Vogtle PEmails

From: Hoellman, Jordan
Sent: Tuesday, May 02, 2017 4:39 PM
To: Vogtle PEmails
Subject: Licensee Responses for ICN/UIN Discussion on May 4, 2017
Attachments: UIN ICN comment status sheet May 4 2017--SNC.docx; UIN 570 response.pdf; U3 - 2.5.02.14 Index 553 IDB proposed additions for public call.pdf; Comparing Demo 5 with the UIN for ITAAC 2.6.03.08 - 04-13-17 SNC Response 2017-05-01.pdf; Uncompleted ITAAC 2.6.03.08 - Index No 617 Revision 2017-05-01.pdf

Attached are Licensee documents in preparation for the ITAAC Closure Notification (ICN) and Uncompleted ITAAC Notification (UIN) discussion at the public call on May 4, 2017.

This file contains, in order:

1. Updated UIN ICN comment status sheet
2. Licensee response to NRC comments on UIN 570
3. Licensee response to NRC comments on ICN 553
4. Licensee response to NRC comments on UIN 2.6.03.08 (617)
5. Revised UIN 2.6.03.08 (617) for discussion

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Subject: Licensee Responses for ICN/UIN Discussion on May 4, 2017
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Files	**Size**	**Date & Time**
MESSAGE	517	5/2/2017 4:39:13 PM
UIN ICN comment status sheet May 4 2017--SNC.docx	25461	
UIN 570 response.pdf	234186	
U3 - 2.5.02.14 Index 553 IDB proposed additions for public call.pdf	101528	
Comparing Demo 5 with the UIN for ITAAC 2.6.03.08 - 04-13-17 SNC Response 2017-05-01.pdf	58305	
Uncompleted ITAAC 2.6.03.08 - Index No 617 Revision 2017-05-01.pdf	118695	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
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ITEM #	ICN UIN	TOPIC	ITAAC INDEX #	ISSUE	Licensee Comment
1	UIN	Thermocouple sheath	V3 570	NRC Comment: UIN should include quality aspect of inspection results of sheathing (no cracking etc.) SNC does not intend to withdraw or modify the UIN. Tier 2 chapter 4 section 4.4.6.1 does not support comment as being required to complete ITAAC. UIN refers to appropriate quality inspection procedure to verify presence of sheaths. This ITAAC is similar to ITAAC that use the phrase something exists. Tier 1 states when this language is used it means the item is present and capable of performing its function as described in the design description. **ACTION**: The Staff has concluded after consultation with the OGC that the UIN is not acceptable as written. The UIN/ICN should verify the sheathing is present in its required location and is capable of performing its intended safety function.	Separate comment sheet attached. SNC is not aligned with staff/OGC re-defining ITAAC acceptance criteria based on similarity to other ITAAC.

ITEM #	ICN UIN	TOPIC	ITAAC INDEX #	ISSUE	Licensee Comment
3	ICN	CIM life cycle process	V3 553 V4 553 S2 553 S3 553	Staff requested words be added to the IDB to capture the development aspect of the ITAAC. **ACTION**: The staff has provided additional comments in a separate handout to support its rejection of these ICNs.	In response to NRC comments, Licensee has provided separate document to NRC in preparation for 5/4/17 public call.

ITEM #	ICN UIN	TOPIC	ITAAC INDEX #	ISSUE	Licensee Comment
4	ICN	Cl 1E equipment qualification for SWC, EMI, RFI, ESD	V3 525 V4 525	The staff has determined the ICNs as submitted due not contain sufficient information. **ACTION**: The staff has provided comments in a separate handout to support its rejection of these ICNs.	Licensee intends to withdraw this ICN. SNC shall initiate condition report to disposition staff comments prior to resubmission.

Upon review of NRC Staff comments regarding lack of sufficient information in the Index #570 Uncompleted ITAAC Notification, SNC performed a comprehensive review of Tier 1 and Tier 2 design information related to the subject ITAAC. The licensee was unable to identify design information that would support the NRC staff position requiring a description of the physical condition of the sheathing to support ITAAC closure. It is SNC's assessment that the ~~role~~ Quality Assurance Program (QAP~~)~~, as described in NEI 08-01 (Rev. 5 – corrected) section 3.1.2, delineates the differing roles between the QAP and ITAAC with regards to construction quality. Additionally, SNC is not aligned with the staff position that the similarity in verbiage of "having sheaths", and "sheaths existing" implies a necessity to include a quality aspect to the description of the methodology based on the definition of term "exists". Tier 1 and Tier 2 design information for the subject ITAAC do not support this correlation. It is SNC's position that sufficient information has been provided in the docketed UIN submission to demonstrate the ITAAC design commitment and acceptance criteria have been met.

NEI 08-01 (Revision 5 - Corrected)

3.1.2 Role of the Quality Assurance Program

The role of the Quality Assurance Program (QAP) is the same under 10 CFR Part 52 as for existing plants licensed under 10 CFR Part 50. The QAP is the continuous licensee process of assuring that design and construction activities are performed in accordance with the license, NRC regulations and applicable codes and standards, and that SSCs will perform their intended functions.

The quality assurance requirements of Part 50 Appendix B are applicable to plants licensed under Part 52. Section 52.79(a)(25) requires information concerning the licensee's QAP and how the QAP meets the requirements of Part 50 Appendix B to be submitted with each COL application. The COL applicant's description of the QAP is reviewed and approved by the NRC as part of COL issuance. QAP implementation by the licensee should assure that quality-related activities associated with plant design, procurement, fabrication, construction, testing and operation are implemented properly and in accordance with licensee procedures, applicable codes and standards and NRC regulations. QA/QC deficiencies will be handled by the normal process for licensee operational programs (e.g. NRC regulatory oversight, NRC inspection findings, and 10 CFR 2.206 petitions). See Section 3.2.1 below.

The role of ITAAC is different from the role of the QAP. While the QAP assures the proper implementation of quality-related construction activities, ITAAC focus on verifying that as-built SSCs satisfy the top level design and performance standards specified in the COL. Additionally, ITAAC play a special role under Part 52 in defining the scope of the post-construction hearing opportunity.

ITAAC 2.5.02.01 [Index No. 553] – Proposed IDB Changes

Additions / changes are shown in blue font.

ITAAC Determination Basis

An inspection was performed of the processes used to design, develop, qualify, and test the Component Interface Module (CIM), and the implementing documents to demonstrate that the CIM meets the below listed life cycle stages.

a. Design requirements phase, may be referred to as conceptual or project definition phase
b. System definition phase
c. Hardware and software development phase, consisting of hardware and software design and implementation
d. System integration and test phase
e. Installation phase.

The methodology used to develop the CIM life cycle process is based on IEEE Standard 1074-1995. The CIM life cycle process defines the required plans / procedures needed to develop CIM, and inputs and outputs of each phase of development (i.e., life cycle stages).

The life cycle processes were applied to the Component Interface Module (CIM / FPGA based), the Safety Remote Node Controller (SRNC / FPGA based) and associated hardware (e.g., Transition Panels) since they are an integral part of the CIM.

Attachment A provides a summary of each phase, the processes used and key outputs resulting from each phase.

During the planning / project definition phase, process plans were developed for each stage of the life cycle, including an IV&V plan using IEEE Standard 1012-1998. At each phase of the project an inspection was performed of the applicable phase outputs per the CIM-SRNC IV&V plan to verify that the requirements of each phase have been met. At the completion of CIM development, an IV&V Summary Report was issued showing that CIM-SRNC was developed using the approved processes.

CIM qualification was performed in accordance with the methods described in the VEGP Units 3&4 Updated Safety Analysis Report, Appendix 3D, “Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment” (Reference 2). Review of equipment qualification documentation concluded that the qualification was completed per the AP1000 Equipment Qualification Methodology as documented in Reference 1.

The results of inspection are documented in ITAAC 2.5.02.14: Component Interface Module Design Process Technical Report (Reference 1) and conclude that CIM meets the following life cycle stages.

a. Design requirements phase, may be referred to as conceptual or project definition phase
b. System definition phase
c. Hardware and software development phase, consisting of hardware and software design and implementation
d. System integration and test phase
e. Installation phase testing

Comparing Demo 5 with the UIN for ITAAC 2.6.03.08

(1) The opening sentence of the second paragraph of both the UIN and Demo 5 refer to a calculated term “the minimum required interrupt capacity rating.” This term is a calculated value whereas the manufacturer determines the actual interrupting capacity of a protective device by test. The last sentence of third paragraph of the revised UIN (04-04-17) is where the “nameplate interrupting capacity rating” for each of the circuit breakers and fuses is evaluated against the “analytically determined system fault currents.” Should not the term “analytically determined system fault currents” be replaced in that sentence with the calculated term “minimum required interrupting capacity rating” referred to in the second paragraph?

Review comment is incorporated in revised UIN dated 05-01-17.

(2) Is there a reason that there is not a table to list all the affected equipment with their circuit breakers and fuses indicated?

The additional detail requested is not consistent with the level of detail provided in Demo 5 of NEI-08-01 (Revision 5 – Corrected). ICN / UIN examples provided in NEI-08-01 do not contain references to resultant or measured values, unless the ITAAC Acceptance Criteria stipulates a value. The Principle Closure Documents Referenced in the ICN or UIN will provide the detailed information to support the ITAAC closure.

Subject: Uncompleted ITAAC 2.6.03.08 [Index No. 617] 05-01-17

ITAAC Statement

Design Commitment

8. *Circuit breakers and fuses in IDS battery, battery charger, dc distribution panel, and MCC circuits are rated to interrupt fault currents.*

Inspections/Tests/Analyses

Analyses for the as-built IDS dc electrical distribution system to determine fault currents will be performed.

Acceptance Criteria

Analyses for the as-built IDS dc electrical distribution system exist and conclude that the analyzed fault currents do not exceed the interrupt capacity of circuit breakers and fuses in the battery, battery charger, dc distribution panel, and MCC circuits, as determined by their nameplate ratings.

ITAAC Completion Description

Analyses for the as-built Class 1E dc and Uninterruptible Power Supply System (IDS) dc electrical distribution system are performed to verify that the analyzed fault currents do not exceed the interrupting capacity of circuit breakers and fuses in the battery, battery charger, dc distribution panel, and Motor Control Center (MCC) circuits, as determined by their nameplate ratings.

The minimum required interrupting capacity rating of circuit breakers and fuses in the battery, battery charger, dc distribution panel, and MCC circuits in the IDS is determined by calculation and summarized in the IDS Short Circuit Analysis and Protection Coordination Study (References 1 and 2). These calculations utilize the worst case short circuit contribution from each battery, battery charger, and motor loads of the IDS, which determines the minimum required protective device interrupting capacity in accordance with the criteria stated in Section 7.1 and 7.9 of Institute of Electrical and Electronics Engineers (IEEE) Standard 946 (Reference 3).

The nameplate capacity ratings of the as-built IDS circuit breakers and fuses in the battery, battery charger, dc distribution panel, and MCC circuits are inspected in accordance with QSI 10.1-V, “Inspection Planning and Reporting” (Reference 5). The nameplate rating for each of these circuit breakers and fuses is evaluated to assure the device interrupting capacity exceeds the ~~analytically determined system fault currents~~ minimum required interrupting capacity rating.

The combination of the as-built IDS inspection results and the analyses documented in the IDS Short Circuit Analysis and Protection Coordination Study conclude that the analyzed fault currents do not exceed the interrupting capacity of circuit breakers and fuses in the battery, battery charger, dc distribution panel, and MCC circuits, as determined by their nameplate ratings. The as-built IDS inspection results and the IDS Short Circuit Analysis and Protection Coordination Study analysis results are documented in the Principal Closure Document XXX (Reference 6) supporting the ITAAC 2.6.03.08 Completion Package (Reference 7)

Principal Closure Document XXX exists and is available for NRC inspection as part of the ITAAC 2.6.03.08 Completion Package.

List of ITAAC Findings

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.

References (available for NRC inspection)

1. IDS Short Circuit Analysis
2. IDS Protection Coordination Study
3. IEEE Standard 946, IEEE Recommended Practice for the Design of dc Auxiliary Power Systems for Generating Stations, 1992
4. IEEE Standard 242, IEEE Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems, 1986
5. QSI 10.1-V, Inspection Planning and Reporting
6. Principal Closure Document XXX
7. ITAAC 2.6.03.08 Completion Package
8. NEI 08-01, “Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52”