



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

August 6, 2021

Mr. Michael Yox
Regulatory Affairs Director
Southern Nuclear Operating Company
7825 River Road, BIN 63031
Waynesboro, GA 30830

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4 - NRC INTEGRATED
INSPECTION REPORTS 05200025/2021003, 05200026/2021003

Dear Mr. Yox:

On June 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at the Vogtle Electric Generating Plant (VEGP), Units 3 and 4. On July 26, 2021, the NRC inspectors discussed the results of this inspection with Mr. G. Chick, VEGP Units 3 and 4 Executive Vice President, and other members of your staff members.

The inspection examined a sample of construction activities conducted under your Combined License as it relates to safety and compliance with the Commission's rules and regulations and with the conditions of these documents. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The inspectors documented two licensee-identified violations of very low safety significance (Green) in this report. These violations are being treated as non-cited violations (NCV), consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC Resident Inspector at the VEGP Units 3 and 4.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the Code of Federal Regulations (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding."

M. Yox

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Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

Nicole Covert, Chief
Construction Inspection Branch 1
Division of Construction Oversight

Docket Nos.: 5200025, 5200026

License Nos: NPF-91, NPF-92

Enclosure:

NRC Inspection Report (IR) 05200025/2021003, 05200026/2021003

w/ attachment: Supplemental Information

cc w/ encls:

Resident Manager
Oglethorpe Power Corporation
Alvin W. Vogtle Nuclear Plant
7821 River Road
Waynesboro, GA 30830

Office of the Attorney General
40 Capitol Square, SW
Atlanta, GA 30334

Southern Nuclear Operating Company
Document Control Coordinator
3535 Colonnade Parkway
Birmingham, AL 35243

Anne F. Appleby
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, GA 30084

County Commissioner
Office of the County Commissioner
Burke County Commission
Waynesboro, GA 30830

Mr. Wayne Guilfoyle
Commissioner District 8
Augusta-Richmond County Commission
4940 Windsor Spring Rd
Hephzibah, GA 30815

Gwendolyn Jackson
Burke County Library
130 Highway 24 South
Waynesboro, GA 30830

Mr. Reece McAlister
Executive Secretary
Georgia Public Service Commission
Atlanta, GA 30334

Resident Inspector
Vogtle Plant Units 3 & 4
8805 River Road
Waynesboro, GA 30830

Mr. Barty Simonton
Team Leader
Environmental Radiation Program
Air Protection Branch
Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, GA 30354-3906

Brian H. Whitley
Regulatory Affairs Director
Southern Nuclear Operating Company
3535 Colonnade Parkway, BIN N-226-EC
Birmingham, AL 35243

Mr. Michael Yox
Regulatory Affairs Director
Southern Nuclear Operating Company
7825 River Road, BIN 63031
Waynesboro, GA 30830

Email

aagibson@southernco.com (Amanda Gibson)
acchambe@southernco.com (Amy Chamberlian)
bhwhitley@southernco.com (Brian Whitley)
Bill.Jacobs@gdsassociates.com (Bill Jacobs)
corletmm@westinghouse.com (Michael M. Corletti)
crpierce@southernco.com (C.R. Pierce)
dahjones@southernco.com (David Jones)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
dlfulton@southernco.com (Dale Fulton)
ed.burns@earthlink.net (Ed Burns)
edavis@pegasusgroup.us (Ed David)
G2NDRMDC@southernco.com (SNC Document Control)
George.Taylor@opc.com (George Taylor)
harperzs@westinghouse.com (Zachary S. Harper)
james1.beard@ge.com (James Beard)
JHaswell@southernco.com (Jeremiah Haswell)
jim@ncwarn.org (Jim Warren)
John.Bozga@nrc.gov (John Bozga)
Joseph_Hegner@dom.com (Joseph Hegner)
karlg@att.net (Karl Gross)
kmstacy@southernco.com (Kara Stacy)
kroberts@southernco.com (Kelli Roberts)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
markus.popa@hq.doe.gov (Markus Popa)
mdmeier@southernco.com (Mike Meier)
media@nei.org (Scott Peterson)
Melissa.Smith@Hq.Doe.Gov (Melissa Smith)
mike.price@opc.com (M.W. Price)
MKWASHIN@southernco.com (MKWashington)
mphumphr@southernco.com (Mark Humphrey)
MSF@nei.org (Marvin Fertel)
nirsnet@nirs.org (Michael Mariotte)
Nuclaw@mindspring.com (Robert Temple)
Paul@beyondnuclear.org (Paul Gunter)
pbessette@morganlewis.com (Paul Bessette)
ppsena@southernco.com (Peter Sena,III)
r.joshi15@comcast.net (Ravi Joshi)
rwink@ameren.com (Roger Wink)
sabinski@suddenlink.net (Steve A. Bennett)
sjackson@meagpower.org (Steven Jackson)
sjones@psc.state.ga.us (Shemetha Jones)
skauffman@mpr.com (Storm Kauffman)
sleighty@southernco.com (Steve Leighty)
sroetger@psc.state.ga.us (Steve Roetger)
syagee@southernco.com (Stephanie Agee)
TomClements329@cs.com (Tom Clements)
Vanessa.quinn@dhs.gov (Vanessa Quinn)

wayne.marquino@gmail.com (Wayne Marquino)
William.Birge@hq.doe.gov (William Birge)
X2edgran@southernco.com (Eddie R. Grant)
x2gabeck@southernco.com (Gary Becker)
X2hagge@southern.com (Neil Haggerty)
X2wwill@southernco.com (Daniel Williamson)

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4 - NRC
INTEGRATED INSPECTION REPORTS 05200025/2021003,
05200026/2021003 – DATED August 6, 2021

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U.S. NUCLEAR REGULATORY COMMISSION

Region II

Docket Numbers: 5200025
5200026

License Numbers: NPF-91
NPF-92

Report Numbers: 05200025/2021003
05200026/2021003

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Units 3 and 4 Combined License

Location: Waynesboro, GA

Inspection Dates: April 1 through June 30, 2021

Inspectors: A. Artayet, Senior Construction Inspector, Division of
Construction Oversight (DCO)
G. Crespo, Senior Construction Inspector, DCO
T. Fanelli, Senior Construction Inspector, DCO
B. Griman, Resident Inspector, DCO
B. Kemker, Senior Resident Inspector, DCO
J. Kent, Construction Inspector, DCO
J. Lizardi-Barreto, Construction Inspector, DCO
R. Patel, Resident Inspector (Acting), DCO
A. Ponko, Senior Construction Inspector, DCO
M. Riley, Senior Construction Inspector, DCO
D. Terry-Ward, Construction Inspector, DCO

Approved by: Nicole Coover, Chief
Construction Inspection Branch 1
Division of Construction Oversight

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05200025/2021003, 05200026/2021003; 04/01/2021 through 06/30/2021; Vogtle Units 3 & 4 Combined License, Integrated Inspection Report.

This report covers a three-month period of Inspections, Tests, Analysis, and Acceptance Criteria (ITAAC) and quality assurance (QA) program inspections by regional and resident inspectors. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) which is determined using Inspection Manual Chapter (IMC) 2519, "Construction Significance Determination Process." Cross-cutting aspects are determined using IMC 0613, Appendix F, "Construction Cross-Cutting Areas and Aspects." All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy. The NRC's program for overseeing the safe construction of commercial nuclear power reactors is described in IMC 2506, "Construction Reactor Oversight Process General Guidance and Basis Document."

A. NRC-Identified and Self Revealed Findings

None

B. Licensee-Identified Violations

Violations of very low safety significance that were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program (CAP). These violations and their associated corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Construction Status

Unit 3: The licensee completed the majority of civil construction and was finalizing the as-built design for the nuclear island. The licensee started hot functional testing of the unit on April 25. In the containment and auxiliary building, the licensee continued with installation of safety related instrumentation, electrical raceways, conduits, and cables (safety and non-safety related) while hot functional testing was in progress.

Unit 4: The licensee completed construction of the shield building conical roof and began construction of the passive containment cooling water system (PCS) storage tank. In the containment building, the licensee continued with installation of reactor coolant system (RCS) and passive core cooling system (PXS) small bore piping and continued routing electrical cables, raceways, and terminations. In the auxiliary building, the licensee continued with construction of the building up to elevation 180-feet and continued with installation of electrical cabinets, raceways, conduits, and cables (safety and non-safety related).

Other: During this inspection report period, the NRC conducted a special inspection (SI) to identify what led to construction remediation work at Unit 3 for the electrical cable raceway system. The results from the SI will be issued in a stand-alone report titled "VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4 – NRC SPECIAL INSPECTION REPORTS 05200025/2021010, 05200026/2021010," which will be issued within 45 days from the inspection exit meeting.

1. CONSTRUCTION REACTOR SAFETY

Cornerstones: Design/Engineering, Procurement/Fabrication, Construction/Installation, Inspection/Testing

IMC 2503, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Related Work Inspections

1A01 (Unit 3) ITAAC Number 2.2.01.01 (90) / Family 11A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.01 (90). The inspectors used the following NRC inspection procedure (IP) sections to perform this inspection:

- 65001.A.02.02 - Installation Records Review
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors performed an inspection of the Unit 3 containment system (CNS) functional arrangement to verify the as-built system piping and components conform to the system design description in Section 2.2.1 of Appendix C of the Vogtle Unit 3 Combined License (COL), including Table 2.2.1-1, Table 2.2.1-2, and Figure 2.2.1-1.

The inspectors performed independent field walkdowns and reviewed quality records including the Principal Closure Document (PCD), piping and instrumentation diagrams,

and functional arrangement sketches to verify the CNS containment penetrations, hatches, instruments, isolation valves, and associated piping were physically arranged consistent with Figure 2.2.1-1 and located as identified in Table 2.2.1-4 of Appendix C of the Vogtle Unit 3 COL, such that the components will support system functions described in the design description in Section 2.2.1 of Appendix C of the Vogtle Unit 3 COL and Section 6.2.3 of the Vogtle 3&4 Updated Final Safety Analysis Report (UFSAR). System installation attributes inspected included proper location, placement (such as relative elevation), quantity, material type/shape/size, physical orientation, flow direction, and alignment.

b. Findings

No findings were identified.

1A02 (Unit 3) ITAAC Number 3.3.00.02a.i.a (760) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.a (760). The inspectors used the following NRC IP sections to perform this inspection:

- 65001.B-02.02 - Welding Procedure Qualification
- 65001.B-02.03 - Welder Qualification
- 65001.B-02.04 - Production Controls
- 65001.B-02.05 - Inspection

The inspectors reviewed weld repair documentation for a 47-inch long floor-to-wall single bevel weld joint repair cavity for the in-containment refueling water storage tank (IRWST) to verify welding and nondestructive examinations (NDE) were performed in accordance with the requirements of the American Welding Society (AWS) D1.6:1999, "Structural Welding Code for Stainless Steel."

The inspectors reviewed Bechtel's structural field welding checklist (SFWC) for field weld (FW)-1 to verify traceability was maintained for 1/8-inch diameter ER2209 weld rods and BM072 welder identification, and to verify hold point inspections for preheat, repair cavity (fit-up), interpass temperature, and final visual inspection were signed by a quality control (QC) inspector along with recording of the maximum heat input in accordance with the Bechtel special process manual (SPM). The inspectors reviewed the certified material test report (CMTR) of duplex stainless steel weld filler metal ER2209 with heat number 1203D to verify chemical analysis and mechanical properties were in accordance with the requirements of AWS A5.9, "Specification for Bare Stainless Steel Welding Electrodes and Rods."

The inspectors reviewed Bechtel's American Society of Mechanical Engineers (ASME) Section IX welding procedure P10H-T-Ag and welder qualifications list to verify the welding procedure and welder qualification continuity were in accordance with AWS D1.6, Section 4, "Qualification," and Bechtel's SPM. The inspectors reviewed MISTRAS NDE reports that were referenced on the Bechtel SFWC for final acceptance signatures for FW-1. The NDE reports included three liquid penetrant test (PT) reports by a Level II examiner and an ultrasonic test (UT) report by a Level III examiner to verify

NDE was performed in accordance with AWS D1.6, Section 6, "Inspection," including a vacuum box examination report by a Level II technician.

b. Findings

No findings were identified.

1A03 (Unit 3) ITAAC Number 3.3.00.07aa (789) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07aa (789). The inspectors used the following NRC IP sections to perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.09-02.02 - Attributes of Electrical Cable installation

The inspectors observed completed raceways inside containment that were ready to be enclosed. The inspectors reviewed these raceways to verify cable separation was maintained between the safety related Class 1E divisions and between the Class 1E divisions and non-safety raceways. The inspectors also reviewed these raceways to verify the raceways and cables inside were appropriately labeled and confirmed the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and QC inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors observed cable tray installations to verify cables installed met cable fill design requirements. The inspectors observed long vertical raceway runs to verify cables were supported in accordance with cable installation specifications and drawings. The inspectors also verified the cable ties used for cable spacing inside containment met cable installation specifications and drawings. The inspectors reviewed the engineering and design coordination reports (E&DCR) to verify the technical justification for the cable tie downs that were used inside the containment.

b. Findings

No findings were identified.

1A04 (Unit 3) ITAAC Number 3.3.00.07ba (792) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07ba (792). The inspectors used the following NRC IP sections to perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.09-02.02 - Attributes of Electrical Cable installation

The inspectors observed completed raceways inside containment that were ready to be enclosed. The inspectors reviewed these raceways to verify cable separation was maintained between the safety related Class 1E divisions and between the Class 1E divisions and non-safety raceways. The inspectors also reviewed these raceways to verify the raceways and cables inside were appropriately labeled and confirmed the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and QC inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors observed cable tray installations to verify cables installed met cable fill design requirements. The inspectors observed long vertical raceway runs to verify cables were supported in accordance with cable installation specifications and drawings. The inspectors also verified the cable ties used for cable spacing inside containment met cable installation specifications and drawings. The inspectors reviewed the E&DCRs to verify the technical justification for the cable tie downs that were used inside the containment.

b. Findings

No findings were identified.

1A05 (Unit 3) ITAAC Number 3.3.00.07d.ii.a (800) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07d.ii.a (800). The inspectors used the following NRC IP sectionsto perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.09-02.02 - Attributes of Electrical Cable installation

The inspectors observed completed raceways inside containment that were ready to be enclosed. The inspectors reviewed these raceways to verify cable separation was maintained between the safety related Class 1E divisions and between the Class 1E divisions and non-safety raceways. The inspectors also reviewed these raceways to verify the raceways and cables inside were appropriately labeled and confirmed the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and QC inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors observed cable tray installations to verify cables installed met cable fill design requirements. The inspectors observed long vertical raceway runs to verify cables were supported in accordance with cable installation specifications and drawings. The inspectors also verified the cable ties used for cable spacing inside containment met cable installation specifications and drawings. The inspectors reviewed the E&DCRs to verify the technical justification for the cable tie downs that were used inside the containment.

b. Findings

No findings were identified.

1A06 (Unit 3) ITAAC Number C.2.5.04.04a (561) / Family 10A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.2.5.04.04a (561). The inspectors used the following NRC IP sections to perform this inspection:

- 65001.10 - Inspection of ITAAC-Related Installation of Instrument Components and Systems
- 65001.10-02.02.a - In-Process Installation
- 65001.10-02.02.c - As-Built Verification
- 65001.A - As-Built Attributes for SSC [Structures, Systems, and Components] Associated with ITAAC
- 65001.A.02.02 - Installation Records Review
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors performed an inspection of plant operating instrumentation installed for feedwater flow measurements, its associated power calorimetric uncertainty calculation, and the calculated calorimetric values to verify the acceptance criteria of the ITAAC.

The inspectors reviewed the QA data package for the Caldon [Cameron] Leading Edge Flowmeter (LEFM) CheckPlus™ System and the construction work packages for installation of the instruments in the plant to verify the as-built system takes input for feedwater flow measurement from a Caldon [Cameron] LEFM CheckPlus™ System as specified in Table 2.5.4-2 of Appendix C to the Vogtle Unit 3 COL. The inspectors reviewed these documents and performed field inspection to verify the correct components were received on-site and were installed in the plant.

The inspectors reviewed the vendor's generic power calorimetric uncertainty calculation documented for the instrumentation to verify it was based on an accepted Westinghouse methodology and the uncertainty values for the instrumentation were not lower than those for the actual installed instrumentation as specified in Table 2.5.4-2 of Appendix C to the Vogtle Unit 3 COL. The inspectors also reviewed the site specific reconciliation of the Westinghouse methodology report with the installed instrumentation to verify the calculated calorimetric power uncertainty measurement values were bounded by the 1% uncertainty value assumed for the initial reactor power in the safety analysis as specified in Table 2.5.4-2 of Appendix C to the Vogtle Unit 3 COL.

b. Findings

No findings were identified.

1A07 (Unit 4) ITAAC Number 2.2.03.08c.iv.03 (185) / Family 03A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.iv.03 (185). The inspectors used the following NRC IP sections to perform this inspection:

- 65001.A - As-Built Attributes for SSCs associated with ITAAC
- 65001.A.02.02 - Installation Records Review
- 65001.A.02.03 - Independent Assessment/Measurement Inspection

The inspectors performed an inspection to verify the maximum elevation of the top inside surface of both Unit 4 core makeup tank (CMT) discharge lines to the direct vessel injection (DVI) connections are less than the elevation of each CMT bottom inside surface to satisfy the ITAAC requirement. The inspectors performed a walkdown of the two piping sections with the licensee, observed portions of surveys, and performed an independent assessment to verify the as-built piping elevations were consistent with the as-built elevation drawings. In addition, the inspectors reviewed quality records including the PCD, survey results, and as-built elevation drawings to verify the elevation of the top inside surface of the piping remained below the bottom inside CMT surface as specified in Table 2.2.3-4 of Appendix C of the COL.

b. Findings

No findings were identified.

1A08 (Unit 4) ITAAC Number 3.3.00.02a.i.b (761) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.b (761). The inspectors used the following NRC IP Section to perform this inspection:

- 65001.02-02.01 - Inspection of Concrete Placement

The inspectors observed concrete placement in the exposed section of the shield building conical roof from the tension ring to the knuckle region underneath the outer PCS tank wall. The inspectors reviewed the placement plan to verify preplacement planning had been completed to assure quality construction and contingency plans had been made to address unexpected events.

The inspectors reviewed a sample of concrete batch plant tickets to verify the batched mixes conformed to the placement plan and were discharged in accordance with the construction specification. Additionally, the inspectors observed in-process record testing to verify concrete temperature, flow, air content, and unit weight conformed to requirements and in-process testing was completed at the proper location and frequency as required by the construction specification.

The inspectors also reviewed placement activities to verify drop distances did not exceed specification requirements, placement rates were consistent with the placement plan, and appropriate attention was given to areas of high reinforcing density to minimize the potential for voids or honeycombing.

b. Findings

No findings were identified.

IMC 2504, Construction Inspection Program – Inspection of Construction and Operational Programs

1P01 Construction QA Criterion 16

- 35007-A16.04 - Inspection Requirements and Guidance
- 35007-A16.04.01 - Inspection of QA Implementing Documents
- 35007-A16.04.02 - Inspection of QA Program Implementation

a. Inspection Scope

The inspectors reviewed issues entered into the licensee's CAP to assess issues that might warrant additional follow-up inspection, to assess repetitive or long term issues, to assess adverse performance trends, and to verify the CAP appropriately included regulatory required non-safety related SSCs. The inspectors periodically attended the licensee's CAP review meetings, held discussions with licensee and contractor personnel, and performed reviews of CAP activities during the conduct of other baseline inspection procedures. The inspectors reviewed conditions entered into the licensee's CAP to determine whether the issues were classified in accordance with the licensee's QA Program and CAP implementing procedures. The inspectors reviewed corrective actions associated with conditions entered into the CAP to determine whether appropriate actions to correct the issues were identified and implemented effectively, including immediate or short-term corrective actions, in accordance with the applicable QA Program requirements and Title 10 of the Code of Federal Regulations Part 50 (10 CFR 50), Appendix B, Criterion XVI. Additionally, the inspectors reviewed the corrective actions taken to determine whether they were commensurate with the significance of the associated conditions in accordance with the licensee's CAP implementing procedures. The inspectors completed reviews of CAP entry logs to verify issues from all aspects of the project, including equipment, human performance, and program issues, were being identified by the licensee and its contractors at an appropriate threshold and entered into the CAP as required by licensee's CAP implementing procedures.

b. Findings

No findings were identified.

1P02 Construction QA Criterion 16

- 35007-A16.04.02 - Inspection of QA Program Implementation

a. Inspection Scope

The inspectors selected an issue that was entered into the licensee's CAP for additional follow-up inspection. On May 16, 2021, while reperforming Unit 3 pressurizer upper lateral support shim gap measurements in accordance with 3-GEN-ITPP-507, "Thermal Expansion, Dynamic Effects, and Vibration (TEDEV) Program," during hot functional testing, the licensee discovered the initial (i.e., ambient temperature) shim gap measurement data had not been collected prior to plant heat up as required by the procedure. The procedure provides detailed instructions for performing and documenting preoperational testing activities of the TEDEV Program, per Section 7.1 of the Vogtle 3&4 UFSAR, to monitor thermal movement of plant piping systems and

components during plant heat up and cool down to verify movements are within design requirements. The inspectors reviewed the licensee's evaluation of the problem, which was documented in condition report (CR) 50093275, "Missed Data Collection," and corrective actions to verify the following attributes were performed in accordance with the licensee's CAP implementing procedures:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery;
- consideration of the extent of condition, generic implications, common cause, trending, and previous occurrences;
- classification and prioritization of the resolution of the problem commensurate with its safety significance; and
- identification of corrective actions that are appropriately focused to correct the problem.

b. Findings

No findings were identified.

1P03 Construction QA Criterion 16

- 35007- A16.04.02 - Inspection of QA Program Implementation

a. Inspection Scope

The inspectors selected an issue that was entered into the licensee's CAP for additional follow-up inspection. On March 12, 2021, the licensee's QA organization issued a finding for non-safety related commodity installation practices that were impacting safety related SSCs. In all the examples, work was performed under non-safety related work packages. These included anchor bolt installation, welding, and electrical field-run components interfering with design routed ASME III tubing installations and Institute of Electrical and Electronic Engineers (IEEE) Standard 384 separation requirements. The inspectors reviewed the licensee's root cause determination for the problem, which was documented in corrective action record (CAR) 80004896, "Safety Related Systems, Structures, and Components Are Being Adversely Impacted by Installation of Non-Safety Related Commodities." The inspectors reviewed the licensee's evaluation and corrective actions to verify the following attributes were performed in accordance with the licensee's CAP implementing procedures:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery;
- consideration of the extent of condition, generic implications, common cause, trending, and previous occurrences;
- classification and prioritization of the resolution of the problem commensurate with its safety significance;
- identification of root and contributing causes of the problem, as well as actions to preclude recurrence for significant conditions adverse to quality; and
- identification of corrective actions that are appropriately focused to correct the problem.

b. Findings

Two licensee-identified non-cited violations (LIV) material to ITAAC acceptance criteria are documented in Section 4OA7.

1P04 Construction QA Criterion 3

- 35007-A3 - Appendix 3 Inspection of Criterion III – Design Control
- 35007-A3.04.01 - Inspection of QA Implementing Documents
- 35007-A3.04.02 - Inspection of QA Program Implementation

a. Inspection Scope

The inspectors conducted an independent design review of safety related cables and cable tray systems to determine if their as-built configuration was in accordance with the final design of the facility and met associated ITAAC requirements. Specifically, the inspectors reviewed quality records, including the design specification, work packages, inspection records, design criteria documents, engineering service requests (ESR), CRs, procedures, and drawings to verify:

- the design was implemented in accordance with regulatory requirements, including applicable sections of the UFSAR and the IEEE standards;
- differences between the as-built configuration and the design were reconciled in the design report;
- the design drawings were revised to reflect the as-built configuration by qualified personnel;
- issues identified during the inspection were entered into the licensee's CAP in accordance with the CAP requirements;
- design changes were evaluated and implemented in accordance with site procedures; and
- design deviations or nonconforming conditions were identified, documented, and dispositioned in accordance with site procedures.

b. Findings

Introduction

The inspectors identified an URI associated with the licensee's failure to verify maximum allowable loading was not exceeded by cables exiting over the cable trays' side rail, as specified in design requirements. Specifically, it was identify that the licensee failed to verify maximum loading exceedance for cables exiting cable tray SV3-1232-ER-CXT01KB/KA, located in Unit 3 Room 12313, in accordance with design requirements, from EDCR-ECS-GEF-850795, for the load exerted on the side rails of cable tray where cables exit (i.e., free-air or aerial cables) to an equipment or where cables transition to other raceway. The URI is being opened to determine if the performance deficiency is material to the acceptance criteria of an ITAAC.

Description

(Open) URI 05200025/2021003-01, Unit 3 Maximum Load Exceedance Verification for Cable Trays in Accordance with E&DCR APP-ECS-GEF-850795

The inspectors reviewed E&DCR APP-ECS-GEF-850795, general notes drawing APP-ECS-E9-107 and AP1000 Electrical Installation Specification APP-G1-V8-001. APP-G1-V8-001 states cable tray installation shall be per the engineering drawings, APP-ECS-E9-Series. Based on this review, the inspectors determined the design of the cable tray side rail assumed "...no more than 40% of the maximum cable fill weight for solid bottom trough trays allowed by Table 2 of APP-SH25-E9-100." EDCR-ECS-GEF-850795, "EAD Specified Cable Tray Covers and Cables Outside the Confines of Cable Tray" was issued August 8, 2020 and provided design requirements that were also included in APP-ECS-E9-107. Field engineering and QC personnel had already reviewed the terminations for the cables and signed the QC Inspection Report in the Termination Work Packages SV3-PXS-EWW-1044255 and SV3-PXS-EWW-1048171, as late as February 2021. These work packages required, through Foreman's Book SV3-REFDOC-AUX3-1007742, the performance of maximum load verifications per E&DCR APP-ECS-GEF-850795 and general notes drawing APP-ECS-E9-107. The inspectors reviewed these work packages for terminating safety related cables exiting cable tray SV3-1232-ER-CXT01KB/KA and determined they did not contain calculations to verify maximum loading exceedance as required by E&DCR APP-ECS-GEF-850795, Attachment A, for this given cable tray configuration. The licensee was not able to provide supporting documentation that those required load verifications were performed for the concerned cables and cable trays. CRs 50084958 and 50075109 were initiated by the licensee to perform the maximum load verification as required by E&DCR APP-ECS-GEF-850795 and to review and evaluate the implementation process for potential enhancements.

On May 26, 2021, the NRC inspectors identified the licensee's failure to verify maximum loading exceedance for cables exiting cable tray SV3-1232-ER-CXT01KB/KA in accordance with design requirements, from EDCR-ECS-GEF-850795, as a performance deficiency in accordance with IMC 0613. Specifically, the SNC failed to verify the adequacy of design per E&DCR APP-ECS-GEF-850795, for cable tray SV3-1232-ER-CXT01KB/KA where cables exit on to vertical cable tray SV3-1232-ER-CXT02AA(AB), and by penetration SV3-12313-ML-E15 located in Room 12313 in Unit 3, for the load exerted on the side rails of cable trays where cables exit (i.e. free-air or aerial cables) to the equipment or other raceway/penetration.

This condition initially was identified where cables exit a cable tray (i.e., SV3-1232-ER-CXT01KB/KA) located in Room 12313 in Unit 3, but 66 other locations were also identified as result of SNC's investigation to determine the extent of the condition, as documented in CAR 80005270. ESR 50081736 was also initiated to determine if this as-built condition was adequate. E&DCR APP-ECS-GEF-850910, "Clarification on Note 6 on APP-ECS-E9-107 (ESR 50081736)," Revision 0 was issued to address the ESR and revised design requirements for evaluating the existing as-built configurations. CAR 80005270 stated all these possible impacted locations were walked down and reviewed against the revised design requirements from E&DCR APP-ECS-GEF-850910 and the configurations

at these locations were determined to be acceptable. This condition was also included in CAR 80004436 to identify root causes and any contributing circumstances.

This issue of concern is considered an Unresolved Item (**URI 05200025/2021003-01, Unit 3 Maximum Load Exceedance Verification for Cable Trays in Accordance with E&DCR APP-ECS-GEF-850795**) to determine whether the performance deficiency is material to the acceptance criteria of an ITAAC. The licensee entered this issue into its CAP as CR 50094351.

4. OTHER INSPECTION RESULTS

4OA6 Meetings, Including Exit

.1 Resident Inspectors' Exit Meeting

On July 26, 2021, the inspectors presented the inspection results to Mr. G. Chick, Vogtle 3&4 Executive Vice President, and other licensee and contractor staff members. Proprietary information was reviewed during the inspection period but was not included in the inspection report.

.2 Interim Exit Meetings

The results of a limited scope independent design review of safety related cables and cable tray systems were presented to Mr. S. Leighty, Licensing Manager, and other licensee and contractor staff members on May 26, 2021. The licensee acknowledged the issues presented. Proprietary information was reviewed during the inspection but was not included in the inspection report.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as non-cited violations.

.1 (Open) (LIV 05200025/2021003-02, Failure to Promptly Identify and Correct a Condition Adverse to Quality with Unqualified Drilling and Installation of Expansion Anchors into Safety Class C Concrete Structures)

10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected." Contrary to this requirement, on or before January 21, 2021, the licensee failed to promptly identify and correct a condition adverse to quality. Specifically, the licensee identified on November 1, 2019 that a subcontractor who was not qualified to drill penetrations and install material into Safety Class C concrete structures under a licensee approved Appendix B Quality Assurance Program had been doing so under two separate contracts. These two contracts were developed to perform non-safety related activities for installation of the fire protection and suppression system. The licensee's causal evaluation of the problem identified inadequate management and oversight over its subcontractors with no corrective actions to address the behaviors. The effectiveness review for the causal

evaluation was closed on August 20, 2020, although it identified that not all of the contracts were changed as specified by the corrective action to prevent recurrence at the time of the review. Approximately five months later, on January 21, 2021, a subcontractor (one of the five unqualified subcontractors identified by the effectiveness review) who was not qualified to drill penetrations and install material into Safety Class C concrete structures under a licensee approved Appendix B Quality Assurance Program drilled into the Unit 3 auxiliary building rooftop and installed expansion anchors without work instructions approved for the activity. Edge boxes were fabricated and installed by sub-tier sheet metal workers without an approved work package or an approved ASME NQA-1 Standard subcontractor quality program.

This performance deficiency was of more than minor safety significance, and thus a finding, because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Drilling in reinforced concrete structures can adversely impact the function of the structure if portions of the reinforcing bar or embedded steel are damaged. Cleanliness of the holes being drilled can also adversely impact the function of the structure. This finding was of very low safety significance (Green) because the licensee demonstrated with reasonable assurance the design function of the auxiliary building was not impaired. This LIV is material to the ITAAC 3.3.00.02a.i.c (762) acceptance criteria because the as-built structures in the non-radiologically controlled area of the auxiliary building must conform to the approved design and will withstand the design basis loads specified in the design description without loss of structural integrity or the safety-related functions. This LIV is open pending an NRC review to verify adequate corrective actions have been developed and implemented so the deficiency can no longer prevent the ITAAC from being closed. This issue was documented in the licensee's CAP as CR 50099464, CR 50075502, and CAR 80004896.

.2 (Open) (LIV 05200025/2021003-03, Unqualified Welding of Fire Extinguisher Brackets on the Unit 3 Containment Vessel)

10 CFR 50, Appendix B, Criterion IX, "Control of Special Processes," states "Measures shall be established to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements." Contrary to this requirement, on February 20, 2021, a subcontractor who was not qualified to perform welding on safety related structures under a licensee approved Appendix B Quality Assurance Program welded three sets of fire extinguisher brackets on the Unit 3 containment vessel without a qualified procedure. The subcontractor's work package was not qualified for welding to the containment vessel and did not contain documents, drawings, or details that allowed welding to the containment vessel. The brackets were installed per a drawing detail that did not specify welding to the containment vessel. The drawing allowed for mounting to steel columns, permanent formwork plate, embedment plates, and modules.

This performance deficiency was of more than minor safety significance, and thus a finding, because it rendered the quality of the containment vessel unacceptable or indeterminate and required substantive corrective action. This finding was of very low safety significance (Green) because the licensee demonstrated with reasonable assurance the design function of the containment vessel was not impaired. This LIV is material to the ITAAC 2.2.01.02a (91), 2.2.01.04a.ii (96), and 2.2.01.07.i (107)

acceptance criteria because it affects the ASME Section III requirements for the as-built containment vessel and associated testing requirements. This LIV remains open pending restoration of the Unit 3 containment vessel to compliance with the ASME Section III Code requirements and an NRC review to verify adequate corrective actions have been developed and implemented such that the initial ITAAC conclusions remain valid and the deficiency can no longer prevent remaining ITAAC from being closed. This issue was documented in the licensee's CAP as CR 50099460, CR 50082701, and CAR 80004934.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee and Contractor Personnel

R. Beilke, SNC ITAAC Project Manager
C. Castell, WEC Licensing Engineer
J. Cole, SNC Licensing Engineer
M. Hickox, SNC ITP Test Support Manager
N. Kellenberger, SNC Licensing Supervisor
S. Leighty, SNC Licensing Manager
N. Patel, SNC Licensing Engineer
L. Pritchett, SNC Licensing Engineer
K. Roberts, SNC ITAAC Manager
G. Scott, SNC Licensing Engineer
J. Weathersby, SNC Licensing Engineer
M. Yox, SNC Regulatory Affairs Director

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item Number</u>	<u>Type</u>	<u>Status</u>	<u>Description</u>
05200025/2021003-01	URI	Open	Maximum Load Exceedance Verification for Cable Trays in Accordance with EDCR APP-ECS-GEF-850795 (Section 1P04).
05200025/2021003-02	LIV	Open	Failure to Promptly Identify and Correct a Condition Adverse to Quality with Unqualified Drilling and Installation of Expansion Anchors into Safety Class C Concrete Structures (Section 4OA7).
05200025/2021003-03	LIV	Open	Unqualified Welding of Fire Extinguisher Brackets on the Unit 3 Containment Vessel (Section 4OA7).

LIST OF DOCUMENTS REVIEWED

Section 1A01

VEGP 3&4 UFSAR, Section 6.2.3, "Containment Isolation System," Revision 8
SV3-CNS-ITR-800090, "Unit 3 CNS Functional Arrangement Inspection: ITAAC 2.2.01.01 NRC Index Number 90," Revision 1
SV3-CAS-M6-005, "Piping and Instrumentation Diagram Compressed and Instrument Air Sys Instrument Air-Containment," Revision 7
SV3-CAS-M6-012, "Piping and Instrumentation Diagram Compressed and Instrument Air Sys Service Air-Containment," Revision 4
SV3-CCS-M6-002, "Piping and Instrumentation Diagram Central Chilled Water System," Revision 6
SV3-CVS-M6-003, "Piping and Instrumentation Diagram Chemical and Volume Control System," Revision 8
SV3-CVS-M6-005, "Piping and Instrumentation Diagram Chemical and Volume Control System," Revision 3
SV3-DWS-M6-007, "Piping and Instrumentation Diagram Demin Water Transfer Storage Containment," Revision 4
SV3-FPS-M6-004, "Piping and Instrumentation Diagram Fire Protection System," Revision 7
SV3-PCS-M6-003, "Piping and Instrumentation Diagram Passive Containment Cooling System," Revision 3
SV3-PSS-M6-001, "Piping and Instrumentation Diagram Primary Sampling System," Revision 6
SV3-PXS-M6-001, "Piping and Instrumentation Diagram Passive Core Cooling System," Revision 6
SV3-PXS-M6-003, "Piping and Instrumentation Diagram Passive Core Cooling System," Revision 5
SV3-RNS-M6-003, "Piping and Instrumentation Diagram Normal Residual Heat Rem. System," Revision 4
SV3-MV50-V1-016, "Containment Vessel Penetration Location," Revision 1
SV3-SFS-M6-001, "Piping and Instrumentation Diagram Spent Fuel Pool Cooling System," Revision 6
SV3-SGS-M6-001, "Piping and Instrumentation Diagram Steam Generator System," Revision 7
SV3-SGS-M6-002, "Piping and Instrumentation Diagram Steam Generator System," Revision 7
SV3-VFS-M6-001, "Piping and Instrumentation Diagram Containment Air Filtration System," Revision 8
SV3-VWS-M6-003, "Piping and Instrument Diagram Central Chilled Water System," Revision 1
SV3-WLS-M6-001, "Piping and Instrumentation Diagram Liquid Rad Waste System," Revision 4
SV3-CNS-M9K-FA001, "CNS (Containment System) ITAAC Functional Arrangement Guideline Sketch," Revision 0
SV3-CNS-M6K-FA001, "CNS General Area 1 ITAAC Functional Arrangement Sketch," Revision 0
SV3-CNS-M6K-FA002, "CNS General Area 2 ITAAC Functional Arrangement Sketch," Revision 0
SV3-CNS-M6K-FA003, "CNS General Area 3 ITAAC Functional Arrangement Sketch," Revision 0
SV3-CNS-M6K-FA004, "CNS General Area 5 ITAAC Functional Arrangement Sketch," Revision 0
SV3-CNS-M6K-FA005, "CNS General Area 5 ITAAC Functional Arrangement Sketch," Revision 0

SV3-CNS-M6K-FA006, "CNS General Area 6 ITAAC Functional Arrangement Sketch,"
Revision 0
SV3-PCS-M6K-FA103, "PCS-M6-003 CNS ITAAC Functional Arrangement Sketch," Revision 0
SV3-SGS-M6K-FA201, "SGS-M6-001 CNS ITAAC Functional Arrangement Sketch," Revision 0
SV3-SGS-M6K-FA202, "SGS-M6-002 CNS ITAAC Functional Arrangement Sketch," Revision 0
SV3-MV50-V1-016, "Containment Vessel Penetration Location," Revision 1
CR 50099284, "NRC Identified Errors in SV3-CNS-ITR-800090"

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SV3-WLS-GNR-000178, Nonconformance & Disposition (N&D) Report "WLS Leak Chase Collection Data from IRWST Leakage (ESR 50033536)," (with J.W. comments and collected volume data), Revision 0, 11/14/2019
SV3-WLS-GNR-000187, N&D Report "WLS Leak Chase Collection Data from IRWST Leakage (ESR 50047696)," Revision 0, 4/14/2020
SV3-1130-CEK-881529, "Unit 3, Containment Building IRWST Floor Liner Plates Weld Map,"
Revision 8
Bechtel 26139-000-GMX-GCE-00001, "Special Process Manual," 991 pages, Revision 2
Bechtel Form WR-5C, "Miscellaneous & Structural Field Welding Checklist" for IRWST Floor Field Weld No. 1, Job No. 26139/Unit 3, Work Order No. SV3-1130-SSW-1109933," 6/28/2020
Bechtel Welding Procedure Specification P10H-T-Ag with supporting Procedure Qualification Records 1635 and 1927, Revision 2
Lincoln Electric Company CMTR 7000624 ES-ZBEB for 1/8" diameter ER2209, Heat-No. 1203D, 5/26/2015
Bechtel Welder Qualifications List for GTAW welder ID No. BM072 with renewal date of 10/7/2021
Bechtel 26139-000-4MP-T040-S0561, "Nondestructive Examination Standard Liquid Penetrant Examination, PT(SR)-AWS D1.6," Revision 0, 2/8/2018
MISTRAS NDT Certification Record No. 25011 for TSR Liquid Penetrant-Visible Solvent Removable: Level II examiner, Expiration Date 2/5/2022
MISTRAS Visual Acuity Record for TSR with expiration date of 1/16/2021
MISTRAS Liquid Penetrant Examination Report V-20-PT(SR)-AWS-D1.6-0900, "Weld/IRWST Floor, FW-1," 5/18/2020
MISTRAS Liquid Penetrant Examination Report V-20-PT(SR)-AWS-D1.6-0905, "Weld /IRWST Floor, FW-1," 5/19/2020
MISTRAS Liquid Penetrant Examination Report V-20-PT(SR)-AWS-D1.6-0907, "Weld /IRWST Floor, FW-1," 5/19/2020
MISTRAS 521-UT-311, "Ultrasonic Examination of Welds in Accordance with AWS Structural Welding Code D1.6," 5/23/2018
MISTRAS 100-UTMOK-311-012, "Procedure Qualification Record for MISTRAS Procedure 100-UT-311," 03/02/2014
MISTRAS NDT Certification Record No. 20750 for IVC Ultrasonic Testing and Phased Array Ultrasonic Testing: Level III Examiner, Expiration Date 7/9/2021
MISTRAS Visual Acuity Record for IVC with expiration date of 8/6/2021
MISTRAS Ultrasonic Examination Report V-20-UT-311-0418, "Straight Beam UT of Corner single bevel joint of West Edge of wall, 57.5" – 104.5"," 5/19/2020
Bechtel 26139-000-4MP-T040-S0569, "Nondestructive Examination Standard Leak Testing (Vacuum Box) LT(VB)," Revision 0, 4/5/2018
MISTRAS NDT Certification Record No. 20750 for JRT Leak Test - Bubble Test: Level II Examiner, Expiration Date 2/4/2023
MISTRAS Visual Acuity Record for JRT with expiration date of 8/26/2020

MISTRAS Vacuum Box Examination Report V-20-LT(VB)-0117, of Repair Area on FW-1 starting West to East 57.5" to 104.5", on the North side of Pressurizer," 5/19/2020
 Work Package SV3-1130-SSW-1109933, "Unit 3, Containment, Welding Repairs for IRWST Wetted Seams Based on Vacuum Box Testing, Room 11305, EL. 103'-0"," Revision 0
 Work Package SV3-1130-S0W-1104118, "Unit 3, Containment, Vacuum Box Testing of the IRWST Floor Wetted Seams, Room 11305, EL. 103'.0", Revision 0
 Inspection Report No. 26139-SV3-SV3-IR-SS-00569, "Structural Steel and Module Inspection Record of IRWST Floor Seam Weld Repairs, EL. 103'-0"," 4/29/2021
 SV3-1130-CEK-870212, "Unit 3, Containment Building IRWST Floor Liner Plates Weld to CA03 Weld Map," – IRWST Floor - Northwest, Revision 1
 SV3-1130-CEK-870212, "Unit 3, Containment Building IRWST Floor Liner Plates Weld to CA03 Weld Map," – Typical Welding Connections Detail Between Liner and CA03, Revision 1
 MISTRAS Report No. V-20-LT(VB)-0019, "Vacuum Box Examination Report for Floor Plate to Floor Plate in Flat type of FW-1, 3, 5, 7, 9, 11,13,15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, and FW-65," 5/6/2020
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Section 1A03

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 ND-AD-002, "Nuclear Development, Corrective Action Program," Version 31.0
 ND-AD-002-026, "Nuclear Development, Corrective Action Program Processing," Version 3.0
 APP-G1-V8-001, "AP1000 Electrical Installation Specification," Revision 9
 SV3-ECS-E3-001, "Vogtle Electrical Generating Plant AC Power System – One Line Diagram," Revision 5
 APP-ECS-E9-014, "Cable Tray Notes and Details Sheet 5," Revision 5
 APP-ECS-E9-063, "Cable Tray notes and Details, Sheet 12," Revision 2
 APP-ECS-E9-066, "Cable Tray notes and Details, Sheet 14," Revision 0
 APP-G1-E1-003, "Raceway Design Criteria," Revision 4
 APP-G1-GEF-850157, "Cable Management Ties in containment Tray (ESR 50053097)," Revision 0
 APP-ECS-GEF-850904, "Raceway and Cable Separation Details (ESR 50075583)," Revision 0
 SNC Inductance Justification, 5/17/2021
 SNC to NRC Walkdown Response Details, 4/8/2021 and 4/9/2021
 SV3-1143-ERW-1005986, Att. D, "Cable Tray Cover SV3-1143-ER-BZT01A, BXT01AB(AA), DZT01A, and DXT01AB(AA)," 4/16/2021
 SV3-1133-ERW-1130667, Att. D, "Cable Tray Cover SV3-1133-ER-BXT02AB(AA), BZT01A, DXT01AB(AA), and DZT01A," 4/16/2021
 SV3-1133-ERW-1003534, Att. D, "SV3-1130-ER-DZC05, DZC06, DZC20," 2/17/2020
 SV3-1133-ERW-1003533, Att. D, "Cable Tray SV3-1133-ER-BXT01AB, BXT02AA, BXT02AB, BZT01A, BZT01B, DXT01AA, DXT01AB, DXT02AB, and DZT01A," 1/8/2021
 SV3-1153-ERW-1005987, Att. D, "Cable Tray Cover SV3-1153-ER-BZT01A, BXT01AB(AA), DZT01A, and DXT01AB(AA)," 4/16/2021
 SV3-IDSB-EWW-1055240, Att. A, "SV3-PSS-EW-PLV001ACXB/S-6X2CGS-8," 4/13/2021
 SV3-IDSD-EWW-1052606, Att. A, "SV3-PXS-EW-PLV002ABXD – S-6X5CS-500," 11/11/2020
 SV3-IDSD-EWW-1053720, Att. A, "SV3-RNS-EW-PLV001BJYD/S-6Y5C-14," 4/14/2021
 SV3-1153-ERW-1005985, "U3 Install and Label Class 1E Conduits-Containment," Version 1.0
 SV3-RCS-EWW-1037972, Att. A, "SV3-PXS-EW-PLV18AMZB/S-6Z2CS-10," 10/27/2020
 SV3-PXS-EWW-1087794, Att. A, "SV3-PXS-EW-100705CZA/S-6Z1TWSTR-16," 4/5/2021
 SV3-PXS-EWW-1039653, Att. A, "Partial Install Cable SV3-PXS-EW-PLV101BXA," 7/31/2020

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50093780, "Incorrect Reference in APP-G1-E1-003"
50092521, "Cable Tie Wraps used for Cable Management"
50093517, "Inadequate Justification for E&DCR APP-G1-GEF-850157"

Section 1A04

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ND-AD-002, "Nuclear Development, Corrective Action Program," Version 31.0
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APP-G1-V8-001, "AP1000 Electrical Installation Specification," Revision 9
SV3-ECS-E3-001, "Vogtle Electrical Generating Plant AC Power System – One Line Diagram,"
Revision 5
APP-ECS-E9-014, "Cable Tray Notes and Details Sheet 5," Revision 5
APP-ECS-E9-063, "Cable Tray notes and Details, Sheet 12," Revision 2
APP-ECS-E9-066, "Cable Tray notes and Details, Sheet 14," Revision 0
APP-G1-E1-003, "Raceway Design Criteria," Revision 4
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SV3-1133-ERW-1130667, Att. D, "Cable Tray Cover SV3-1133-ER-BXT02AB(AA), BZT01A,
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SV3-1133-ERW-1003533, Att. D, "Cable Tray SV3-1133-ER-BXT01AB, BXT02AA, BXT02AB,
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SV3-IDSD-EWW-1052606, Att. A, "SV3-PXS-EW-PLV002ABXD – S-6X5CS-500," 11/11/2020
SV3-IDSD-EWW-1053720, Att. A, "SV3-RNS-EW-PLV001BJYD/S-6Y5C-14," 4/14/2021
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SV3-RCS-EWW-1037972, Att. A, "SV3-PXS-EW-PLV18AMZB/S-6Z2CS-10," 10/27/2020
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SV3-PXS-EWW-1039653, Att. A, "Partial Install Cable SV3-PXS-EW-PLV101BXA," 7/31/2020
SV3-PXS-EWW-1039647, Att. A, "SV3-PXS-EW-PLV101JYA/S-6Y5C-14," 11/6/2020
50093780, "Incorrect Reference in APP-G1-E1-003"
50092521, "Cable Tie Wraps used for Cable Management"
50093517, "Inadequate Justification for E&DCR APP-G1-GEF-850157"

Section 1A05

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 APP-ECS-E9-063, "Cable Tray notes and Details, Sheet 12," Revision 2
 APP-ECS-E9-066, "Cable Tray notes and Details, Sheet 14," Revision 0
 APP-G1-E1-003, "Raceway Design Criteria," Revision 4
 APP-G1-GEF-850157, "Cable Management Ties in containment Tray (ESR 50053097),"
 Revision 0
 APP-ECS-GEF-850904, "Raceway and Cable Separation Details (ESR 50075583)," Revision 0
 SNC Inductance Justification, 5/17/2021
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 SV3-1143-ERW-1005986, Att. D, "Cable Tray Cover SV3-1143-ER-BZT01A, BXT01AB(AA),
 DZT01A, and DXT01AB(AA)," 4/16/2021
 SV3-1133-ERW-1130667, Att. D, "Cable Tray Cover SV3-1133-ER-BXT02AB(AA), BZT01A,
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 SV3-1133-ERW-1003534, Att. D, "SV3-1130-ER-DZC05, DZC06, DZC20," 2/17/2020
 SV3-1133-ERW-1003533, Att. D, "Cable Tray SV3-1133-ER-BXT01AB, BXT02AA, BXT02AB,
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 SV3-1153-ERW-1005987, Att. D, "Cable Tray Cover SV3-1153-ER-BZT01A, BXT01AB(AA),
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 SV3-IDSB-EWW-1055240, Att. A, "SV3-PSS-EW-PLV001ACXB/S-6X2CGS-8," 4/13/2021
 SV3-IDSD-EWW-1052606, Att. A, "SV3-PXS-EW-PLV002ABXD – S-6X5CS-500," 11/11/2020
 SV3-IDSD-EWW-1053720, Att. A, "SV3-RNS-EW-PLV001BJYD/S-6Y5C-14," 4/14/2021
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SV3-G1-E1-003, "Raceway Design Criteria," Revision 4

LIST OF ACRONYMS

°F	Degrees Fahrenheit
10 CFR	Title 10 of the Code of Federal Regulations
10 CFR 50	Title 10 of the Code of Federal Regulations Part 50
ADAMS	Agencywide Documents Access and Management System
ASME	American Society of Mechanical Engineers
AWS	American Welding Society
CAP	Corrective Action Program
CAR	Corrective Action Report
CMT	Core Makeup Tank
CMTR	Certified Material Test Report
CNS	Containment System
COL	Combined License
CR	Condition Report
DVI	Direct Vessel Injection
E&DCR	Engineering & Design Coordination Report
ESR	Engineering Service Request
FW	Field Weld
IEEE	Institute of Electrical and Electronic Engineers
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
IRWST	In-containment Refueling Water Storage Tank
ITAAC	Inspections, Tests, Analysis, and Inspection Criteria
ITP	Initial Test Program
LEFM	Leading Edge Flowmeter
LIV	Licensee-Identified Non-Cited Violation
N&D	Nonconformance & Disposition
NCV	Non-Cited Violation
NDE	Nondestructive Examination
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PCS	Passive Containment Cooling System
PT	Liquid Penetrant Test
PXS	Passive Core Cooling System
QA	Quality Assurance
QC	Quality Control
RCS	Reactor Coolant System
SFWC	Structural Field Welding Checklist
SNC	Southern Nuclear Operating Company
SPM	Special Process Manual
SSC	Structures, Systems, and Components

TEDEV	Thermal Expansion, Dynamic Effects, and Vibration
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
UT	Ultrasonic Test
VEGP	Vogtle Electric Generating Plant

ITAAC INSPECTED

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
90	2.2.01.01	1. The functional arrangement of the CNS and associated systems is as described in the Design Description of this Section 2.2.1.	Inspection of the as-built system will be performed.	The as-built CNS conforms with the functional arrangement as described in the Design Description of this Section 2.2.1.
185	2.2.03.08c.iv.03	8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.	iv) Inspections of the elevation of the following pipe lines will be conducted: 3. CMT discharge lines to DVI connection	iv) The maximum elevation of the top inside surface of these lines is less than the elevation of: 3. CMT bottom inside surface

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
561	C.2.5.04.04a	4. The plant calorimetric uncertainty and plant instrumentation performance is bounded by the 1% calorimetric uncertainty value assumed for the initial reactor power in the safety analysis.	Inspection will be performed of the plant operating instrumentation installed for feedwater flow measurement, its associated power calorimetric uncertainty calculation, and the calculated calorimetric values. Inspection will be performed of the plant operating instrumentation installed for feedwater flow measurement, its associated power calorimetric uncertainty calculation, and the calculated calorimetric values. Inspection will be performed of the plant operating instrumentation installed for feedwater flow measurement, its associated power calorimetric uncertainty calculation, and the calculated calorimetric values.	a) The as-built system takes input for feedwater flow measurement from a Caldon [Cameron] LEFM CheckPlus™ System; b) the power calorimetric uncertainty calculation documented for that instrumentation is based on an accepted Westinghouse methodology and the uncertainty values for that instrumentation are not lower than those for the actual installed instrumentation; and c) the calculated calorimetric power uncertainty measurement values are bounded by the 1% uncertainty value assumed for the initial reactor power in the safety analysis.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
760	3.3.00.02a.i.a	<p>2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions. 3.) Walls and floors of the nuclear island structures as defined on Table 3.3-1 except for designed openings or penetrations, provide shielding during normal operations.</p>	<p>i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads, and for radiation shielding.</p>	<p>i.a) A report exists which reconciles deviations during construction, including Table 3.3-1 wall and floor thicknesses, and concludes that the as-built containment internal structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions, and without impacting compliance with the radiation protection licensing basis.</p>

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
761	3.3.00.02a.i.b	<p>2.a) The nuclear island structures, including the critical sections listed in Table 3.3-7, are seismic Category I and are designed and constructed to withstand design basis loads as specified in the Design Description, without loss of structural integrity and the safety-related functions. 3.) Walls and floors of the nuclear island structures as defined on Table 3.3-1 except for designed openings or penetrations, provide shielding during normal operations.</p>	<p>i) An inspection of the nuclear island structures will be performed. Deviations from the design due to as-built conditions will be analyzed for the design basis loads, and for radiation shielding.</p>	<p>i.b) A report exists which reconciles deviations during construction, including Table 3.3-1 wall and floor thicknesses, and concludes that the as-built shield building structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions, and without impacting compliance with the radiation protection licensing basis.</p>
789	3.3.00.07aa	<p>7.a) Class 1E electrical cables, communication cables associated with only one division, and raceways that route the Class 1E electrical cables and the communication cables are identified according to applicable color-coded Class 1E divisions.</p>	<p>Inspections of the as-built Class 1E cables and the as-built raceways that route the Class 1E cables will be conducted.</p>	<p>a) Class 1E electrical cables, and communication cables associated with only one division, and the raceways that route these cables inside containment are identified by the appropriate color code.</p>

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
792	3.3.00.07ba	7.b) Class 1E divisional electrical cables and communication cables associated with only one division are routed in their respective divisional raceways.	Inspections of the as-built Class 1E divisional cables and the as-built raceways that route the Class 1E cables will be conducted.	a) Class 1E electrical cables and communication cables inside containment associated with only one division are routed in raceways assigned to the same division. There are no other safety division electrical cables in a raceway assigned to a different division.

800	3.3.00.07d.ii.a	7.d) Physical separation is maintained between Class 1E divisions and between Class 1E divisions and non-Class 1E cables.	Inspections of the as-built raceways that route Class 1E cables will be performed to confirm that the separation between raceways that route Class 1E cables of different divisions, and between raceways that route Class 1E cables and raceways that route non-Class 1E cables is consistent with the following: ii.a) Within other plant areas (hazard areas), the minimum separation is defined by one of the following: 1) The minimum vertical separation is 5 feet and the minimum horizontal separation is 3 feet. 2) The minimum vertical separation is 12 inches and the minimum horizontal separation is 6 inches for raceways containing only instrumentation and control and low-voltage power cables ≤2/0 AWG. This minimum vertical separation is 3 inches for the configuration with a conduit above and crossing the open tray at an angle equal to or greater than 45 degrees. 3) The minimum vertical separation is 12 inches and the minimum horizontal separation is 6 inches between a conduit	Results of the inspection will confirm that the separation between raceways that route Class 1E cables of different divisions, and between raceways that route Class 1E cables and raceways that route non-Class 1E cables is consistent with the following: ii.a) Within other plant areas inside containment (hazard areas), the separation meets one of the following: 1) The vertical separation is 5 feet or more and the horizontal separation is 3 feet or more. 2) The minimum vertical separation is 12 inches and the minimum horizontal separation is 6 inches for raceways containing only instrumentation and control and low-voltage power cables ≤2/0 AWG. This minimum vertical separation may be reduced to 3 inches for the configuration with a conduit above and crossing the open tray at an angle equal to or greater than 45 degrees. 3) The minimum vertical separation is 12 inches and the minimum horizontal separation is 6 inches between a conduit and an open
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			<p>and an open configuration for low-voltage power cables greater than 2/0 AWG but not greater than 750 kcmil. The vertical separation is 3 inches if a conduit is above and crossing an open tray at an angle equal to or greater than 45 degrees. 4) For configurations that involve exclusively limited energy content cables (instrumentation and control), the minimum vertical separation is 1 inch and the minimum horizontal separation is 1 inch. 5) For configurations involving an enclosed raceway and an open raceway with low-voltage power cables, the minimum vertical separation is 1 inch if the enclosed raceway is below the open raceway. 6) For configuration involving enclosed raceways, the minimum separation is 1 inch in both horizontal and vertical directions. 7) The minimum vertical separation is 1 inch and the minimum horizontal separation is 1 inch for configurations with a non-safety conduit and a free air safety cable with low-voltage power cables and below.</p>	<p>configuration for low-voltage power cables greater than 2/0 AWG but not greater than 750 kcmil. The vertical separation may be reduced to 3 inches if a conduit is above and crossing an open tray at an angle equal to or greater than 45 degrees. 4) For configurations that involve exclusively limited energy content cables (instrumentation and control), the minimum vertical separation is 1 inch and the minimum horizontal separation is 1 inch. 5) For configurations that involve an enclosed raceway and an open raceway with low-voltage power cables, the minimum vertical separation is 1 inch if the enclosed raceway is below the open raceway. 6) For configurations that involve enclosed raceways, the minimum vertical and horizontal separation is 1 inch. 7) The minimum vertical separation is 1 inch and the minimum horizontal separation is 1 inch for configurations with a non-safety conduit and a free air safety cable with low-voltage power cables and below.</p>
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