware within the cabinets after the cabinets are installed on site. The inspections used the system cabinet configuration drawings (References 8 and 9) and confirmed that the as-built configuration of the DAS equipment uses different component types of signal processing hardware than that of the PMS. The as-built drawings for the cabinet configuration for the DAS and PMS document that the as-built cabinets conform to the design, thereby utilizing different design and component types of signal processing hardware.

Upon arrival at the plant site, receipt inspections of the DAS and PMS cabinets were performed and documented in Material Receiving Reports (References 10 and 11) and confirmed each cabinet was received and arrived in an acceptable condition with no open items or corrective actions required. The cabinets were subsequently installed in their final as-built location and installation inspections (Reference 12) confirmed the cabinets contained no evidence to indicate that the signal processing hardware was adversely impacted during installation.

Together, References 1 through 12 confirm that the DAS signal processing equipment used input modules, output modules, and micro-processor or special purpose logic processor boards that are different than those used in the PMS.

References 1 through 12 are available for NRC inspection as part of the Unit 3 ITAAC 2.5.01.03a Completion Package (Reference 13).

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 there are no relevant ITAAC findings associated with the ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.5.01.03a (Reference 13) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.5.01.03a was performed for VEGP Unit 3 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. SV3-DAS-J4-001, "AP1000 Diverse Actuation System System Design Specification", Revision 3
2. 6002-00301-NP, "Advanced Logic System Topical Report", Revision 4
3. SV3-PMS-J4-020, "AP1000 System Design Specification for the Protection and Safety Monitoring System", Revision 11
4. WCAP-16097-NP-A, "Common Qualified Platform Topical Report", Revision 3
5. SV3-DAS-VQQ-001, "Quality Release & Certificate of Conformance", Revision 1
6. SV3-PMS-VQQ-001, "Quality Release & Certificate of Conformance", Revision 0
7. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52", Revision 5 - Corrected
8. SV3-DAS-J8Y-001, "Vogtle Unit 3 AP1000 Diverse Actuation System Cabinet Configuration Drawing Package", Revision 3
9. SV3-PMS-J8Y-001, "Vogtle Unit 3 AP1000 Protection and Safety Monitoring System Cabinet Configuration Drawing Package", Revision 6
10. J132175-MRR-15-01219, "Unit 3 DAS Material Receiving Report", Revision 0
11. J132175-MRR-16-02318, "Unit 3 PMS Material Receiving Report", Revision 0

12. SV3-DAS-ITR-800511, "Unit 3 Inspection Results of Diverse Actuation System (DAS) Signal Processing Diversity: ITAAC 2.5.01.03a NRC Index Number: 511", Revision 0
13. 2.5.01.03a-U3-CP-Rev 0, "ITAAC Completion Package"