

## Vogle PEmails

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**From:** Hoellman, Jordan  
**Sent:** Tuesday, April 3, 2018 10:38 AM  
**To:** Vogle PEmails  
**Subject:** draft Uncompleted ITAAC Notification (UIN) for ITAAC 2.2.05.02a [Index No. 253]  
**Attachments:** 2.2.05.02a (253) draft UIN for NRC.PDF

Based on the March 22, 2018, public call discussion on submitting draft UINs that are impacted by LARs in NRC review to the NRC for Staff review/comment, attached is the draft UIN for ITAAC 2.2.05.02a [Index Number 253]. Based on the public call, SNC has agreed to informally submit this draft UIN for unofficial Staff review/comment. This draft UIN incorporates the ITA and AC changes requested in LAR 17-044. As discussed in the public call, no cover letter is included, no SNC Letter number is assigned (ND-18-xxxx) and the LAR information is noted on the Enclosure page. Additionally, the changes due to the LAR are indicated by “redlined/strike-out” as requested.

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**From:** Hoellman, Jordan

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

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**Southern Nuclear Operating Company**  
**Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4**  
**Completion Plan for Uncompleted ITAAC 2.2.05.02a [Index Number 253]**

Note: This draft Notice of Uncompleted ITAAC reflects the changes to ITAAC Item 2.2.05.02a requested in License Amendment Request (LAR-17-044), "ITAAC for Pneumatic Testing of VES Air Lines," dated December 20, 2017 (ND-17-2051, ML17354964)

## **ITAAC Statement**

### **Design Commitment:**

2.a) The components identified in Table 2.2.5-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements.

2.b) The piping identified in Table 2.2.5-2 as ASME Code Section III is designed and constructed in accordance with ASME Code Section III requirements.

3.a) Pressure boundary welds in components identified in Table 2.2.5-1 as ASME Code Section III meet ASME Code Section III requirements.

3.b) Pressure boundary welds in piping identified in Table 2.2.5-2 as ASME Code Section III meet ASME Code Section III requirements.

4.a) The components identified in Table 2.2.5-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure.

4.b) The piping identified in Table 2.2.5-2 as ASME Code Section III retains its pressure boundary integrity at its design pressure.

5.b) Each of the lines identified in Table 2.2.5-2 for which functional capability is required is designed to withstand combined normal and seismic design basis loads without a loss of its functional capability.

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

Inspection will be conducted of the as-built components and piping as documented in the ASME design reports.

Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.

A **hydrostatic pressure** test will be performed on the components and piping required by the ASME Code Section III to be **hydrostatically pressure** tested.

Inspection will be performed for the existence of a report verifying that the as-built piping meets the requirements for functional capability.

### **Acceptance Criteria:**

The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III.

A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

A report exists and concludes that the results of the **hydrostatic pressure** test of the components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.

A report exists and concludes that each of the as-built lines identified in Table 2.2.5-2 for which functional capability is required meets the requirements for functional capability.

### **ITAAC Completion Description**

This ITAAC requires inspections, tests, and analyses be performed and documented to ensure the Main Control Room Emergency Habitability System (VES) components and piping listed in the Combined License (COL) Appendix C, Table 2.2.5-1 (Attachment A) and Table 2.2.5-2 (Attachment B) that are identified as American Society of Mechanical Engineers (ASME) Code Section III or Functional Capability Required are designed and constructed in accordance with applicable requirements.

#### **2.a and 2.b) The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III.**

Each component listed in Table 2.2.5-1 as ASME Code Section III is fabricated in accordance with the VEGP Updated Final Safety Analysis Report (UFSAR) and the ASME Code Section III requirements. The ASME Code Section III certified Design Reports for these components exist and document that the as-built components conform to the approved design details. The ASME Section III Design Report for each component is documented in the component's completed ASME Section III Code Data Report. The individual component ASME Section III Code Data Reports are documented on the ASME Section III N-5 Code Data Report(s) for the applicable piping system (Reference 1).

The as-built piping listed in Table 2.2.5-2 including the components listed in Table 2.2.5-1 as ASME Code Section III, is subjected to a reconciliation process (Reference 2), which verifies that the as-built piping is analyzed for applicable loads (e.g. stress reports) and for compliance with all design specification and Code provisions. Design reconciliation of the as-built systems, including installed components, validates that construction completion, including field changes and any nonconforming condition dispositions, is consistent with and bounded by the approved design. All applicable fabrication, installation and testing records, as well as, those for the related Quality Assurance (QA) verification/ inspection activities, which confirm adequate construction in compliance with the ASME Code Section III and design provisions, are referenced in the N-5 data report and/or its sub-tier references.

The applicable ASME Section III N-5 Code Data Report(s), which include the location of the certified Design Reports for all the components listed in Table 2.2.5-1 (Attachment A) and piping listed in Table 2.2.5-2 (Attachment B) as ASME Code Section III, exist and conclude that these installed components are designed and constructed (including their installation within the applicable as-built piping system) in accordance with the ASME Code (1998 Edition, 2000 Addenda and 1989 Edition, 1989 Addenda), Section III requirements as applicable, as described in UFSAR Subsection 5.2.1 (Reference 3). The N-5 Code Data Reports for the piping system(s) containing the components listed in the Table 2.2.5-1 and Table 2.2.5-2 are identified in Attachments A and B, respectively.

#### **3.a and 3.b) A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.**

Inspections are performed in accordance with ASME Code Section III (1998 Edition, 2000 Addenda) to demonstrate that as-built pressure boundary welds in components identified in

Table 2.2.5-1 as ASME Code Section III meet ASME Code Section III requirements (i.e., no unacceptable indications).

The applicable non-destructive examinations (including liquid penetrant, magnetic particle, radiographic, and ultrasonic testing, as required by ASME Code Section III) of the components' pressure boundary welds are documented in the Non-destructive Examination Report(s), which support completion of the respective ASME Section III N-5 Code Data Report(s) certified by the Authorized Nuclear Inspector, as listed in Attachment A.

Per ASME Code Section III, Subarticle NCA-8300, "Code Symbol Stamps," the N-5 Code Data Report(s) (Reference 1) documents satisfactory completion of the required examination and testing of the item, which includes non-destructive examinations of pressure boundary welds. Satisfactory completion of the non-destructive examination of pressure boundary welds ensures that the pressure boundary welds in components identified in Table 2.2.5-1 as ASME Code Section III meet ASME Code Section III requirements.

An inspection is performed in accordance with Reference 2 to demonstrate that the as-built pressure boundary welds in piping identified in Table 2.2.5-2 (Attachment B) as ASME Code Section III meet ASME Code Section III requirements (i.e., no unacceptable indications). This portion of the ITAAC is complete when the piping identified in Table 2.2.5-2, which is encompassed within the respective piping system Code Symbol N-Stamp and the corresponding piping system Code N-5 Data Report Form(s) (Reference 1), is complete. The non-destructive examinations (including visual inspection, liquid penetrant, magnetic particle, radiographic, and ultrasonic testing, as required by ASME Code Section III) of the piping pressure boundary welds are documented in the Non-destructive Examination Report(s) within the piping system's supporting data package, which support completion of the respective Code Stamping and Code N-5 Data Report(s). The completion of stamping the respective piping system along with the corresponding ASME Code N-5 Data Report Form(s) (certified by the Authorized Nuclear Inspector) ensure that the piping is constructed in accordance with the design specification(s) and the ASME Code Section III, and that the satisfactory completion of the non-destructive examinations of piping pressure boundary welds for the pipe lines identified in Table 2.2.5-2 meet ASME Code Section III requirements and are documented in the Non-destructive Examination Report(s) within the supporting data packages.

4.a and 4.b) A report exists and concludes that the results of the [hydrostatic pressure](#) test of the components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.

A [hydrostatic pressure](#) test is performed by the vendor to demonstrate that the components identified in Table 2.2.5-1 (Attachment A) as ASME Code Section III retain their pressure boundary integrity at their design pressure. The completion of the N-5 Data Reports is governed by Reference 2.

This portion of the ITAAC is complete once each component identified in Table 2.2.5-1 has their individual Code Symbol N-Stamp and corresponding Code Data Report (Reference 1) completed, and the components are installed into the respective Code Symbol N-Stamped piping system and documented on the corresponding N-5 Code Data Report(s) (Reference 1). The [hydrostatic pressure](#) testing results of the component's pressure boundary are documented in the [Hydrostatic Pressure](#) Testing Report(s) within the supporting component's data package, which support completion of the respective Code Stamping and Code Data Report(s).

The completion of stamping the individual components and the respective piping system along with the corresponding ASME Code Data Reports (certified by the Authorized Nuclear Inspector) ensures that the components are constructed in accordance with the Design Specifications and the ASME Code Section III and that the satisfactory completion of the the [hydrostatic pressure](#) testing of each component identified in Table 2.2.5-1 as ASME Code Section III are documented in the [Hydrostatic Pressure](#) Testing Report(s) within the supporting data packages and meets ASME Code Section III requirements.

This ITAAC also verifies that the piping identified in Table 2.2.5-2 (Attachment B) fully meets all applicable ASME Code, Section III requirements and retains its pressure boundary integrity at its design pressure.

A pressure test is performed in accordance with procedure XYZ (as applicable) that complies with the ASME Code (1998 Edition, 2000 Addenda), Section III requirements to demonstrate that the ASME Code Section III piping identified in Table 2.2.5-2 retains its pressure boundary integrity at its design pressure.

A pressure test verifies that there are no leaks at welds or piping, and that the pressure boundary integrity is retained at its design pressure. The pressure testing results of the pipe lines are documented in the Pressure Testing Report(s). The Pressure Testing Report(s) supports completion of the ASME Section III N-5 Code Data Report(s) for the applicable piping system (i.e., VES) (Reference 1).

The applicable ASME Section III N-5 Code Data Report(s) (Reference 1) identified in Attachments A and B documents that the results of the pressure testing of the components and piping identified in Table 2.2.5-1 and Table 2.2.5-2 respectively conform with the requirements of the Code (1998 Edition, 2000 Addenda), Section III.

5.b) A report exists and concludes that each of the as-built lines identified in Table 2.2.5-2 for which functional capability is required meets the requirements for functional capability.

An inspection is performed of the ASME Section III as-built piping design report XXX to verify that the report demonstrates that each of the VES piping lines identified in ITAAC Table 2.2.5-2 that requires functional capability is designed to withstand combined normal and seismic design basis loads without a loss of its functional capability. "Functional capability," in this context, refers to the capability of the piping to withstand the effects of earthquakes, without a loss of safety function (to convey fluids from one location to another). Specific functional capability requirements are defined in the VEGP UFSAR Table 3.9-11 (Reference 3).

Piping functional capability is not a specific ASME Code requirement but it is a requirement in the VEGP UFSAR (Reference 3). As such, information demonstrating that UFSAR functional capability requirements are met is included in the ASME Section III As-Built Design Reports for safety class piping prepared in accordance with ASME Section III NCA-3550 under the ASME Boiler & Pressure Vessel Code (1998 Edition, 2000 Addenda) Section III requirements. The as-built piping systems are subjected to a reconciliation process (Reference 2), which verifies that the as-built piping systems are analyzed for functional capability and for compliance with the design specification and ASME Code provisions. Design reconciliation of the as-built systems validates that construction completion, including field changes and any nonconforming condition dispositions, is consistent with and bounded by the approved design. As required by ASME Code, the As-Built Design Report includes the results of physical inspection of the piping and reconciliation to the design pipe stress report.

Inspections of the ASME Code Section III As-Built Piping Design Reports (Reference 4) for the VES piping lines identified in Table 2.2.5-2 are complete and conclude that each of the as-built VES piping lines for which functional capability is required meets the requirements for functional capability. The ASME Section III As-Built Piping Design Reports for each of the as-built VES piping lines in Table 2.2.5-2 are identified in Attachment B.

References 1 and 4 provide the evidence that the ITAAC Acceptance Criteria requirements are met:

- The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III;
- A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds;
- A report exists and concludes that the results of the pressure test of the components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III conform with the requirements of the ASME Code Section III; and
- A report exists and concludes that each of the as-built lines identified in Table 2.2.5-2 for which functional capability is required meets the requirements for functional capability.

References 1 and 4 are available for NRC inspection as part of the Unit 3 and Unit 4 ITAAC 2.2.05.02a Completion Packages (References 5 and 6, respectively).

### **List of ITAAC Findings**

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all ITAAC findings and associated corrective actions. This review, which included now consolidated ITAAC Indexes 254, 255, 256, 257, 258 and 262, found no relevant ITAAC findings associated with this ITAAC.

### **References (available for NRC inspection)**

1. VES ASME N-5 Code Data Report(s)
2. APP-GW-GAP-139, "Westinghouse/WECTEC ASME N-5 Interface Procedure"
3. VES ASME III As Built Design Report(s)
4. Completion Package for Unit 3 ITAAC 2.2.05.02a [COL Index Number 253]
5. Completion Package for Unit 4 ITAAC 2.2.05.02a [COL Index Number 253]
6. NEI 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52"



**Attachment A**

SYSTEM: Main Control Room Emergency Habitability System (VES)

<b>Equipment Name *</b>	<b>Tag No. *</b>	<b>ASME Code Section III*</b>	<b>ASME III as-built Design Report</b>	<b>N-5 Report</b>
Air Delivery Alternate Isolation Valve	VES-PL-V001	Yes	xxx	N-5 Code Data Report
Eductor Flow Path Isolation Valve	VES-PL-V045	Yes	xxx	N-5 Code Data Report
Eductor Bypass Isolation Valve	VES-PL-V046	Yes	xxx	N-5 Code Data Report
Pressure Regulating Valve A	VES-PL-V002A	Yes	xxx	N-5 Code Data Report
Pressure Regulating Valve B	VES-PL-V002B	Yes	xxx	N-5 Code Data Report
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes	xxx	N-5 Code Data Report
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes	xxx	N-5 Code Data Report
Temporary Instrument Isolation Valve A	VES-PL-V018	Yes	xxx	N-5 Code Data Report
Temporary Instrument Isolation Valve B	VES-PL-V019	Yes	xxx	N-5 Code Data Report
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes	xxx	N-5 Code Data Report
MCR Pressure Relief Isolation Valve B	VES-PL-V022B	Yes	xxx	N-5 Code Data Report
Air Tank Safety Relief Valve A	VES-PL-V040A	Yes	xxx	N-5 Code Data Report
Air Tank Safety Relief Valve B	VES-PL-V040B	Yes	xxx	N-5 Code Data Report
Air Tank Safety Relief Valve C	VES-PL-V040C	Yes	xxx	N-5 Code Data Report
Air Tank Safety Relief Valve D	VES-PL-V040D	Yes	xxx	N-5 Code Data Report
Main Air Flow Path Isolation Valve	VES-PL-V044	Yes	xxx	N-5 Code Data Report
MCR Air Filtration Line Eductor	VES-PY-N01	Yes	xxx	N-5 Code Data Report

\*Excerpts from COL Appendix C Table 2.2.5-1

**Attachment B**

SYSTEM: Main Control Room Emergency Habitability System (VES)

<b>Line Name*</b>	<b>Line Number*</b>	<b>ASME Code Section III*</b>	<b>Functional Capability Required*</b>	<b>ASME III As-Built Design Report</b>	<b>N-5 Report</b>
MCR Relief Line	VES-PL-022A	Yes	Yes	XXX	N-5 Code Data Report
MCR Relief Line	VES-PL-022B	Yes	Yes	XXX	N-5 Code Data Report

\*Excerpts from COL Appendix C, Table 2.2.5-2

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