

## Vogle PEmails

---

**From:** Hoellman, Jordan  
**Sent:** Friday, March 17, 2017 4:19 PM  
**To:** THOMPSON, RYDER CLARK; Willis, Frederick H.  
**Cc:** Nick Kellenberger (nicholas.r.kellenberger@scana.com); Haggerty, Neil; Chamberlain, Amy Christine; Woods, David F.; Rivera-Varona, Aida; Welch, Christopher; Stacy, Kara M.; Gleaves, Bill; Patel, Chandu  
**Subject:** ITAAC Challenges Handout for 3-23-17 Public Meeting  
**Attachments:** 2017-03-23 ITAAC Challenges Handout.docx

Hi All –

Attached is the handout that we will use during the public meeting next Thursday. It includes some key messages on the overall process of ITAAC Closure that we have identified.

Are there any additional areas that you would like to discuss?

Please let me know if you have any questions or concerns.

Thank you,

Jordan Hoellman  
*Project Manager*  
NRO / DNRL / LB4  
U.S. Nuclear Regulatory Commission  
office: TWFN 6-F33  
phone: (301) 415-5481  
email: [Jordan.Hoellman2@nrc.gov](mailto:Jordan.Hoellman2@nrc.gov)

**Hearing Identifier:** Vogtle\_COL\_Docs\_Public  
**Email Number:** 84

**Mail Envelope Properties** (93e640117bfa4c8cabdccc6a85a519c57)

**Subject:** ITAAC Challenges Handout for 3-23-17 Public Meeting  
**Sent Date:** 3/17/2017 4:18:41 PM  
**Received Date:** 3/17/2017 4:18:42 PM  
**From:** Hoellman, Jordan

**Created By:** Jordan.Hoellman2@nrc.gov

**Recipients:**

"Nick Kellenberger (nicholas.r.kellenberger@scana.com)" <nicholas.r.kellenberger@scana.com>  
Tracking Status: None  
"Haggerty, Neil" <X2NHAGGE@SOUTHERNCO.COM>  
Tracking Status: None  
"Chamberlain, Amy Christine" <ACCHAMBE@southernco.com>  
Tracking Status: None  
"Woods, David F." <DFWOODS@southernco.com>  
Tracking Status: None  
"Rivera-Varona, Aida" <Aida.Rivera-Varona@nrc.gov>  
Tracking Status: None  
"Welch, Christopher" <Christopher.Welch@nrc.gov>  
Tracking Status: None  
"Stacy, Kara M." <KMSTACY@southernco.com>  
Tracking Status: None  
"Gleaves, Bill" <Bill.Gleaves@nrc.gov>  
Tracking Status: None  
"Patel, Chandu" <Chandu.Patel@nrc.gov>  
Tracking Status: None  
"THOMPSON, RYDER CLARK" <RYDER.THOMPSON@scana.com>  
Tracking Status: None  
"Willis, Frederick H." <FWWILLIS@SOUTHERNCO.COM>  
Tracking Status: None

**Post Office:** HQPWMSMRS01.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	588	3/17/2017 4:18:42 PM
2017-03-23 ITAAC Challenges Handout.docx		35503

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

**Recent ITAAC Challenges with Vogtle Units 3 and 4  
Public Meeting  
March 23, 2017**

Key Messages:

**From NEI 08-01, 3.2.1 "Section 52.99 Process"**

*"The NRC expects the notification to be sufficiently complete and detailed for a reasonable person to understand the bases for the licensee's representation that the inspections, tests, and analyses have been successfully completed and the acceptance criteria have been met. The term 'sufficient information' requires, at a minimum, a summary description of the bases for the licensee's conclusion that the inspections, tests, or analyses have been performed and that the prescribed acceptance criteria have been met."*

- Increased number of ICN that do not meet the level of detail to confirm that activities completed are clearly documented.
- Follow NEI 08-01 as much as possible. Staff understand that the guidance in NEI 08-01 is adequate, but based on recent discussions with Licensee, staff has identified areas where NEI 08-01 could benefit from additional clarification.
- Staff proposed rejection of ICNs have been recently challenged by licensee staff with no sufficient technical justification.
- Being aligned with industry on the concept that sufficient technical justification be provided at the time of ICN submittal is crucial to timeliness and confidence in being ready for the ITAAC surge. Staff and SNC needs to take this issue on directly and without delay.
- Adequate technical justification should not be considered a negotiable item, given the relative importance of thorough ITAAC closures to obviating future challenges (hearing space).

Summary of Recently Rejected ICNs

Unit	Insufficient	Under Disposition
Vogtle 3	21	3
Vogtle 4	19	3

Examples of ICNs that have been submitted **too early** in the construction process because final inspection, test or analysis have not been performed:

1. ASME-Related ICNs – as-built requirement (Item #1)
  - a. Components Designed/Constructed in accordance with ASME Code Section III – ICN should include as-built reconciliation in accordance with NEI 08-01 Example D-29. No reference is made to N-5 Code Data Report in accordance with NEI 08-01, Example D-29. (7 total)
  - b. Component Hydrostatic Test– ICN should include as-built reconciliation in accordance with NEI 08-01 Example D-29. No reference is made to N-5 Code Data Report in accordance with NEI 08-01, Example D-29. (3 total)
2. Equipment located on Nuclear Island (ICN) – The ICNs state that the components will be located on the nuclear island. The components have not been installed and the ICN is submitted incorrectly based on drawing reviews. (21 total) Note that these will now be reviewed as part of the LAR. (Item #2)

From NEI 08-01, Example D-43

*The subject ITAAC requires an inspection to verify that the seismic Category I components and valves identified in Table 2.2.2-1 are located on the Nuclear Island, which is a Seismic Category I structure. To assure that seismic Category I components can withstand seismic design basis loads without loss of safety function, all of the components in DCD Table 2.2.2-1 are designed to be located on the seismic Category I Nuclear Island. In accordance with procedure XYZ, (Reference 2) an inspection was conducted of the Passive Containment Cooling System to confirm **the satisfactory installation** of the seismically qualified components. The inspection included verification of equipment make/model/serial number and verification of equipment location (Building, Elevation, Room). The inspection to verify installed component locations is documented in the Equipment Qualification (EQ) as-built reconciliation.*

Examples of ICNs rejected for insufficient detail:

3. Lack of detail about the methods used to meet acceptance criteria or lack of appropriate references:
  - a. ASME code year/addenda reference - There were a number of ICNs and UINs that also got rejected on the basis that they didn't include the code year/addenda. (Item #3)

From RG 1.215, Rev. 2, 1.6.d

*In numerous ICN examples, the determination basis simply refers to an endorsed or approved code (e.g. ASME Section III). While not required, citing the specific relevant code section(s) or article(s) used in performing the ITAAC can facilitate the staff's review of the ICN. In addition, if the code or article has been endorsed by an RG, the RG should be referenced, especially if there are specific conditions or restrictions on the use of the code or article (e.g., use of ASME Code XXX is conducted as accepted in RG 1.YYY).*

*If ICNs do not contain the relevant code sections or articles, then summaries of the methods described in the referenced report should be included.*

- b. Use of proprietary references – HFE ICNs have used referenced to proprietary documents that do not provide detail of the methods used to persons of the public. (Item #4 and #5)

From RG 1.215

*Licensees should, to the extent possible, exclude sensitive or proprietary information that would otherwise be withheld under 10 CFR 2.390 in these notifications. If it necessary to include such information, both public and nonpublic version of the notification should be submitted.*

- c. DAS manual actions reference ITAAC – Lack of detail on method to be used to verify manual actions (Item #6)
  - d. Containment electrical penetrations – Lack of detail on method of protection (Item #7)

5. Functional Arrangement – Number of UINs need to tie in the definition of functional arrangement regarding being arranged in a manner capable of performing the required function for that system. The IDB needs to reference the specific Tier 1 figures and tables as well as the detailed drawings used to perform the functional arrangement of the system. (Item #8)

From NEI 08-01, 10.5 “Functional Arrangement ITAAC”

*The purpose of the system Functional Arrangement ITAAC, and the associated ITAAC Closure Notification, is to **verify and document that the as-built system components conform to the Tier 1 Design Description**, that is, (1) that components are physically arranged as shown in any referenced figure, and located as identified in any referenced table; and (2) that system components identified in the Tier 1 Design Descriptions are physically arranged as specified by the design... It is expected that licensees will use detailed construction drawings during walkdown inspections to verify the functional arrangement of specified as-built components. These inspections may be performed any time after construction is completed to the extent that all Tier 1 components within the scope of the ITAAC are installed.*

Other UINs to be discussed with licensee during public meeting

6. Thermocouple sheath – UIN should include inspection results of sheathing to be able to perform function. (Item #9)
7. As-built IDS dc electrical distribution system fault current analysis – (Item #10)

ITEM No.	ICN UIN	TOPIC	ITAAC INDEX	ISSUE
1	ICN	RV and components Hydro	V3 74 V4 74	This hydro is the as-built installed system hydro similar to the other ASME ICN submittals. ACTION: Staff will reject based on same basis as similar prior ICNs.
2	ICN	Located on NI	V4 684	The component has not been installed ICN is submitted incorrectly based on drawing reviews. ACTION: Staff will reject based on same basis as similar prior ICNs.
3	UIN	RV Head baseline Insp.	V3 89	UIN does not provide ASME Code year and addenda and article / sub article or description of activities supporting the Code case N-729-1. Does not provide sufficient info for acceptance criteria for an ICN. ACTION: Staff will reject based on same basis as similar prior UINs.
4	ICN	HFE HIS task support verification	V3 739 V4 739 S2 739 S3 739	IDB references non- public documents, it should include a brief summary of the salient information included in those documents.  Discussed 2/16/17 licensee agreed to add additional references to public version of proprietary documents and evaluate possibility of providing further information to IDB.  ACTION: Licensee to provide status of resubmittal of ICN.
5	UIN	HFE	V3 751 V3 740 V4 740	IDB references non- public documents, it should include a brief summary of the salient information included in those documents.  Discussed 2/16/17 licensee agreed to add additional references to public version of proprietary documents and evaluate possibility of providing further information to IDB.  ACTION: Licensee to provide status of resubmittal of ICN.
6	UIN	DAS Manual actions reference ITAAC	V3 520	THE UIN does not provide any indication how the manual actions will be verified nor does the ITAAC referenced. IDB needs to describe how this requirement will be met by the reference ITAAC. ACTION: Discuss with licensee.
7	UIN	Containment electrical penetrations	V3 109	The UIN does not adequately describe which method of protection will be utilized. ACTION: Discuss with licensee.
8	UIN	Functional Arrangement	V3 1	The UIN needs to tie in the definition of functional arrangement regarding being arranged in a manner capable of performing the required function. ACTION: Staff will reject based on same basis as similar prior UINs.

9	UIN	Thermocouple sheath	V3 570	<p>NRC Comment: UIN should include quality aspect of inspection results of sheathing (no cracking etc.)</p> <p>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.</p> <p>ACTION: Staff to provide additional update on this UIN. 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.</p>
10	UIN	AS-built IDS fault currents vs MFGR equipment ratings	V3 617 V3 618	<p>NEI 08-01 Demo 5 was written for ITAAC index No. 617. ITAAC index Nos. 618 and 619 are very similar and Demo 5 would be an appropriate example for these UINs.</p> <p>The UINs for 617 &amp; 618 are not consistent with NEI 08-01 Section 6, which requires that UIN/ICNs describe/explain the methodology and key steps used in performing the ITA and determining that each element of the AC was met.</p> <p>Review of ITAAC 617 &amp; 618 and the two UINs identify the key steps include: analysis to calculate the maximum IDS fault currents, analysis to determine the breaker/fuse minimum required interrupt capacity and analysis to complete the IDS protection coordination study (which appears to be critical in each of these ITAAC). The submitted UINs do not describe / explain the methodology and key steps to perform the short circuit (i.e. fault) analyses or circuit interrupting device coordination analyses, nor do they provide adequate reference to the appropriate IEEE standard and section(s). UIN 618 refers to the short circuit analysis document while 617 does not. Reference to section 7.1 of IEEE-946-1992 is incomplete, providing only a portion of the necessary information.</p> <p>Pursuant to UFSAR section 8.3.2.2, short circuit analyses are performed per IEEE 964 and circuit interrupting device coordination analyses are performed per IEEE 141 and 142 (or other applicable industry standards or practices). While referencing the UFSAR (UIN 618) may be acceptable for the UIN it would not be acceptable for the ICN because the method used is not specifically defined in section 8.3.2.2 of FSAR.</p> <p>The IDB for Demo 5 verifies the AC is met by comparing the nameplate ratings for the circuit breakers and fuses to the analytically determined fault currents (i.e. short circuit analysis). In the UIN it compares the nameplate ratings to the analyses documented in the IDS protection coordination study.</p> <p>All three ICNs/UINs for ITAAC 617, 618, and 619 should be written in the same format with the description for the required analyses being identical in each ICN/UIN with the appropriate references.</p>