



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

November 10, 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 05200025/2021006, 05200026/2021006**

On September 30, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at the Vogtle Electric Generating Plant (VEGP), Units 3 and 4. On October 18, 2021, the NRC inspectors discussed the results of this inspection with Mr. G. Chick, VEGP Units 3 and 4 Executive Vice President, and other licensee and contractor 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 NRC inspectors documented one finding of very low safety significance (Green). The finding involved a violation of NRC requirements. The NRC is treating this violation as a noncited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, 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.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; 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 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding." Should you have any questions concerning this letter, please contact us.

Sincerely,

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) 05200025/2021006, 05200026/2021006
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
Site Regulatory Affairs Director
Vogtle Units 3 & 4
7825 River. Road, Building 302 (ESB)
Bin 6031
Waynesboro, GA 30830

Email

aagibson@southernco.com (Amanda Gibson)
acchambe@southernco.com (Amy Chamberlian)
awc@nei.org (Anne W. Cottingham)
becky@georgiawand.org (Becky Rafter)
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)

sara@cleanenergy.org (Sara Barczak)
sblanton@balch.com (Stanford Blanton)
Shiva.Granmayeh@hq.doe.gov (Shiva Granmayeh)
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)
weave1dw@westinghouse.com (Doug Weaver)
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)

**U.S. NUCLEAR REGULATORY COMMISSION
Region II**

Docket Numbers: 5200025
5200026

License Numbers: NPF-91
NPF-92

Report Numbers: 05200025/2021006
05200026/2021006

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Unit 3 & 4 Combined License

Location: Waynesboro, GA

Inspection Dates: July 1 through September 30, 2021

Inspectors: A. Artayet, Senior Construction Inspector, Division of
Construction Oversight (DCO)
G. Crespo, Senior Construction Inspector, DCO
Y. Diaz-Castillo, Vendor Inspector, Office of Nuclear Reactor
Regulation (NRR)
B. Griman, Resident Inspector, DCO
A. Johnson, Reactor Operations Engineer, NRR
M. Keefe-Forsyth, Human Factors Specialist, NRR
A. Keim, Vendor Inspector, NRR
B. Kemker, Senior Resident Inspector, DCO
J. Kent, Construction Inspector, DCO
J. Lizardi-Barreto, Construction Inspector, DCO
R. Patel, Senior Construction Inspector, DCO
A. Ponko, Senior Construction Inspector, DCO
M. Riley, Senior Construction Inspector, DCO
D. Terry-Ward, Construction Inspector, DCO
J. Vasquez, Construction Inspector, DCO

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

Enclosure

SUMMARY OF FINDINGS

Inspection Report (IR) 05200025/2021006, 05200026/2021006; 07/01/2021 through 09/30/2021; Vogtle Units 3 & 4 Combined License, Integrated Inspection Report.

This report covers a three-month period of inspection by regional and resident inspectors. One Inspection, Test, Analyses, and Acceptance Criteria (ITAAC) finding of very low safety significance (Green) with an associated noncited violation (NCV) in the Construction Installation Cornerstone was identified. 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

(Green) An ITAAC finding of very low safety significance with an associated NCV of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to follow its procedural guidance for troubleshooting external leakage from the Unit 3 spent fuel pool (SFP) and fuel transfer canal (FTC), which resulted in over-pressurization of the leak chase area between the SFP and FTC stainless steel liner and the surrounding Seismic Category I structural module. The licensee failed to adhere to procedure B-GEN-ITPA-004, "Conduct of Test," Revision 24. Additionally, the procedure was not appropriate to the circumstances because it did not contain adequate guidance on when formal troubleshooting was required. The licensee entered this finding into its corrective action program as condition report 50083423. Corrective actions for this issue included repairs to the SFP and FTC liner, the leak chase, and the surrounding structural module to return them into conformance with the design.

The performance deficiency was of more than minor safety significance, and thus a finding, because it represented an adverse condition that rendered the quality of a structure (i.e., the SFP, FTC, and surrounding structural module) unacceptable and required substantive corrective action. The performance deficiency was also material to the acceptance criteria of ITAAC 3.3.00.02a.i.d (763) and prevented the licensee from meeting an ITAAC Design Commitment. The inspectors determined this finding was a performance deficiency of very low safety significance (Green) because there was reasonable assurance the structure or the applicable portions of the structure would have been able to meet its design function. The inspectors determined the finding was indicative of present licensee performance and was associated with the cross-cutting aspect Challenge the Unknown, in the area of Human Performance. The licensee did not have a complete understanding of how to properly execute the set of steps in the procedure and clarification was not sought before proceeding. [H11] (Section 1A08)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Construction Status

Unit 3: The licensee completed the majority of civil and mechanical construction and was finalizing the as-built design for the nuclear island. The licensee completed hot functional testing on July 28, 2021. In the containment and auxiliary buildings, the licensee continued installation and rework of electrical raceways, conduits, and cables (safety and nonsafety-related).

Unit 4: The licensee was finishing the construction of the passive containment cooling water system 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 nonsafety-related).

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 2.1.02.02a (13) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.02a (13). The inspectors used the following NRC Inspection Procedure (IP)/sections to perform this inspection:

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

The inspectors reviewed the Stone & Webster (S&W) weld data sheets, weld maps, digital pressure gauge calibration records, and hydrostatic pressure test records for replacing two resistance temperature detector thermowells in the Unit 3 RCS hot leg L001A and cold leg L002C using fillet welds to verify these activities were performed in accordance with the applicable requirements of the 1998 Edition including 2000 addenda of the American Society of Mechanical Engineers (ASME) Code Section III, Subsection NB for Class 1 components.

The inspectors reviewed two S&W weld data sheets (WDSs) and quality inspection plan to verify established hold points were signed-off and dated by quality control (QC) inspectors, liquid penetrant examiners, and the authorized nuclear inspector (ANI) for internal cleanliness, removal areas, fit-up, first weld pass, and final visual and liquid

penetrant examinations in accordance with NCA-4134.10. The inspectors reviewed both WDS entries to determine whether the traceability of stainless steel weld filler metals and welders were maintained in accordance with the applicable code provisions of NB-4122 and NB-4300.

The inspectors reviewed two Lincoln Electric certified material test reports (CMTRs) for heat numbers 1243W and 1181L of 3/32-inch and 1/8-inch diameters, respectively, for use of the gas tungsten arc welding (GTAW) process to determine whether the actual chemical compositions and mechanical properties were in accordance with the requirements of ASME Code Section II – Part C, SFA-5.9 material specification for bare stainless steel welding rods with American Welding Society (AWS) dual classifications ER316/ER316L and ASME Code Section III, Subarticle NB-2400 for welding material.

The inspectors reviewed four S&W welder performance qualification records to determine whether the essential variables for the GTAW process using manual welding techniques were in accordance with the requirements of ASME Code Section IX, Article III for welding performance qualifications, and ASME Code Section III, Subarticle NB-4300 for welding qualifications to use the S&W GTAW procedure WPS1-8.8T01.

The inspectors reviewed eight MISTRAS liquid penetration examination reports to determine whether acceptance by four different SNT-TC-1A Level II examiners were performed with no rejectable indications in accordance with the requirements of the MISTRAS procedure 100-PT-301 and ASME Code Section III, Article NB-5000, and Section V, Article 6.

The inspectors reviewed the S&W pressure test prerequisite checklist and data sheet SV3-RCS-TH-H8015A for ASME Code Section III construction hydrostatic testing of RCS lines SV3-RCS-PL-L001A and -L002C in work package SV3-RCS-THW-1141623 to determine whether the following test attributes were signed-off by QC inspectors and testing was in conformance with the following requirements of ASME Code Section III, Article NB-6000:

- water quality, and test start and finish temperatures were above the nil-ductility transition temperature;
- two calibrated digital pressure gauges were installed before the test;
- manually operated relief valve V-SRV-0006 of the required set pressure and capacity was used to prevent system overpressure; and
- hydrostatic test pressure was maintained for a minimum of 10 minutes before initiating visual inspection, at a lower pressure, for leakage of both thermowell fillet welds.

The inspectors reviewed the S&W pressure test data sheet SV3-RCS-TH-H8015A with supporting documents to verify both digital test gauges were calibrated, and the hydrostatic pressure test was witnessed by a QC inspector and the ANI, in order to verify if the pressure test settings and results conformed to the requirements of the ASME Code Section III, NB-6100, NB-6200, NB-6400, and NCA-5280.

b. Findings

No findings were identified.

1A02 (Unit 3) ITAAC Number 2.1.02.02a (13) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.02a (13). The inspectors used the following NRC IP/section to perform this inspection:

- 65001.04-02.01 - General Installation

The inspectors reviewed documents associated with S&W work packages SV3-RCS-PHW-1127893 and -1127894 to determine if the final torque checks of five piping supports of the automatic depressurization system after hot functional testing of the RCS were performed in accordance with the requirements of the 1998 Edition including 2000 Addenda of ASME Code Section III, Subsections NB for Class 1 components and NF Supports.

The inspectors reviewed the S&W pipe support installation data sheets for dynamic support struts RCS-PH-11R0021, -11R0044, -11R2110, -11R0107, and -11R0393 to verify QC inspector hold points were identified, identification/markings were observable and material traceability existed for the locking pipe clamp supports (including bolts and nuts). The inspectors also verified the final applied torque values were within tolerances; and as-left dimensions, and calibration of traceable torquing tools were deemed satisfactory and signed-off by QC inspectors in accordance with the requirements of the ASME Code Section III, Article NCA-3000.

b. Findings

No findings were identified.

1A03 (Unit 3) ITAAC Number 2.2.03.08c.vii (192) / Family 06A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.vii (192). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06 - Inspection of ITAAC-Related Installation of Mechanical Components
- 65001.06-02.01 - General Installation
- 65001.A- As-Built Attributes for SSCs associated with ITAAC

The inspectors performed an inspection to verify the protective plate located above the Unit 3 containment recirculation screen was no more than 1-foot and 3-inches (") above the top of the face of the screens and extends at least 8'-3" perpendicular to the

front and at least seven feet to the side of the face of the screen as specified in Table 2.2.3-4 of Appendix C of the Vogtle Unit 3 combined license (COL).

The inspectors performed a walkdown of the Unit 3 containment recirculation screens with the licensee and performed an independent assessment to verify the protective plate was installed consistent with the installation drawings. The inspectors observed the licensee perform field measurements of the protective plate with respect to the screens and took independent measurements to validate the licensee's determination of the minimum dimensions was in accordance with ITAAC. The inspectors also reviewed quality records including the principal closure document (PCD), licensee field measurement results, and design and as-built drawings to verify the ITAAC.

b. Findings

No findings were identified.

1A04 (Unit 3) ITAAC Number 2.2.03.08c.viii (193) / Family 06A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.viii (193). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06 - Inspection of ITAAC-Related Installation of Mechanical Components
- 65001.06-02.01 - General Installation
- 65001.A- As-Built Attributes for SSCs associated with ITAAC

The inspectors performed an inspection of the three Unit 3 in-containment refueling water storage tank (IRWST) screens and the containment recirculation screen to verify the surface areas and number of pockets in the screens were in accordance with the ITAAC.

The inspectors reviewed quality records including PCDs, licensee field measurement results, licensee and vendor calculations, and as-built drawings to verify the following as specified in Table 2.2.3-4 of Appendix C to the Vogtle Unit 3 COL:

- the screens utilize pockets with a frontal face area of greater than or equal to (\geq) 6.2 square inches (inches²) and a screen surface area \geq 140 inches² per pocket;
- IRWST Screens A and B each have a sufficient number of pockets to provide a frontal face area \geq 25 square feet (feet²), a screen surface area \geq 575 feet², and a screen mesh size of \leq 0.0625 inch;
- IRWST Screen C has a sufficient number of pockets to provide a frontal face area \geq 50 feet², a screen surface area \geq 1150 feet², and a screen mesh size less than or equal to (\leq) 0.0625 inch; and
- each containment recirculation screen has a sufficient number of pockets to provide a frontal face area \geq 105 feet², a screen surface area \geq 2500 feet², and a screen mesh size \leq 0.0625 inch.

The inspectors observed the licensee perform field measurements and took independent measurements of the screen pockets and counted the number of pockets used in each screen to validate the licensee's determination of the screens' dimensions in accordance with Table 2.2.3-4 of Appendix C to the Vogtle Unit 3 COL.

b. Findings

No findings were identified.

1A05 (Unit 3) ITAAC Number 2.2.03.08c.viii (193) / Family 06A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.viii (193). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.06 - Inspection of ITAAC-Related Installation of Mechanical Components
- 65001.06-02.01 - General Installation
- 65001.A- As-Built Attributes for SSCs associated with ITAAC

The inspectors performed an inspection of the three Unit 3 IRWST screens and the debris curb in front of the containment recirculation screen to verify the height of the IRWST screens and the debris curb were in accordance with the ITAAC.

The inspectors reviewed quality records including the PCD, licensee field survey and measurement results, and as-built drawings to verify the bottom of the IRWST screens were located \geq six inches above the bottom of the IRWST and that a debris curb exists in front of the containment recirculation screens which is \geq two feet above the loop compartment floor as specified in Table 2.2.3-4 of Appendix C to the Vogtle Unit 3 COL. The inspectors observed the licensee perform field measurements and took independent measurements to verify the licensee's determination of the minimum dimensions in accordance with Table 2.2.3-4 of Appendix C to the Vogtle Unit 3 COL.

b. Findings

No findings were identified.

1A06 (Unit 3) ITAAC Number 2.5.01.04 (519) / Family 10F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.5.01.04 (519). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.10-02.01 - Pre-Inspection Activities
- 65001.F-02.04-General QA Review

The inspectors reviewed Southern Nuclear Operating Company (SNC) PCDs to determine if the ITAAC was met. Specifically, the inspectors reviewed associated procedures, work packages and reports stated in the ITAAC closure documents to determine if a report exists and concludes that the licensee's process defined the organizational responsibilities, activities, and configuration management controls for the following:

- a) documentation and review of hardware and any software,
- b) performance of tests and the documentation of test results during the system test phase, and
- c) performance of tests and inspections during the installation phase.

The process also defined requirements for the use of commercial off-the-shelf hardware and software.

Documentation and review of hardware and any software

The inspectors reviewed technical report APP-GW-GLR-623, "AP1000 Design Certification ITAAC 2.5.01.04: Diverse Actuation System [DAS] Design Process Technical Report," Revision 0, to verify if a process existed and defined the organizational responsibilities, activities and configuration management controls for the documentation and review of hardware and any software. Specifically, Section 2.1 outlines the processes for this ITAAC and Section 2.2 provides the licensee's conclusions that this acceptance criteria had been met by the inspection described in this document.

Performance of tests and the documentation of test results during the system test phase

The inspectors reviewed technical report APP-GW-GLR-623 to verify if a process existed and defined the organizational responsibilities, activities and configuration management controls for the documentation and review of the performance of tests and the documentation of test results during the system test phase. Specifically, Section 3.1 outlines the processes for this ITAAC and Section 3.2 provides the licensee's conclusions that this acceptance criteria has been met by the inspection described in this document.

Performance of tests and inspections during the installation phase

The inspectors reviewed ITAAC Technical Report SV3-DAS-ITR-800519, "Diverse Actuation System Design Process Summary Report: Installation Phase," Revision 0, to verify it documented the results of the inspection of the organizational responsibilities, activities, and configuration management controls for the performance of tests and inspections during the installation phase.

The inspectors reviewed SV3-DAS-ITR-800519 to determine if the process for installation of the DAS hardware and software was in accordance with the acceptance criteria of this ITAAC. The inspectors verified the DAS hardware equipment installation was completed under work package SV3-DAS-JDW-1083891, Revision 0. The inspectors also verified if procedure 26139-000-4MP-T81C-N3301, "Electrical Equipment Installation," Revision 5, was used to define the organizational

responsibilities, activities, and configuration management controls for the inspections during the hardware installation phase.

The inspectors reviewed SV3-DAS-ITR-800519 to determine if the organizational responsibilities, activities, and configuration management controls for the performance of tests and inspections during the DAS post installation phase were defined and would be implemented in accordance with procedure B-GEN-ITPCI-002, "Diverse Actuation System (DAS) Cabinets," Version 3.0.

The inspectors verified the DAS software was installed on the cabinets prior to the licensee receiving them onsite. The inspectors also verified that the licensee performed a software upgrade to Version 1.11 using Field Change Notice SV3-GW-GCW-0125, "AP1000 Vogtle Unit 3 Diverse Actuation System (DAS) ASU PC Update and Application Ver 1.11 Installation," Revision 0. The inspectors reviewed SV3-DAS-ITR-800519 to determine if a process existed and defined the organizational responsibilities, activities, and configuration management controls for the performance of tests and inspections during the DAS software upgrade; and were implemented in accordance with the requirements of SV3-GW-GCW-0125.

The inspectors reviewed ITAAC Technical Report SV3-DAS-ITR-800519 and verified the report concluded that organizational responsibilities, activities, and configuration management controls had been adequately defined for the performance of tests and inspections during the installation phase in accordance with the acceptance criteria of this ITAAC.

The process also defines requirements for the use of commercial off-the-shelf hardware and software

The inspectors reviewed APP-GW-GLR-623 to determine if the process controls were in place for the organizational responsibilities, activities and configuration management controls for the documentation and review of the performance of tests and the documentation of the use of commercial off-the-shelf hardware and software. Specifically, Section 1.3 states that the Design Process as documented in APP-DAS-GEH-001 is applicable to commercial off-the-shelf hardware and software.

b. Findings

No findings were identified.

1A07 (Unit 3) ITAAC Number 3.3.00.02a.i.c (762) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.c (762). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01 - Inspection of ITAAC-Related Foundations & Buildings
- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.02-02.07 - Problem Identification and Resolution

- 65001.A- As-Built Attributes for SSCs associated with ITAAC
- 65001.A.02.04 - Review As-built Deviations/Nonconformance
- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements

The inspectors reviewed those portions of the nuclear island basemat and auxiliary building as-built summary reports applicable to the non-radiologically controlled area of the auxiliary building to verify the reports adequately document that the acceptance criteria of ITAAC 3.3.00.02a.i.c were met. Specifically, the inspectors reviewed the reports to verify they reconciled deviations during construction, including Table 3.3-1 wall and floor thicknesses; concluded that the as-built non-radiologically controlled area of the auxiliary building and supporting basemat, including the critical sections; conformed to the approved design; and would 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.

The inspectors verified the as-built summary reports addressed deviations to the standard plant issued after the effective date of the as-designed summary reports as well as, unit-specific deviations.

The inspectors reviewed Tables 3-2, 3-3, 3-4, and 3-5 of the auxiliary building as-built summary report to verify margin existed in the structural components and connections after reconciliation of deviations to the standard plant design issued after the effective date of the as-designed summary report, site specific nonconformance and disposition reports, and engineering & design coordination report (E&DCRs).

Additionally, the inspectors reviewed Table 4-2 of the auxiliary building as-built summary report to determine if the as-built construction met the concrete wall thicknesses and radiation shielding requirements of Units 3 and 4 Updated Final Safety Analysis Report (UFSAR) Table 3.3-1 and any localized deviations from Table 3.3.-1 were appropriately evaluated and reconciled to the approved design.

b. Findings

No findings were identified.

1A08 (Unit 3) ITAAC Number 3.3.00.02a.i.d (763) / Family 01F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.02a.i.d (763). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.01-02.07 - Identification and Resolution of Problem
- 65001.A.02.04 - Review As-built Deviations/Nonconformance
- 65001.B-02.05-Inspection

The inspectors observed preliminary spent fuel pool (SFP) and fuel transfer canal (FTC) weld repairs that were identified with the use of phased-array ultrasonic (PAUT)

examinations on the perimeter weld joint that joins the floor to the four walls. The inspector observed the welding and PAUT of a mock-up to install a 9.5' long by 0.5" thick duplex stainless steel reinforcing plug plate that was subsequently welded on the bottom south-east corner of the SFP. The inspectors verified that GTAW of the single-bevel T-joint, welder qualifications, and PAUT examinations were in accordance with the AWS D1.6:1999 structural welding code.

The inspectors reviewed corrective action program (CAP) documents associated with leakage from the SFP and FTC to determine if the problem was correctly identified and addressed in the licensee's CAP. Specifically, the inspectors reviewed condition reports (CRs) to verify the licensee adequately characterized the damage to the CA20 structural module. The inspectors reviewed the causal analysis to determine if the cause of damage to the SFP and FTC was correctly characterized and if the corrective actions, including an evaluation of the extent of the condition, were commensurate with the safety significance of the problem. Finally, the inspectors reviewed the causal analysis to determine if the human performance aspects of the issue were adequately identified in accordance with the licensee's CAP.

b. Findings

Introduction

An ITAAC finding of very low safety significance (Green) with an associated noncited violation (NCV) of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the licensee's failure to follow its procedural guidance for troubleshooting external leakage from the Unit 3 SFP and FTC, which resulted in over-pressurization of the leak chase area between the SFP and FTC stainless steel liner and the surrounding Seismic Category I structural module. The licensee failed to adhere to procedure B-GEN-ITPA-004, "Conduct of Test," Revision 24. Additionally, the procedure was not appropriate to the circumstances because it did not contain adequate guidance on when formal troubleshooting was required.

Description

On March 16, 2021, the licensee observed approximately 2.1 gallons per minute (gpm) leakage from the Unit 3 SFP and FTC leak chases. On March 17, while investigating the location and cause of the SFP and FTC leakage, the licensee created and implemented a temporary instruction using B-GEN-ITPA-004-F19, "Test Support Operating Steps (TSOS)," Revision 1.0, to pressurize the leak chase area between the SFP, FTC stainless steel liner and Seismic Category I re-enforced concrete structural module CA20 in attempt to identify possible SFP and FTC leakage. The pressurization resulted in increased leakage to 6 gpm and damaged the SFP and FTC floor liner plates, CA20 structural module wall plates, and associated leak chases. The leak chase system between the SFP and FTC liner and the structural module was not designed to be pressurized. The licensee entered this issue into its CAP as CR 50083423.

The inspectors reviewed B-GEN-ITPA-004 and noted step 4.2.18.a(5)(a) stated, in part, "the purpose of the equipment operation is to support meeting the conditions specified for testing" and step 4.2.18.a(5)(b) stated, in part, "the equipment operation

should be simple in nature.” The inspectors further noted step 4.2.21 stated “[d]evelopment and implementation of troubleshooting activities for component and preoperational tests is to be conducted in accordance with B-GEN-ITPA-013, ‘Initial Test Program Troubleshooting.’” The licensee determined that the test engineer failed to adhere to step 4.2.18.a(5) of B-GEN-ITPA-004 because (1) the conditions specified in the TSOS were not met by introducing air into the system, and (2) the leakage investigation activity was not a simple but rather a complex troubleshooting activity, which should have been performed in accordance with procedure B-GEN-ITPA-013. The licensee also determined in its causal evaluation that B-GEN-ITPA-004 lacked adequate guidance to transition into complex troubleshooting activities using B-GEN-ITPA-013, and the leakage investigation instruction should have been approved by the Design Authority.

Analysis

The licensee's failure to follow its procedural guidance for troubleshooting external leakage from the Unit 3 SFP and FTC, which resulted in over-pressurization of the leak chase area between the SFP and FTC stainless steel liner and the surrounding Seismic Category I structural module, was a performance deficiency. The inspectors determined the licensee failed to perform activities that affected quality in accordance with 10 CFR Part 50, Appendix B, Criterion V, when the licensee failed to adhere to procedure steps in B-GEN-ITPA-004, and failed to perform complex troubleshooting in accordance with B-GEN-ITPA-013. Instead, the licensee used a less rigorous TSOS temporary instruction B-GEN-ITPA-004 without satisfying the criteria specified in Section 4.2.18.a(5) of B-GEN-ITPA-004. Additionally, B-GEN-ITPA-004 was not appropriate to the circumstances because it did not contain adequate guidance on when formal troubleshooting (B-GEN-ITPA-013) was required. Per the guidance in IMC 0613, “Power Reactor Construction Inspection Reports,” Appendix B, “Issue Screening,” dated November 4, 2020, the inspectors determined traditional enforcement or enforcement discretion would not apply to this performance deficiency. Per further guidance in IMC 0613, Appendix E, “Examples of Minor Construction Issues,” the inspectors determined this performance deficiency was of more than minor safety significance, and thus a finding, because it represented an adverse condition that rendered the quality of a structure (i.e., the SFP and FTC and surrounding structural module) unacceptable and required substantive corrective action. The performance deficiency was also material to the acceptance criteria of an ITAAC and prevented the licensee from meeting an ITAAC Design Commitment. The pressurization of the SFP liner resulted in damage to the steel faceplates of the structural wall module (CA20) at the South and North ends of the SFP. As a result, the performance deficiency was material to the acceptance criteria of ITAAC 3.3.00.02a.i.d (763) in that the damage to the steel faceplates of the structural wall module constitutes construction deviations from the approved design that must be reconciled to conclude the as-built structure satisfies the design commitment of the ITAAC.

The inspectors determined this finding was related to the Inspection/Testing attribute of the Construction Reactor Safety Cornerstone. This finding was not associated with a security program; it was not associated with an IMC 2504 operational/construction program; and it was not associated with a repetitive, NRC-identified omission of a program critical attribute. In accordance with IMC 2519, “Construction Significance Determination Process,” Appendix A, “AP1000 Construction Significance

Determination Process," dated October 26, 2020, the inspectors determined this finding was a performance deficiency of very low safety significance (Green) because it was associated with a structural section listed in Table 3.3-7 of Appendix C of the COL, which is assigned to the high risk importance column of the AP1000 Significance Determination Matrix; and it was in construction quality row one because there was reasonable assurance the structure or the applicable portions of the structure would have been able to meet its design function.

The inspectors determined the finding was indicative of present licensee performance and was associated with the cross-cutting aspect of Challenge the Unknown in the area of Human Performance, in accordance with IMC 0613, Appendix F, "Construction Cross-Cutting Areas and Aspects," dated November 4, 2020. The proximate cause of the finding was not having a complete understanding of how to properly execute the set of steps in procedure B-GEN-ITPA-004 and clarification was not sought before proceeding. [H.11]

Enforcement

10 CFR Part 50, Appendix B, Criterion V requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, on March 17, 2021, the licensee failed to follow procedure B-GEN-ITPA-004 when troubleshooting Unit 3 SFP and FTC leakage. Specifically, the licensee used B-GEN-ITPA-004-F19 to perform leakage investigation activities on Unit 3 SFP and FTC without meeting the criteria specified in section 4.2.18.a(5) of B-GEN-ITPA-004. Additionally, B-GEN-ITPA-004 was not appropriate to the circumstances because it did not contain adequate guidance when formal troubleshooting in accordance with procedure B-GEN-ITPA-013 was required. Because this violation was not repetitive or willful, was of very low safety significance, and was entered into the licensee's CAP, this violation is being treated as an NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy (**NCV 05200025/2021006-01, Failure to Follow Procedure B-GEN-ITPA-004**). The licensee entered this finding into its CAP for evaluation and identification of appropriate corrective actions as CR 50083423. Corrective actions for this issue included repairs to the SFP/FTC liner, the leak chase, and the surrounding structural module to return them into conformance with the design. Additional corrective actions included a procedure revision of B-GEN-ITPA-004 to add TSOS approval criteria that includes a safety class evaluation, review and approval by operations, review and approval by the Design Authority, and criteria to define when a TSOS is discontinued, and troubleshooting is entered. This NCV is open pending an NRC review to verify corrective actions have been implemented such that the deficiency can no longer prevent the ITAAC from being closed.

1A09 (Unit 3) ITAAC Number 3.3.00.07ab (790) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07ab (790). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.09-02.03 - Documentation
- 65001.09-02.04 - Problem Identification and Resolution
- 65001.A.02.02 - Installation Records Review

The inspectors performed a direct inspection of raceways inside the non-radiation portion of the auxiliary building. The rooms inspected included the division 'A' and 'C' battery rooms, as well as the spare battery room. The inspectors conducted walkdowns of the raceways inside the rooms to verify 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. During the walkdown, the inspectors also verified the raceways and cables were identified by the appropriate color code and that the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and quality control inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors also reviewed cable tray installations to verify cable fill design requirements.

For the raceways installed in these rooms, the inspectors verified the size, material, and style were as specified in design documents and work procedures. Inspectors verified that raceway supports were located at points specified in approved instructions and that maximum distance between supports were not exceeded. Inspectors also verified that fittings and clamps were installed according to work procedures. Inspectors reviewed the licensee's corrective actions to verify issues were properly identified, evaluated, and corrected.

b. Findings

No findings were identified.

1A10 (Unit 3) ITAAC Number 3.3.00.07bb (793) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07bb (793). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.09-02.03 - Documentation
- 65001.09-02.04 - Problem Identification and Resolution

The inspectors performed a direct inspection of raceways inside the non-radiation portion of the auxiliary building. The rooms inspected included the division 'A' and 'C' battery rooms, as well as the spare battery room. The inspectors conducted walkdowns of the raceways inside the rooms to verify 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. During the walkdown,

the inspectors also verified the raceways and cables were identified by the appropriate color code and that the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and quality control inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors also reviewed cable tray installations to verify cable fill design requirements.

For the raceways installed in these rooms, the inspectors verified the size, material, and style were as specified in design documents and work procedures. Inspectors verified that raceway supports were located at points specified in approved instructions and that maximum distance between supports were not exceeded. Inspectors also verified that fittings and clamps were installed according to work procedures. Inspectors reviewed the licensee's corrective actions to verify issues were properly identified, evaluated, and corrected.

b. Findings

No findings were identified.

1A11 (Unit 3) ITAAC Number 3.3.00.07d.i (799) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07d.i (799). The inspectors used the following NRC IP/sections to perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.A.02.01 - Observation of in-Process Installation Activities
- 65001.A.02.02 - Installation Records Review

The inspectors performed a direct inspection of raceways inside the main control room (MCR). The inspectors conducted walkdowns of the raceways inside the MCR to verify 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. During the walkdown, the inspectors also verified the raceways and cables were identified by the appropriate color code and that the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and quality control inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors also reviewed cable tray installations to verify cable fill design requirements.

For the raceways in the MCR, the inspectors verified the size, material, and style were as specified in design documents and work procedures. Inspectors verified that raceway supports were located at points specified in approved instructions and that maximum distance between supports were not exceeded. Inspectors also verified that fittings and clamps were installed according to work procedures. Inspectors reviewed

the licensee's corrective actions to verify issues were properly identified, evaluated, and corrected.

b. Findings

No findings were identified.

1A12 (Unit 3) ITAAC Number 3.3.00.07d.ii.b (801) / Family 09A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 3.3.00.07d.ii.b (801). The inspectors used the following NRC IP/sections to perform this inspection:

- 65001.09-02.01 - Physical Separation of Cables
- 65001.09-02.03 - Documentation
- 65001.09-02.04 - Problem Identification and Resolution

The inspectors performed a direct inspection of raceways inside the non-radiation portion of the auxiliary building. The rooms inspected included the division 'A' and 'C' battery rooms, as well as the spare battery room. The inspectors conducted walkdowns of the raceways inside the rooms to verify 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. During the walkdown, the inspectors also verified the raceways and cables were identified by the appropriate color code and that the division cables were routed in their respective raceways. The inspectors reviewed construction specifications, installation procedures, written instructions, drawings, work packages, and quality control inspection reports to verify the Class 1E raceways were installed and designed in accordance with installation requirements. The inspectors also reviewed cable tray installations to verify cable fill design requirements.

For the raceways installed in these rooms, the inspectors verified the size, material, and style were as specified in design documents and work procedures. Inspectors verified that raceway supports were located at points specified in approved instructions and that maximum distance between supports were not exceeded. Inspectors also verified that fittings and clamps were installed according to work procedures. Inspectors reviewed the licensee's corrective actions to verify issues were properly identified, evaluated, and corrected.

b. Findings

No findings were identified.

1A13 (Unit 4) ITAAC Number 2.2.01.02a (91) / Family 06F

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.02a (91). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.11-02.03 - Installation and Welding
- 65001.11-02.05 - Nondestructive Examination
- 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 Chicago Bridge and Iron Services (CBIS) radiographic reports and X-ray films to verify the U-shaped double-welded groove butt joint for a manway plate section temporarily cut-out of the containment vessel (CV) shell to provide safe personnel egress during welding of the circumferential seam between the top head and upper ring was radiographed for final acceptance in accordance with the requirements of the ASME Code Section III, Subsection NE, for Class MC containment vessels.

The inspectors verified revision 1 of CBIS procedure CMS-830-15-45154 was recorded on both radiographic examination (RT) reports U4-319 and U4-320. In addition, the inspectors reviewed X-ray films at both intersecting upper portions of the U-shaped weld connection into the circumferential weld seam to verify the following were deemed acceptable by the CBIS NDE-RT Level II film evaluator with no relevant indications in accordance with the requirement of the ASME Code Section V, Article 2, for RT:

- film processing, identification, and markers;
- densitometer number 027945 verification log used for the film reviews;
- step wedge number 1818181 used for the film reviews with the certificate of calibration;
- required ASTM-1B-11 (0.032-inch diameter) source side wire image quality indicator locations of each film;
- film density between 1.8 to 4.0 for the area of interest (using above densitometer for each film); and
- geometric unsharpness (Ug) less than 0.020-inch for material thickness less than 2-inch.

The inspectors reviewed the nondestructive examination (NDE) certification of qualification record for the CBIS Level II NDE-RT Level II evaluator (2878491) to verify certification for RT was in accordance with the recommended guidelines of SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing," and the requirements of the ASME Code Section III, Division 1, and Section V.

b. Findings

No findings were identified.

1A14 (Unit 4) ITAAC Number 2.2.03.08c.iv.02 (184) / Family 03A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.08c.iv.02 (184). The inspectors used the following NRC IP/section to perform this inspection:

- 65001.A- As-Built Attributes for SSCs associated with ITAAC

The inspectors performed an inspection to verify the maximum elevation of the top inside surface of the Unit 4 PXS containment recirculation lines and containment to the IRWST lines was less than the elevation of the IRWST bottom inside surface to satisfy the ITAAC requirement. The inspectors reviewed quality records including the PCD and as-built drawings to verify the centerline elevation of the top inside surfaces of these lines were lower than the bottom inside surface of the IRWST as specified in Table 2.2.3-4 of Appendix C of the COL. The inspectors observed the licensee perform surveys and reviewed the licensee's field survey elevation measurements of the containment to IRWST piping and validated the licensee's calculation of the elevation difference with the bottom of the IRWST.

The inspectors previously performed inspection of a portion of the Unit 4 PXS containment recirculation lines and the IRWST and documented the results in NRC Inspection Report 05200025/2019003, 05200026/2019003. The inspectors completed inspection of the remaining containment recirculation lines (SV3-PXS-PL-L100, SV3-PXS-PL-L101, and SV3-PXS-PL-L106) and the final records review during this inspection period.

b. Findings

No findings were identified.

1A15 (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 IPs/sections to perform this inspection:

- 65001.02-02.01 - Inspection of Concrete Placement
- 65001.F- Inspection of the ITAAC-Related Design and Fabrication Requirements
- 65001.F-02.01-Design Document Review

The inspectors observed the vertical, horizontal, and transverse reinforcing bars installed in the lower 10'-0" section of the outer passive containment cooling system (PCS) tank wall in representative segments of the wall in the north, southwest, and southeast quadrants to verify the sizes, spacing, material designation, grade, lap splices, and layout of the bars were consistent with the applicable design drawings,

E&DCRs, construction specification SV4-CC01-Z0-31, and American Concrete Institute (ACI) 349-01.

The inspectors reviewed two E&DCRs to verify design changes made to the PCS tank wall and roof reinforcing steel were performed in accordance with 10 CFR Part 50 Appendix B, Criterion III, "Design Control." Specifically, that the design changes were subject to control measures commensurate with those applied to the original design and were approved by the organization that performed the original design or the designated responsible organization. The inspectors also reviewed the E&DCRs to verify the revisions to the PCS tank outer wall reinforcing steel were consistent with those approved in License Amendment Request (LAR) 16-031R.

b. Findings

No findings were identified.

1A16 (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 lower half of the PCS tank outer wall from elevation 293'-2½" to 313'-6". The inspectors reviewed the placement plan to verify preplacement planning had been completed to assure good 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 daily 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 nonsafety-related structures, systems, and components (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 quality assurance (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 10 CFR Part 50, Appendix B, Criterion XVI "Corrective Action." 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 - CAP - Assessment of Safety Conscious Work Environment

- 35007-A16 - Appendix 16. Inspection of Criterion XVI – Corrective Action

a. Inspection Scope

The inspectors conducted a review of the SNC corrective action program and Employee Concerns Program (ECP) to determine the adequacy of the Safety Conscious Work Environment (SCWE) on site. Specifically, the inspectors performed the following activities:

- Reviewed licensee CAP procedures

- Reviewed licensee ECP policy
- Reviewed licensee SCWE policy
- Interviewed licensee CAP and ECP personnel

The inspectors performed document reviews of CRs associated with SCWE concerns and related technical evaluations (TEs), work environment assessments, and planned/completed corrective actions to determine if the licensee provided adequate resolution in accordance with ECP and SCWE policy and CAP procedure ND-AD-002, “Nuclear Development Corrective Action Program,” Version 31.0.

The inspectors reviewed meeting minutes from the Nuclear Safety Culture Monitoring Panel meetings from three quarters of 2021. The inspectors determined that the meeting minutes were thorough and captured the items discussed during the panel meetings. The inspectors also determined that the licensee is using inputs from the monitoring panels to assess safety culture at the site.

The inspectors interviewed the licensee’s CAP manager to determine if any changes to the CAP will be implemented after the Unit 3 transition to commercial operations while Unit 4 is still in construction and if they will be in compliance with the requirements of the SNC Nuclear Development Quality Assurance Manual (NDQAM) Version 21.0. The inspectors determined that the Unit 3 CAP process will implement a new set of procedures that will handle both construction and operations CRs. Specifically, the Unit 3 CAP will also focus on issues related to operational areas such as security, barrier integrity, operability, and fire protection, in addition to ongoing construction activities. Unit 4 will continue to implement the CAP in accordance with procedure ND-AD-002 until after transitioning to commercial operations.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES (OA)

4OA3 Follow-up of Licensee Reports, URIs, NCVs, and VIOs

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

As discussed in NRC Inspection Report 05200025/2021003 (ML21221A034), the inspectors opened URI 05200025/2021003-01 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. During that review, the inspectors identified the licensee failed to verify maximum load exceedance for cables exiting cable tray SV3-1232-ERCXT01KB/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 the cable tray where cables exit (i.e., free-air or aerial cables) to equipment or where cables transition to another raceway. Specifically, the design of the cable tray side rail assumed, in part, that “no more than 40% of the maximum cable fill weight for solid bottom trough trays allowed by Table 2 of APP-SH25-E9-100.” The inspectors identified that this example, verification was either never

performed or documented. 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 other locations were also identified as a result of the licensee's investigation to determine the extent of the condition, as documented in corrective action quality record (CAR) 80005270.

The inspectors reviewed the corrective actions in response to this URI for the maximum load exceedance verification and evaluated new design documents and changes to the design verification methodology for the allowable loading of cables exiting on the side rails of cable trays. The inspectors verified the corrective actions and design documents for the as-installed configuration was acceptable per design requirements. Specifically, the inspectors found the verification methodology, in E&DCR APP-ECS-GEF-850910, was adequate based on the allowable percentage of fill criteria for the defined support span cases and calculations. The inspectors determined if the as-built cable tray installation was more conservative than the as-designed configuration. Consequently, the inspectors determined the failure to verify maximum loading on cable trays did not represent a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function and it did not impact an ITAAC.

Although this issue was corrected, it constitutes a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." This violation is of minor significance and is not subject to enforcement action in accordance with Section 2 of the Enforcement Policy. Based on the inspectors' review, URI 05200025/2021003-01 is closed.

b. Findings

No findings were identified.

40A6 Meetings, Including Exit

- .1 On October 18, 2021, the inspectors presented the inspection results to Mr. G. Chick, VEGP Units 3 and 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.

40A7 Licensee-Identified Noncited Violations

- .1 (Closed) Licensee-Identified Noncited Violation (LIV) 05200025/2021003-03, Unqualified Welding of Fire Extinguisher Brackets on the Unit 3 Containment Vessel

The inspectors performed a review and field inspections of the licensee's corrective actions associated with LIV 05200025/2021003-03, "Unqualified Welding of Fire Extinguisher Brackets on the Unit 3 Containment Vessel," documented in NRC Inspection Report 05200025/2021003 (ML21221A034). The inspectors reviewed the CBIS QA record package to verify the removal of six Unistrut brackets from the internal wall surfaces of the CV was performed in accordance with the requirements of the 2001 Edition, including the 2002 Addenda, of the ASME Code, Section III, Subsection NE for Class MC components and Code Case N-802 for repairs to stamped components.

The inspectors verified the reduction of remnant weld metal deposits by grinding was uniformly blended into the surrounding wall surfaces in accordance with NE-4453.3 at the following containment vessel internal locations:

- vessel shell plate B3-B6-1 at azimuth 145.03 degrees and elevation 121'-3";
- vessel shell plate B3-C2-1 at azimuth 27.66 degrees and elevation 137'-11";
and
- vessel shell plate B3-C5-1 at azimuth 140.36 degrees and elevation 138'-7".

The inspectors reviewed the tensile and Charpy V-notch impact testing results documented in the Lincoln Electric Company certified material test report for 3/32" diameter E7018 welding electrode lot number 1443Z and two CBIS specific procedure qualification records 14162 without preheat and 14163 with preheat prior to welding to verify fracture toughness properties of a trace amount of remnant weld metal deposits were in accordance with the requirements of ASME Code Section II, Part C, and Subarticle NE-2330, "Fracture Toughness Requirements for Material."

The inspectors reviewed the CBIS work process control travelers and associated spreadsheets to verify established hold points were initialed and dated by QC inspectors and the ANI in accordance with ASME Code Section III, Subsection NCA-4134.10I.

The inspectors observed dry powder magnetic particle examination, red-dye liquid penetrant examination, vacuum box bubble solution leak testing, and reviewed associated reports signed by Level II examiners and the ANI to verify activities were performed in accordance with the applicable requirements of ASME Code Section V, Articles 6 and 7, and Mandatory Appendix II, "Bubble Test Vacuum Box Technique." The inspectors reviewed the ultrasonic digital thickness report for measurements taken at completion of grinding weld areas to verify nominal wall thicknesses were still in compliance with the ASME Code, Section III, Article NE-2000.

The inspectors reviewed personnel qualifications with visual acuity and color contrast tests for nondestructive examinations and vacuum box testing to verify certifications were in accordance with the requirements of ASME Code Section III, Subsection NE, and SNT-TC-1A "Personnel Qualification and Certification in Nondestructive Testing."

The inspectors verified the CBIS ASME Code Data Report Form N-10A was certified by the responsible representative of CBIS and signed by the ANI in accordance with ASME Code Section III, Subsection NCA-5290, "Data Reports and Construction Reports."

The inspectors verified the Unistruts were removed in accordance with the approved Code alternative (reference ML21203A318) and thus compliance of the CV with the provisions of the ASME Code, Section III was restored, LIV 05200025/2021003-03 is no longer material to the acceptance criteria of ITAACs 2.2.01.02a (91), 2.2.01.04a.ii (96), and 2.2.01.07.i (107). Based on the inspectors' review, LIV 05200025/2021003-03 is closed.

- .2 (Closed) 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

The inspectors performed a review of the licensee's corrective actions associated with 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," documented in NRC Inspection Report 05200025/2021003 (ML21221A034). The review was to determine whether the corrective actions identified, documented, and taken by the licensee were sufficient to address the issue and to verify the acceptance criteria for the related ITAAC could be met. This violation was associated with the licensee's failure to promptly identify and correct a condition adverse to quality.

The violation represented an ITAAC finding because it was material to the acceptance criteria of ITAAC 3.3.00.02a.i.c (762), in that, if left uncorrected, the licensee may not have been able to demonstrate the acceptance criteria of the ITAAC was met. The acceptance criteria of this ITAAC requires all deviations between the as-built structures and the approved designs be reconciled to verify the as-built structures will withstand the design basis loads without a loss of structural integrity or other safety-related functions.

The inspectors reviewed SNC CR 50075502, CAR 80004896, TEs 60020554 and 60027639, PULLMAN Letter number 57863-4.1-2021-0020 and associated corrective actions taken to address this issue. Additionally, the inspectors reviewed design drawings showing the layout of the edge boxes and reinforcing steel and discussed the violation with the licensee. During these discussions, the licensee informed the inspectors that no reinforcing steel in the Seismic Category I roof of the non-radiologically controlled area of the Auxiliary Building was determined to be damaged due to installation of the post-installed anchors, based on interviews with construction personnel, and review of the CAP documentation/process and construction means in place for completion of this work.

Based on the review described above, the inspectors determined the licensee took adequate corrective actions to address the violation and the potential impacts to the ITAAC had been appropriately addressed such that the acceptance criteria of ITAAC 3.3.00.02a.i.c (762) could be met. No additional findings were identified. LIV 05200025/2021003-02 is closed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensees and Contractor Personnel

R. Beilke, SNC ITAAC Project Manager
C. Castell, WEC Licensing Engineer
N. Kellenberger, SNC Licensing Supervisor
S. Leighty, SNC Licensing Manager
N. Kasner, SNC Organizational Effectiveness Director
K. Phelps - SNC ECP Manager
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>
05200025/2021006-01	NCV	Open	Failure to Follow Procedure B-GEN-ITPA-004 (Section 1A08)
05200025/2021003-01	URI	Closed	Maximum Load Exceedance Verification for Cable Trays in Accordance with E&DCR APP-ECS-GEF-850795 (Section 4OA3)
05200025/2021003-02	LIV	Closed	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	Closed	Unqualified Welding of Fire Extinguisher Brackets on the Unit 3 Containment Vessel (Section 4OA7)

LIST OF DOCUMENTS REVIEWED

Section 1A01

WEC APP-RCS-M6-001, Piping and Instrumentation Diagram Reactor Coolant System, Revision 17

S&W Piping Installation Data Sheet SV3-RCS-JE-TW122C for Work Package SV3-RCS-P0W-1132329, Install Replacement Thermowell SV3-RCS-JE-TW122C, 02/18/2021

S&W Work Package SV3-RCS-P0W-1132329 Weld Map SV3-RCS-JE-TW122C for weld 1-C, 02/15/2021

S&W Work Package SV3-RCS-P0W-1133415 Weld Map SV3-RCS-JE-TW133A for weld 1-C, 03/06/2021

S&W Quality Inspection Plan F-S562-005, Piping - Weld Joint Inspection - ASME Code Section III Classes 1, 2 & 3, Quality Inspection Attributes, 07/15/2019

MISTRAS Procedure 100-PT-301, Liquid Penetrant Examination in Accordance with ASME Section V, Article 6, Revision 12, 04/08/2016

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0617, Fillet/Thermowell to Boss, removal area PT of SV3-RCS-JE-TW-122C-1-C for Work Package SV3-RCS-P0W-1132329, 02/17/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0619, Fillet/Thermowell to Boss, Root PT (1st fillet weld layer) of SV3-RCS-JE-TW-122C-1-C for Work Package SV3-RCS-P0W-1132329, 02/17/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0620, Fillet/Thermowell to Boss, Progressive PT of SV3-RCS-JE-TW-122C-1-C for Work Package SV3-RCS-P0W-1132329, 02/17/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0621, Fillet/Thermowell to Boss, Final PT of SV3-RCS-JE-TW-122C-1-C for Work Package SV3-RCS-P0W-1132329, 02/18/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0837, Fillet/Thermowell to Boss, removal area PT of SV3-RCS-JE-TW-133A-1-C for Work Package SV3-RCS-P0W-1133415, 03/10/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0838, Fillet/Thermowell to Boss, Root PT (1st fillet weld layer) of SV3-RCS-JE-TW-133A-1-C for Work Package SV3-RCS-P0W-1133415, 03/10/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0839, Fillet/Thermowell to Boss, Progressive PT of SV3-RCS-JE-TW-133A-1-C for Work Package SV3-RCS-P0W-1133415, 03/10/2021

MISTRAS Nondestructive Examination Report Liquid Penetrant Examination, V-21-PT-301-0840, Fillet/Thermowell to Boss, Final PT of SV3-RCS-JE-TW-133A-1-C for Work Package SV3-RCS-P0W-1133415, 03/10/2021

S&W Pressure Test Prerequisite Checklist, SV3-RCS-TH-H8015A, ASME III Hydrostatic Test of RCS Lines SV3-RCS-PL-L001A, L002C, 07/30/21

S&W Pressure Test Data Sheet, SV3-RCS-TH-H8015A, ASME III Hydrostatic Test of RCS Lines SV3-RCS-PL-L001A, L002C, 07/30/21

Bechtel and WECTEC Calibration Checklist V-CAD-0011-21 for Heise Model-No.

303089SD02L5000, digital pressure gauge 0-5000, S/N 1321606 and Control-No. V-CAD-0011 using Calibration Procedure CP-4-AD-001 (Revision 01,00), Date of Last Calibration

04/14/2021, Calibration Test Date 04/16/2021, Next Service Date Certification/Calibration 10/16/2021 using Fluke Deadweight Tester Control-No. V-STD-0182, Model-No. P3224-2, Serial-No. 74900, Calibration Date 01/06/2021 and Due Date 01/06/2022

Bechtel and WECTEC Calibration Checklist V-CAD-0010-23 for Heise Model-No.

303089SD02L5000, digital pressure gauge 0-5000, S/N 1321608 and Control-No. V-CAD-0010

using Calibration Procedure CP-4-AD-001 (Revision 01,00), Date of Last Calibration 04/17/2021, Calibration Test Date 04/27/2021, Next Service Date Certification/Calibration 10/27/2021 using Fluke Deadweight Tester Control-No. V-STD-0182, Model-No. P3224-3, Serial-No. 74900, Calibration Date 01/06/2021 and Due Date 01/06/2022 with Approved Date 04/27/2021

Section 1A02

S&W SV3-RCS-PHW-1127893 work package, ASME III - Tighten Supports SV3-RCS-PH-11R0021, -11R0044, and -11R2110 in accordance with APP-RCS-GEF-850253, 07/21/21
S&W SV3-RCS-PHW-1127894 work package, ASME III - Tighten Supports SV3-RCS-PH-11R0107 and -11R0393 in accordance with APP-RCS-GEF-850253, 07/21/21

Section 1A03

SV3-PXS-M6K-800192, "PXS ITAAC 192 Cont. Recirc. Screens ITAAC Inspections/Field Measurements," Revision 0
2.2.03.08c.vii-U3-CP, "ITAAC Completion Package," Revision 0
APP-GW-GLN-147, "AP1000 Containment Recirculation and IRWST Screen Design," Revision 3
APP-MY03-Z0-001, "Design Specification for IRWST & Containment Recirculation Screens for Passive Core Cooling System – Safety Related," Revision 6
VEGP 3&4 Updated Final Safety Analysis Report (UFSAR), Section 6.3.2.2.7, "IRWST and Containment Recirculation Screens," Revision 10.0
Westinghouse Drawing APP-MY03-V2-001 (SV3-MY03-V2-001), "Containment Recirculation Screen Envelope Drawing," Revision 0
Westinghouse Drawing APP-MY03-V2-015 (SV3-MY03-V2-015), "Containment Recirculation Screen Cartridge Envelope Drawing," Revision 0

Section 1A04

2.2.03.08c.viii-U3-CP, "ITAAC Completion Package," Revision 0
SV3-MY03-VDR-002, "ITAAC 2.2.03.08c.viii Verification Report," Revision 0
SV3-PXS-M6K-801193, "PXS ITAAC 193 IRWST Recirc. Screens ITAAC Inspections/Field Measurements," Revision 0
SV0-PXS-ITR-800193, "Units 3&4 Frontal Face Area Inspection, ITAAC 2.2.03.08c.viii NRC Index Number 193," Revision 0
SV3-PXS-M6K-802193, "PXS ITAAC 193 Containment Recirc. Screens & Weir Inspections/Field Measurements," Revision 0
Survey SWR 1241680
APP-GW-GLN-147, "AP1000 Containment Recirculation and IRWST Screen Design," Revision 3
APP-MY03-VDR-002, "ITAAC 2.2.03.08c.viii Verification Report," Revision 0
APP-MY03-V2R-015, "Containment Recirculation Screen Cartridge Inspection Record," Revision 0
APP-MY03-V2R-110, "IRWST Screens (APP-PXS-MY-Y01A/Y01B/Y01C) Cartridge Inspection Record," Revision 0
APP-MY03-Z0-001, "Design Specification for IRWST & Containment Recirculation Screens for Passive Core Cooling System – Safety Related," Revision 6
Westinghouse Drawing APP-MY03-V2-100 (SV3-MY03-V2-100), "IRWST Screen (APP-PXS-MY-Y01A) Envelope Drawing," Revision 0

Westinghouse Drawing APP-MY03-V2-130 (SV3-MY03-V2-130), "IRWST Screen (APP-PXS-MY-Y01B) Envelope Drawing," Revision 0
Westinghouse Drawing APP-MY03-V2-135 (SV3-MY03-V2-135), "IRWST Screen (APP-PXS-MY-Y01C) Envelope Drawing," Revision 0
Westinghouse Drawing APP-MY03-V2-110 (SV3-MY03-V2-110), "IRWST Screens (APP-PXS-MY-Y01A/Y01B/Y01C) Cartridge Envelope Drawing," Revision 0
Westinghouse Drawing APP-MY03-V2-001 (SV3-MY03-V2-001), "Containment Recirculation Screen Envelope Drawing," Revision 0
Westinghouse Drawing APP-MY03-V2-015 (SV3-MY03-V2-015), "Containment Recirculation Screen Cartridge Envelope Drawing," Revision 0

Section 1A05

2.2.03.08c.viii-U3-CP, "ITAAC Completion Package," Revision 0
SV3-MY03-VDR-002, "ITAAC 2.2.03.08c.viii Verification Report," Revision 0
SV3-PXS-M6K-801193, "PXS ITAAC 193 IRWST Recirc. Screens ITAAC Inspections/Field Measurements," Revision 0
SV3-PXS-M6K-802193, "PXS ITAAC 193 Containment Recirc. Screens & Weir Inspections/Field Measurements," Revision 0
Survey SWR 1241680
APP-GW-GLN-147, "AP1000 Containment Recirculation and IRWST Screen Design," Revision 3
APP-MY03-VDR-002, "ITAAC 2.2.03.08c.viii Verification Report," Revision 0
APP-MY03-Z0-001, "Design Specification for IRWST & Containment Recirculation Screens for Passive Core Cooling System – Safety Related," Revision 6

Section 1A06

Westinghouse Technical Reports

APP-GW-GLR-623, "AP1000® Design Certification ITAAC 2.5.01.04: Diverse Actuation System Design Process Technical Report," Revision 0

Westinghouse Field Change Notices

SV3-GW-GCW-0125, "AP1000 Vogtle Unit 3 Diverse Actuation System (DAS) ASU PC Update and Application Ver 1.11 Installation," Revision 0

SNC Procedures

B-GEN-ITPCI-002, "Diverse Actuation System (DAS) Cabinets," Version 3.0

SNC ITAAC Technical Reports

SV3-DAS-ITR-800519, "Diverse Actuation System Design Process Summary Report: Installation Phase," Revision 0

SNC ICNs

ND-21-0628, "ITAAC Closure Notification on Completion of ITAAC 2.5.01.04 [Index Number 519]," 02 Jul 2021

SNC Work Packages

SV3-DAS-JDW-1083891, "U3- AUX INSTALL AND LABEL DAS CABINETS(SV3-DASJD-001/2/3) ELEV. 135'-3" ROOM 12554 - AREA 4," Revision 0

Bechtel Procedures

26139-000-4MP-T81C-N3301, "Electrical Equipment Installation," Revision 5

Section 1A07

Miscellaneous

SV3-1010-GCR-001, "Vogtle Unit 3 As-Built Summary Report: Nuclear Island Basemat," Revision 2

SV3-1200-GCR-001, "Vogtle Unit 3 As-Built Summary Report: Nuclear Island Auxiliary Building," Revision 2

Section 1A08

B-GEN-ITPA-004, "Conduct of Test," Revision 24

B-GEN-ITPA-004-F19, "Test Support Operating Steps (TSOS)," Revision 1.0

B-GEN-ITSP-013, "Initial Test Program Troubleshooting," Revision 3.1

APP-SFS-M3C-012, "AP1000 Spent Fuel Heat-Up, Boil-Off and Emergency Makeup on Loss of Cooling," Revision 6

CR 50083423, "3-WRS Leak Chase A Over Pressurization"

CR 50032821, "WRS Leak Chase Collective Data Needs Engineering Evaluation"

CR 50083139, "Unit 3 Spent Fuel/Fuel Transfer Canal Leakage"

CR 50083311, "Additional Unit 3 SFP & FTC Leaks"

CR 50083423, "3 WRS Leak Chase A Over Pressurization"

CR 50083728, "CR to Generate Causal Analysis on U3 SFP Leakage"

CR 50084298, "Work Order Requested for Reperformance of Drag Testing"

CR 50085821, "CR to Support ITAAC Maintenance Screening Related to U3 SFP Work"

Corrective Action Report (CAR) 80004937, "Unit 3 Spent Fuel Pool (SFP) / Fuel Transfer Canal (FTC) Leakage"

CAR 80006084, "Review of SFP/FTC Seismic Analysis Needed"

CR 50108041, "Self-Revealing NRC Performance Deficiency"

WECTEC GPS, Welding Procedure Specification (WPS) D1.6, WPS5-10H.10HT70 with supporting Procedure Qualification Records (PQRs) SP394 and PQ871, Revision 8

Welder Qualification Reports - ASME Section IX for ACR5320, HSH2878, JAW1103, JAW8133, JRC3044, JRC9247, KJR1896, LRC2677, RF0632, RHH6555, SDC6552, TLP9625, and ZKH4545

MISTRAS NDE Certification Records of IVC for Ultrasonic - Phased Array Level III with Certification-No(s) 28405, Expiration 6/5/2023

MISTRAS Visual Acuity Record of IVC Employee No. 510457 for near/far vision and color contrast, Expiration 3/23/2022

Section 1A09

Condition Reports

CR 50075042, IEEE 384 Findings Room 12101

CR 50075404, IEEE 384 Findings Room 12103

CR 50103435

CR 50096761

Drawings

SV3-ECS-E9-011, Cable Tray Notes and Details Sheet 2, Revision 7

SV3-ECS-E9-012, Cable Tray Notes and Details Sheet 3, Revision 13

SV3-ECS-E9-013, Cable Tray Notes and Details Sheet 4, Revision 6

APP-ECS-E9-040, Electrical Raceway and Cable Identification Markers, Revision 5

E&DCR

SV3-1212-GEF-000010, Splice Plate Modification for Tray Supports in Auxiliary Building, Revision 0

Miscellaneous

Punchlist Area Turnover Report by Room, dated June 17, 2021

ESR 50096773

ESR 50097965

Advanced Authorization 1 (AA-1) For ESR 50097965: Guidance to Obtain the Expansion Gap Between Trays and Structural Interferences.

ESR 50097157

Procedures

26139-000-4MP-T81C-N3301, Electrical Equipment Installation, Revision 5

26139-000-4MP-T81C-N3302, Raceways and Accessories, Revision 12

26139-000-4MP-T81C-N3303, Cable Installation, Revision 12

26139-000-4MP-T81C-N3304, Cable Terminations, Revision 11

26139-000-4MP-T81C-N1204, Construction Implementation and Closing of Work Packages, //Revision 19

Specifications

SV3-G1-E1-003, Raceway Design Criteria, Revision 4

SV3-G1-V8-001, AP1000 Electrical Installation Specification, Revision 9

SV3-GW-E1-001, Electrical Systems Design Criteria, Revision 4

APP=EW21-E1-001, AP1000 Standard Raceway and Cable Separation and Segregation, Revision 4

Work Packages

SV3-1212-ERW-EL3773, Install Design Routed Conduit and Conduit Supports In Battery Room "A", Room 12101, Revision 0

SV3-1212-ERW-1123396, U3 Aux – Install/Rework 1E Scheduled Conduit El 66'6" – Rm 12101, 12102, 12103 Area 2, Revision 0

SV3-1212-ERW-EL1618, Install Design Routed Raceway and Supports for Division "A" Battery Room El. 66'-6", Revision 0

SV3-1210-ERW-1085699, Revision 0

SV3-1212-ERW-1123396, Revision 0

SV3-1212-ERW-1115358, Revision 0

SV3-1212-ERW-EL1620, Install Design Routed Raceway and Supports for Division "C" Battery Room El. 66'-6", Revision 0

CRs written as a result of this inspection

CR 50103455, Inadequate Spacing between Splice Plate and Cable Tray Hold-down Clips

CR 50103436, Missing and Incorrect Raceway Labels in SV3 Room 12103

CR 50103433, Galvanized Coating on Cable Tray Cracked

Section 1A10

Condition Reports

CR 50075042, IEEE 384 Findings Room 12101

CR 50075404, IEEE 384 Findings Room 12103

CR 50103435

CR 50096761

Drawings

SV3-ECS-E9-011, Cable Tray Notes and Details Sheet 2, Revision 7

SV3-ECS-E9-012, Cable Tray Notes and Details Sheet 3, Revision 13

SV3-ECS-E9-013, Cable Tray Notes and Details Sheet 4, Revision 6

APP-ECS-E9-040, Electrical Raceway and Cable Identification Markers, Revision 5

E&DCR

SV3-1212-GEF-000010, Splice Plate Modification for Tray Supports in Auxiliary Building, Revision 0

Miscellaneous

Punchlist Area Turnover Report by Room, dated June 17, 2021

ESR 50096773

ESR 50097965

Advanced Authorization 1 (AA-1) For ESR 50097965: Guidance to Obtain the Expansion Gap Between Trays and Structural Interferences.

ESR 50097157

Procedures

26139-000-4MP-T81C-N3301, Electrical Equipment Installation, Revision 5

26139-000-4MP-T81C-N3302, Raceways and Accessories, Revision 12

26139-000-4MP-T81C-N3303, Cable Installation, Revision 12

26139-000-4MP-T81C-N3304, Cable Terminations, Revision 11

26139-000-4MP-T81C-N1204, Construction Implementation and Closing of Work Packages, Revision 19

Specifications

SV3-G1-E1-003, Raceway Design Criteria, Revision 4

SV3-G1-V8-001, AP1000 Electrical Installation Specification, Revision 9

SV3-GW-E1-001, Electrical Systems Design Criteria, Revision 4

APP=EW21-E1-001, AP1000 Standard Raceway and Cable Separation and Segregation, Revision 4

Work Packages

SV3-1212-ERW-EL3773, Install Design Routed Conduit and Conduit Supports In Battery Room "A", Room 12101, Revision 0

SV3-1212-ERW-1123396, U3 Aux – Install/Rework 1E Scheduled Conduit El 66'6" – Rm 12101, 12102, 12103 Area 2, Revision 0

SV3-1212-ERW-EL1618, Install Design Routed Raceway and Supports for Division "A" Battery Room El. 66'-6", Revision 0

SV3-1210-ERW-1085699, Revision 0

SV3-1212-ERW-1123396, Revision 0

SV3-1212-ERW-1115358, Revision 0

SV3-1212-ERW-EL1620, Install Design Routed Raceway and Supports for Division "C" Battery Room El. 66'-6", Revision 0

CRs written as a result of this inspection

CR 50103455, Inadequate Spacing between Splice Plate and Cable Tray Hold-down Clips

CR 50103436, Missing and Incorrect Raceway Labels in SV3 Room 12103

CR 50103433, Galvanized Coating on Cable Tray Cracked

Section 1A11

Drawings:

APP-1242-ER-001, "Auxiliary Building Area 2 Cable Tray Arrangement Plan at Elevation 117'-6", Revision 11

N & Ds:

SV3-PMS-GNR-000014, "Field requests to use cable mark W-FZ2C-62.5MM-4 (yellow) in lieu W-FZ2C-62.5MM-2 (black) due to unavailability", Revision 0

SV3-G1-GNR-000015, "Field requests to use cable mark W-FZ2C-62.5MM-4 instead of W-FZ2C-62.5MM-2," Revision 0

SV3-PMS-GNR-000016, "Field request to use cable mark W-FZ2C-62.5MM-4 instead of W-FZ2C-62.5MM-2 ESR 50044040," Revision 0

Condition Reports

50075383

50057822

Quality Control Inspection Reports:

SV3-OCS-EWW-1052355 "D".

SV3-OCS-EWW-1052354 "B"

Procedures:

26139-000-4MP-T81C-N3302, Version 13

Section 1A12

Condition Reports

CR 50075042, IEEE 384 Findings Room 12101

CR 50075404, IEEE 384 Findings Room 12103

CR 50103435

CR 50096761

Drawings

SV3-ECS-E9-011, Cable Tray Notes and Details Sheet 2, Revision 7

SV3-ECS-E9-012, Cable Tray Notes and Details Sheet 3, Revision 13

SV3-ECS-E9-013, Cable Tray Notes and Details Sheet 4, Revision 6

APP-ECS-E9-040, Electrical Raceway and Cable Identification Markers, Revision 5

E&DCR

SV3-1212-GEF-000010, Splice Plate Modification for Tray Supports in Auxiliary Building, Revision 0

Miscellaneous

Punchlist Area Turnover Report by Room, dated June 17, 2021

ESR 50096773

ESR 50097965

Advanced Authorization 1 (AA-1) For ESR 50097965: Guidance to Obtain the Expansion Gap Between Trays and Structural Interferences.

ESR 50097157

Procedures

26139-000-4MP-T81C-N3301, Electrical Equipment Installation, Revision 5

26139-000-4MP-T81C-N3302, Raceways and Accessories, Revision 12

26139-000-4MP-T81C-N3303, Cable Installation, Revision 12

26139-000-4MP-T81C-N3304, Cable Terminations, Revision 11

26139-000-4MP-T81C-N1204, Construction Implementation and Closing of Work Packages, Revision 19

Specifications

SV3-G1-E1-003, Raceway Design Criteria, Revision 4

SV3-G1-V8-001, AP1000 Electrical Installation Specification, Revision 9

SV3-GW-E1-001, Electrical Systems Design Criteria, Revision 4

APP=EW21-E1-001, AP1000 Standard Raceway and Cable Separation and Segregation, Revision 4

Work Packages

SV3-1212-ERW-EL3773, Install Design Routed Conduit and Conduit Supports In Battery Room "A", Room 12101, Revision 0

SV3-1212-ERW-1123396, U3 Aux – Install/Rework 1E Scheduled Conduit El 66'6" – Rm 12101, 12102, 12103 Area 2, Revision 0

SV3-1212-ERW-EL1618, Install Design Routed Raceway and Supports for Division "A" Battery Room El. 66'-6", Revision 0

SV3-1210-ERW-1085699, Revision 0

SV3-1212-ERW-1123396, Revision 0

SV3-1212-ERW-1115358, Revision 0

SV3-1212-ERW-EL1620, Install Design Routed Raceway and Supports for Division "C" Battery Room El. 66'-6", Revision 0

CRs written as a result of this inspection

CR 50103455, Inadequate Spacing between Splice Plate and Cable Tray Hold-down Clips

CR 50103436, Missing and Incorrect Raceway Labels in SV3 Room 12103

CR 50103433, Galvanized Coating on Cable Tray Cracked

Section 1A13

CBIS Radiographic Examination ASME Section III, Division 1 - Subsection NE procedure CMS-830-15-PR-45154, Revision 1, 03/09/2012

CBIS Reports of Radiographic Examination for U4-319 (traveler U4-S11/TH4) and U4-320 (traveler U4-S11-D37/D35), including X-ray films at locators 348-349 and 350-351 for both U-shaped upper weld intersections at the circumferential seam that joins the containment vessel upper ring to the top head, 6/10/2021

CBIS Densitometer Calibration "Verification Log", for ID or Serial-No. 027945 for +/- 0.05 allowable variation for checks from 2/22/2021 thru 6/9/2021

CBIS Calibration and "Verification Check" Record for calibration acceptance of AGFA X-Ray Film Step Tablet I.D. or Serial No. 1818181 with due date of 2/22/22

Calibration Certificate Structurix Certified Denstep X-Ray Film Step Tablet 1818181 Calibration Date June 2020

BAM Diffuse Optical Densities of the Film Step Tablet BAM - X001 No. 19-1957 for Industrial Radiography with test date of June 2019

CBIS Level I and II NDE Certification of Qualification for certification NDE-RT Level II evaluator ID-No. 2878491 with effective period of 4/4/2019 to 4/2024

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Section 1A14

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Principle Closure Document SV4-PXS-FSK-800183, "As-Built IRWST Injection Lines Top Inside Surface Elevation Comparison to IRWST Bottom Inside Surface," Revision 0

Principle Closure Document SV4-PXS-FSK-800184, "As-Built IRWST Injection/ Recirculation Lines Top Inside Surface Elevation Comparison to IRWST Bottom Inside Surface," Revision 0

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SV4-PXS-PLW-090, "Passive Cover Cooling System Containment Bldg Room 11204 Containment Recirculation to DVI-B," Revision 1

Survey Data Obtained from SWR Number 1251996

Section 1A15

Specifications

SV4-CC01-Z0-031, "Safety Related Placing Concrete and Reinforcing Steel, Westinghouse Seismic Category I, Safety Class C 'NUCLEAR SAFETY'", Revision 8

Drawings

SV4-0000-C9-001, AP1000 CONCRETE GENERAL NOTES," Revision 9

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SV4-1278-CC-005-R0, "SHIELD BUILDING ROOF SECTION C-C"

SV4-1278-CR-024-R2, "CONICAL ROOF CONCRETE REINFORCEMENT SECTION A-A – RADIAL AND VERTICAL BARS ARRANGEMENT"

SV4-1278-CR-026-R2, "PCCS TANK OUTER WALL CONCRETE REINFORCEMENT GENERAL ARRANGEMENT"

SV4-1278-CR-027-R2, "PCCS TANK OUTER WALL CONCRETE REINFORCEMENT (VERTICAL)"

SV4-1278-CR-028-R2, "PCCS TANK OUTER WALL CONCRETE REINFORCEMENT (HORIZONTAL)"

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SV4-CC01-Z0-027, "Safety Related Concrete Testing Services, Westinghouse Seismic Category I, Safety Class C "NUCLEAR SAFETY"," Revision 7

Miscellaneous

"Unit 4 Nuclear Island Shield Building CB20 Outer Tank Wall 293'2½" to 313'6" Concrete Placement," Revision 0

Concrete/Grout Delivery Ticket No. 60265, Pour number 6800, 10 CY, Date 7/25/2021

Concrete/Grout Delivery Ticket No. 60274, Pour number 6800, 90 CY, Date 7/25/2021

Concrete/Grout Delivery Ticket No. 60283, Pour number 6800, 180 CY, Date 7/25/2021

Concrete/Grout Delivery Ticket No. 60294, Pour number 6800, 290 CY, Date 7/25/2021

Concrete/Grout Delivery Ticket No. 60304, Pour number 6800, 390 CY, Date 7/25/2021

Section 1P01

APP-GW-GAP-420, "Engineering and Design Coordination Reports," Revision 21

APP-GW-GAP-428, "Nonconformance and Disposition Report," Revision 18

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ND-AD-002-025, "Issue Identification, Screening, and Dispatching," Revision 5.0

ND-AD-002-026, "Corrective Action Program Processing," Revision 4.0

ND-AD-002-027, "Nonconforming Items," Revision 8.0

Section 1P02

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4th Quarter 2020

1st Quarter 2021

2nd Quarter 2021

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NMP-GM-003, "Self-Assessment and Benchmark Procedure," Version 30.0

ND-AD-002, "Nuclear Development Corrective Action Program," Version 31.0

ND-AD-002-010, "Performance Monitoring and Trending," Version 6.0

ND-AD-014, "Nuclear Safety Culture Monitoring," Version 4.1

ND-AD-002-023, "Nuclear Development Non-CAP Maximo Products," Version 3.0

ND-AD-002-025, "Issue Identification and Condition Report Screening," Version 4.0
NDQAM, "Nuclear Development Quality Assurance Manual," Version 21.0
701-A "One Project Employee Concerns Program for Vogtle 3/4," 20 Nov 2019
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50088459
50094129
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60015420
60023466
60026387

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2020003540
2020003819
2020003107 & 2020003692
2020004064
2020004278
20201214-1
202102160005
202103090001
202104050002
202104130002
20210415-2
20210514-10
20210607-4
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ER Case No. 23049
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Section 4OA3

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Corrective Actions Quality Records (CARs)

CAR 80005270, Maximum load rating on cable trays, 5/14/2021
CAR 80004436,

Condition Reports (CRs)

CR 50084958, Maximum load rating on cable trays, 03/26/21
CR 50094351, NRC Identified Performance Deficiency and Unresolved Item for Cable Exiting
Tray Loading, 05/28/21
CR 50075109, E&DCR APP-ECS-GEF-850795, 01/20/21

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E&DCR APP-ECS-GEF-850795, EAD Specified Cable Tray Covers and Cables Outside the
Confines of Cable Tray (ESR 50056536), Revision 0

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INI_DCP_009688, Justification files for E&DCR APP-ECS-GEF-850910 (ESR50081736),
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Section 40A7

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ML21203A318: Alternative Requirements For American Society Of Mechanical Engineers Section III Remediation Of Containment Vessel Unistrut Welding, Vogtle Electric Generating Plant, Unit 3 (EPID L-2021-Llr-0041); July 25, 2021

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WEC Document No. SV3-MV50-VDR-001, "Vogtle Unit 3, "Unistrut Removal," Repair Code Case N-802," Revision 0

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CBIS, ASME Code Data Report N-10A, Form N-10A Report for Repairs to Stamped Components as Required by the Provision of Section III, Division 1, Code and Code Case N-802, 08/23/2021

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CBIS, CMS-830-15-PR-45164, Solution Film Testing Vacuum Box Technique ASME Section III, Division 1 – Subsection NE, Revision 1, 01/20/2012

CBIS, CMS-830-15-PR-45169, Digital Thickness Measurement – Nuclear, Revision 3, 05/03/2011

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CBIS, Certificate of Inspector Qualification - Nuclear, Visual Acuity Test and Color Perception Test, Inspector –D - 2878491, 3/25/2021

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CBIS, U3-LSA-Unistrut Removal-DR (traveler for completion of ASME data report), 08/02/2021

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Technical Evaluation 60020554
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Drawings:

SV3-1200-AG-601-R2, “AUXILIARY BUILDING ARCHITECTURAL SECTION DETAILS (1)”
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SV3-4000-AG-601-R9, “ANNEX BUILDING ARCHITECTURAL SECTION DETAILS (1)”
SV3-4000-AG-606-R4, “ANNEX BUILDING SECTIONS DETAILS 6”
SV3-1261-CR-106-R0, “AUXILIARY BUILDING AREA 1 CONCRETE REINFORCEMENT FLOOR EL. 153’-0” TO 155’-6” PLAN VIEW”
SV3-1261-CR-116-R0, “AUXILIARY BUILDING AREA 1 CONCRETE REINFORCEMENT FLOOR EL. 153’-0” TO 155’-6” DETAILS (SHEET 1)”
SV3-1261-CR-156-R0, “AUXILIARY BUILDING AREA 1 CONCRETE REINFORCEMENT FLOOR EL. 153’-0” TO 155’-6” SECTIONS”
SV3-1262-CR-206, “AUXILIARY BUILDING AREA 2 CONCRETE REINFORCEMENT FLOOR EL. 153’-0” TO 155’-6” PLAN VIEW,” Revision 1
SV3-1262-CR-236-R0, “AUXILIARY BUILDING AREA 2 CONCRETE REINFORCEMENT FLOOR EL. 153’-0” TO 155’-6” SECTIONS”
SV3-1260-CR-346-R1, “AUXILIARY BUILDING AREAS 3 & 4 CONCRETE REINFORCEMENT FLOOR EL. 160’-6” TO 163’-0” PLAN VIEW”
SV3-1260-CR-396-R0, “AUXILIARY BUILDING AREAS 3 & 4 CONCRETE REINFORCEMENT FLOOR EL. 160’-6” TO 163’-0” SECTIONS”

Miscellaneous

PULLMAN Letter No. 57863-4.1-2021-0020, dated February 5, 2021
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LIST OF ACRONYMS

ACI	American Concrete Institute
ANI	Authorized Nuclear Inspectors
ASME	American Society of Mechanical Engineers
AWS	American Welding Society
CAP	Corrective Action Program
CAR	Corrective Action Quality Record
CBIS	Chicago Bridge and Iron Services
CMTR	Certified Material Test Report
COL	Combined License
CR	Condition Report
CV	Containment Vessel
E&DCR	Engineering & Design Coordination Report
ESR	Engineering Service Requests
GTAW	Gas Tungsten Arc Welding
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IRWST	In-Containment Refueling Water Storage Tank
ITAAC	Inspections, Tests, Analysis, and Inspection Criteria
LAR	License Amendment Request
NCV	Noncited Violation
NDE	Nondestructive Examination
NRC	Nuclear Regulatory Commission
PCD	Principal Closure Document
PCS	Passive Containment Cooling System
PMS	Protection and Safety Monitoring System
PT	Liquid Penetrant Examination
PXS	Passive Core Cooling System
QA	Quality Assurance
QC	Quality Control
RCS	Reactor Coolant System
RT	Radiographic Examination
SNC	Southern Nuclear Operating Company
SSC	Structures, Systems, and Components
S&W	Stone and Webster
TE	Technical Evaluation
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VEGP	Vogtle Electric Generating Plant
WDS	Weld Data Sheet
WEC	Westinghouse Electric Company

ITAAC INSPECTED

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
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13	2.1.02.02a	<p>2.a) The components identified in Table 2.1.2-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements. 2.b) The piping identified in Table 2.1.2-2 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 2.1.2-1 as ASME Code Section III meet ASME Code Section III requirements. 3.b) Pressure boundary welds in piping identified in Table 2.1.2-2 as ASME Code Section III meet ASME Code Section III requirements. 4.a) The components identified in Table 2.1.2-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure. 4.b) The piping identified in Table 2.1.2-2 as ASME Code Section III retains its pressure boundary integrity at its design pressure. 5.b) Each of the lines identified</p>	<p>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 test will be performed on the components and piping required by the ASME Code Section III to be hydrostatically tested. Inspection will be performed for the existence of a report verifying that the as-built piping meets the requirements for functional capability. Inspection will be performed for the existence of an LBB evaluation report or an evaluation report on the protection from dynamic effects of a pipe break. Section 3.3, Nuclear Island Buildings, contains the design descriptions and inspections, tests, analyses, and acceptance criteria for protection from the dynamic effects of pipe rupture.</p>	<p>The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.1.2-1 and 2.1.2-2 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 test of the components and piping identified in Table 2.1.2-1 and Table 2.1.2-2 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 2.1.2-2 for which functional capability is required meets the requirements for functional capability. An LBB evaluation report exists and concludes that the LBB acceptance criteria are met by the as-built RCS piping and piping materials, or a pipe break evaluation report exists and concludes that protection from the dynamic effects of</p>
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No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
		<p>in Table 2.1.2-2 for which functional capability is required is designed to withstand combined normal and seismic design basis loads without a loss of its functional capability.</p> <p>6. Each of the as-built lines identified in Table 2.1.2-2 as designed for LBB meets the LBB criteria, or an evaluation is performed of the protection from the dynamic effects of a rupture of the line.</p>		<p>a line break is provided.</p>

91	2.2.01.02a	<p>2.a) The components identified in Table 2.2.1-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements. 2.b) The piping identified in Table 2.2.1-2 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 2.2.1-1 as ASME Code Section III meet ASME Code Section III requirements. 3.b) Pressure boundary welds in piping identified in Table 2.2.1-2 as ASME Code Section III meet ASME Code Section III requirements. 4.a) The components identified in Table 2.2.1-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure. 4.b) The piping identified in Table 2.2.1-2 as ASME Code Section III retains its pressure boundary integrity at its design pressure.</p>	<p>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. i) A hydrostatic or pressure test will be performed on the components required by the ASME Code Section III to be tested. A hydrostatic or pressure test will be performed on the piping required by the ASME Code Section III to be pressure tested.</p>	<p>The ASME Code Section III design reports exist for the as-built components and piping identified in Table 2.2.1-1 and 2.2.1-2 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. i) A report exists and concludes that the results of the pressure test of the components identified in Table 2.2.1-1 as ASME Code Section III conform with the requirements of the ASME Code Section III. A report exists and concludes that the results of the pressure test of the piping identified in Table 2.2.1-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.</p>
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No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
184	2.2.03.08c.iv.02	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: 2. Containment recirculation lines; containment to IRWST lines	iv) The maximum elevation of the top inside surface of these lines is less than the elevation of: 2. IRWST bottom inside surface
192	2.2.03.08c.vii	8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.	vii) Inspection of the as-built components will be conducted for plate located above the containment recirculation screens.	vii) The plate located above the containment recirculation screen is no more than 1 ft, 3in above the top of the face of the screens and extends at least 8 ft, 3 in perpendicular to the front and at least 7 ft to the side of the face of the screens.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
193	2.2.03.08c.viii	8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.	viii) Inspections of the IRWST and containment recirculation screens will be conducted. The inspections will include measurements of the pockets and the number of pockets used in each screen. The pocket frontal face area is based on a width times a height. The width is the distance between pocket centerlines for pockets located beside each other. The height is the distance between pocket centerlines for pockets located above each other. The pocket screen area is the total area of perforated plate inside each pocket; this area will be determined by inspection of the screen manufacturing drawings.	viii) The screens utilize pockets with a frontal face area of $\geq 6.2 \text{ in}^2$ and a screen surface area $\geq 140 \text{ in}^2$ per pocket. IRWST Screens A and B each have a sufficient number of pockets to provide a frontal face area $\geq 25 \text{ ft}^2$, a screen surface area $\geq 575 \text{ ft}^2$, and a screen mesh size of $\leq 0.0625 \text{ inch}$. IRWST Screen C has a sufficient number of pockets to provide a frontal face area $\geq 50 \text{ ft}^2$, a screen surface area $\geq 1150 \text{ ft}^2$, and a screen mesh size $\leq 0.0625 \text{ inch}$. Each containment recirculation screen has a sufficient number of pockets to provide a frontal face area $\geq 105 \text{ ft}^2$, a screen surface area $\geq 2500 \text{ ft}^2$, and a screen mesh size $\leq 0.0625 \text{ inch}$. A debris curb exists in front of the containment recirculation screens which is $\geq 2 \text{ ft}$ above the loop compartment floor. The bottoms of the IRWST screens are located $\geq 6 \text{ in}$ above the bottom of the IRWST.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
519	2.5.01.04	<p>4. The DAS hardware and any software are developed using a planned design process which provides for specific design documentation and reviews during the following life cycle stages: a) Development phase for hardware and any software b) System test phase c) Installation phase</p> <p>The planned design process also provides for the use of commercial off-the-shelf hardware and software.</p>	<p>Inspection will be performed of the process used to design the hardware and any software.</p>	<p>A report exists and concludes that the process defines the organizational responsibilities, activities, and configuration management controls for the following: a) Documentation and review of hardware and any software. b) Performance of tests and the documentation of test results during the system test phase. c) Performance of tests and inspections during the installation phase. The process also defines requirements for the use of commercial off-the-shelf hardware and software.</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.</p> <p>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>

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
762	3.3.00.02a.i.c	<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.</p> <p>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.c) A report exists which reconciles deviations during construction, including Table 3.3-1 wall and floor thicknesses, and concludes that the as-built structures in the non-radiologically controlled area of the auxiliary building, 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
763	3.3.00.02a.i.d	<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.</p> <p>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.d) A report exists which reconciles deviations during construction, including Table 3.3-1 wall and floor thicknesses, and concludes that the as-built structures in the radiologically controlled area of the auxiliary building, 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>
790	3.3.00.07ab	<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>b) Class 1E electrical cables, and communication cables associated with only one division, and the raceways that route these cables in the non-radiologically controlled area of the auxiliary building are identified by the appropriate color code.</p>

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
793	3.3.00.07bb	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.	b) Class 1E electrical cables and communication cables in the non-radiologically controlled area of the auxiliary building 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.

799	3.3.00.07d.i	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: i) Within the main control room and remote shutdown room (non-hazard areas), the minimum separation for low-voltage power cables and below is defined by one of the following: 1) For configurations involving open configurations to enclosed configurations with low-voltage power cables, the minimum vertical separation is 3 inches and the minimum horizontal separation is 1 inch. 2) 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. 3) For configurations involving enclosed raceways, the minimum separation is 1 inch in both	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: i) Within the main control room and remote shutdown room (non-hazard areas) the minimum separation for low-voltage power cables and below meets one of the following: 1) For configurations involving open configurations to enclosed configurations with low-voltage power cables, the vertical separation is 3 inches or more and the horizontal separation is 1 inch or more. 2) For configurations that involve an enclosed raceway and an open raceway with low-voltage power cables, the minimum vertical separation may be reduced to 1 inch if the enclosed raceway is below the open raceway. 3) For configurations that involve enclosed raceways, the minimum separation is 1 inch in both horizontal and vertical
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			horizontal and vertical directions. 4) For configurations involving open configurations, and an enclosed raceway and an open raceway, with instrumentation and control cables, the minimum separation is 1 inch in both horizontal and vertical directions.	directions. 4) For configurations that involve open configurations, and an enclosed raceway and an open raceway, with instrumentation and control cables, the minimum separation is 1 inch in both horizontal and vertical directions.

801	3.3.00.07d.ii.b	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.b) Within other plant areas (limited 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	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.b) Within other plant areas inside the non-radiologically controlled area of the auxiliary building (limited 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
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			<p>between a conduit 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-</p>	<p>minimum horizontal separation is 6 inches between a conduit and an open 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</p>
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			voltage power cables and below.	and a free air safety cable with low-voltage power cables and below.