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

May 13, 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 INITIAL TEST PROGRAM AND OPERATIONAL PROGRAMS INTEGRATED INSPECTION REPORTS 05200025/2021002, 05200026/2021002

Dear Mr. Yox:

On March 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant, Units 3 and 4. The enclosed inspection report documents the inspection results, which the inspectors discussed on April 22, 2021 with Mr. G. Chick, Vogtle 3 & 4 Executive Vice President, and other licensee and contractor staff members.

The inspection examined a sample of construction, testing, and operational programs activities conducted under your Combined License (COL) 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.

NRC inspectors documented seven findings of very low safety significance (Green) in this report. All seven of these findings involved a violation of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

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

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.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be made available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of NRC's document system ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

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

Sincerely,

/RA/

Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

Docket Nos.: 5200025, 5200026
License Nos: NPF-91, NPF-92

Enclosure: NRC Inspection Report (IR) 05200025/2021002, 05200026/2021002

w/attachment: Supplemental Information

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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4 – NRC INITIAL TEST PROGRAM AND OPERATIONAL PROGRAMS INTEGRATED INSPECTION REPORTS 05200025/2021002, 05200026/2021002 DATED: MAY 13, 2021

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U.S. NUCLEAR REGULATORY COMMISSION
Region II

Docket Numbers:	5200025 5200026
License Numbers:	NPF-91 NPF-92
Report Numbers:	05200025/2021002 05200026/2021002
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Vogtle Unit 3 & 4 Combined License
Location:	Waynesboro, GA
Inspection Dates:	January 1, 2021 through March 31, 2021
Inspectors:	K. Carrington, Resident Inspector, Division of Reactor Projects (DRP) B. Collins, Senior Reactor Inspector, Division of Reactor Safety (DRS) S. Downey, Senior Reactor Inspector, DRS J. Eargle, Senior Resident Inspector - Testing, Division of Construction Oversight (DCO) C. Even, Senior Construction Inspector, DCO T. Fanelli, Senior Construction Inspector, DCO B. Griman, Resident Inspector, DCO N. Hansing, Mechanical Engineer, Nuclear Reactor Regulation B. Kemker, Senior Resident Inspector, DCO A. Lerch, Reactor Inspector, DRS R. Mathis, Construction Inspector, DCO T. Morrissey, Senior Construction Inspector, DCO R. Patterson, Senior Reactor Inspector, DRS

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Approved by: Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

SUMMARY OF FINDINGS

Inspection Report (IR) 05200025/2021002, 05200026/2021002; 01/01/2021 through 03/31/2021; Vogtle Unit 3 & 4 Combined License, initial test program and operational programs integrated inspection report.

This report covers a 3-month period of announced Inspections, Tests, Analysis, and Inspection Criteria (ITAAC), preoperational test program, startup test program, and operational program inspections by resident and regional inspectors. Seven findings of very low safety significance (Green) were identified by the inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) 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 and the temporary enforcement guidance outlined in enforcement guidance memorandum (EGM) 11-006. 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) The NRC inspectors identified a construction finding of very low safety significance and a non-cited violation (NCV) of Title 10 of the Code of Federal Regulations, Part 50 (10 CFR 50), Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to correct a deficiency in their Class 1E Direct Current (DC) and Uninterruptible Power Supply (UPS) (IDS) preoperational test procedure, 3-IDS-ITPP-501. The licensee entered this finding into their corrective action program as condition reports (CR) 50076165 and 50078235, and corrective action report (CAR) 80004604, to correct the preoperational test procedure.

The performance deficiency was of more than minor safety significance and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. The finding was determined to be of very low safety significance (Green) because the finding did not impair a design function. The inspectors concluded that this finding affected the cross-cutting area of human performance and the cross-cutting aspect of avoiding complacency. The proximate cause was attributed to a failure to use proper human error reduction techniques, namely inadequate verification by personnel. [H.12] (Section 1P05)

(Green) The NRC inspectors identified a performance deficiency and ITAAC finding of very low safety significance (Green), and a NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control" for the licensee's failure to translate the most limiting accident load profiles and load currents that envelope the battery bank design duty cycle into the battery service tests specified by procedure 3-IDS-ITPP-501, "Class 1E DC and UPS Preoperational Test." The licensee entered this finding into their corrective action program as CR 50078637 and changed their procedure to test the worst-case load profile with the worst-case load currents for battery divisions IDSA, IDSB, IDSC, and IDSS service tests.

The performance deficiency was of more than minor safety significance and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. The finding was determined to be of very low safety

significance (Green) because the finding did not impair a design function. The inspectors concluded that this finding affected the cross-cutting area of human performance and cross-cutting aspect of challenge the unknown. Specifically, the licensee failed to adequately investigate which profiles were the most limiting for each division and the spare battery to ensure the test procedure encompassed the requirements. [H.11] (Section 3T03).

(Green) The NRC inspectors identified a construction finding of very low safety significance and a NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to place the IDSB 24-hour battery on float voltage for 72 hours subsequent to it being on equalize voltage. The licensee entered this finding into their corrective action program as CR 50085270 to reperform the IDSB service test with the appropriate requisite float voltage.

The performance deficiency was of more than minor safety significance and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. The finding was determined to be of very low safety significance (Green) because the finding did not impair a design function. The inspectors concluded that this finding affected the cross-cutting area of human performance and cross-cutting aspect of conservative bias. Specifically, the licensee proceeded with testing without questioning whether a 72-hour float was required. [H.14] (Section 3T03)

(Green) The NRC inspectors identified a construction finding with three examples of very low safety significance and a NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the design requirements and acceptance limits in applicable design documents into preoperational test procedure 3-IDS-ITPP-501, "Class 1E DC and UPS Preoperational Test." Specifically, the licensee failed to translate design requirements from NEMA PE 5-1985, "Utility Type Battery Chargers," SV3-IDS-T1-503, "Class 1E DC and Uninterruptible Power Supply System Preoperational Test Specification," and the UFSAR Section 14.2.9.1.14. The licensee entered this finding into their corrective action program as CRs 50080097, 50079776, and 50089774, respectively, to restore compliance.

The performance deficiency was of more than minor safety significance and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. The finding was determined to be of very low safety significance (Green) because the finding did not impair a design function. The inspectors concluded that this finding affected the cross-cutting area of human performance and cross-cutting aspect of consistent process. Specifically, the licensee used an inconsistent approach to ensure that all requirements were translated into the procedure. [H.13] (Section 3T03)

(Green) The NRC inspectors identified a construction finding of very low safety significance and a NCV of 10 CFR 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment, and Services," for the licensee's failure to control the quality of design requirements and acceptance criteria in calculations used to determine voltage margins after battery discharge. The licensee entered this into their corrective action program as CR 50080010 and CAP IR 2021-2177. Corrective actions included using a different battery profile that used a higher final cell voltage which ensured at least 210VDC after 24 hours of discharge following a design basis accident with three cells bypassed.

The performance deficiency was of more than minor safety significance and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. The finding was determined to be of very low safety significance (Green) because the finding did not impair a design function. The inspector

concluded that this finding affected the cross-cutting area of human performance and cross-cutting aspect of documentation. Specifically, the licensee failed to consider all potential scenarios for the battery calculation. [H.7] (Section 3T03)

The NRC inspectors identified a construction finding of very low safety significance (Green) and a NCV of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activities of achieving initial criticality in a controlled manner, measuring the isothermal temperature coefficient (ITC), and calculating the moderator temperature coefficient (MTC) of reactivity. The licensee entered this finding into its corrective action program as CR 50086434 for evaluation and identification of appropriate corrective actions.

The performance deficiency was of more than minor safety significance, and thus a finding, because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. This finding was associated with an SSC (i.e. reactor system) and was a licensee performance deficiency of very low safety significance (Green) because the procedure was not implemented. The inspectors concluded this finding affected the cross-cutting area of human performance and the cross-cutting aspect of teamwork. Consistency between the procedures and test specification required a coordinated effort between three organizations. This was not effectively done during initial drafting of the procedures. [H.4] (Section 4OA1)

The NRC inspectors identified a construction finding of very low safety significance (Green) and a NCV of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activity of initial fuel loading. The licensee entered this finding into its corrective action program as CR 50086035 for evaluation and identification of appropriate corrective actions.

The performance deficiency was of more than minor safety significance, and thus a finding, because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. This finding was associated with an SSC (i.e. reactor system) and was a licensee performance deficiency of very low safety significance (Green) because the procedure was not implemented. The inspectors concluded this finding affected the cross-cutting area of human performance and the cross-cutting aspect of documentation. The proximate cause of the performance deficiency was primarily attributed to the failure to create accurate documentation. Revision 1 of the test procedure was archived without sufficient development and it was not adequately reviewed prior to approval. [H.7] (Section 4OA1)

B. Licensee-Identified Violations

None

Summary of Plant Construction Status

During this report period for Unit 3, the licensee completed various activities to satisfy aspects of the Vogtle Unit 3 operational programs and initial test program. The licensee performed preoperational and component tests of various SSCs and their control systems, e.g. PMS and PLS, in preparation for hot functional testing. Additionally, the licensee performed testing of portions of IDS, air operated valves, and motor operated valves; and test calibrations associated with various safety-related and nonsafety-related level transmitters, flow transmitters, pressure transmitters, and temperature elements.

During this report period for Unit 4, the licensee continued with installation of SSCs, and performed preparations for initial energization and flushing of the chemical and volume control system and spent fuel pool cooling system.

REPORT DETAILS

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 2.1.02.11a.ii (47) / Family 10C

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.1.02.11a.ii (47). The inspectors used the following Nuclear Regulatory Commission (NRC) inspection procedures (IPs) /sections to perform this inspection:

- 65001.C-02.02 - Construction Test Observation

The inspectors used appropriate portions of the IP to review the results of the following procedures to determine if the tests satisfied the applicable quality and technical requirements of the Updated Final Safety Analysis Report (UFSAR) and the ITAAC:

- B-GEN-ITPCI-039-F118;
- B-GEN-ITPCI-039-F119;
- B-GEN-ITPCI-039-F120;
- B-GEN-ITPCI-039-F122;
- B-GEN-ITPCI-039-F158;
- B-GEN-ITPCI-039-F159; and
- B-GEN-ITPCI-039-F160.

b. Findings

No findings were identified.

1A02 (Unit 3) ITAAC Number 2.2.01.09 (110) / Family 10A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.09 (110). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.C-02.02 - Construction Test Observation

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedures to determine if the tests satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC:

- B-GEN-ITPCI-039-F004;
- B-GEN-ITPCI-039-F005;
- B-GEN-ITPCI-039-F006;
- B-GEN-ITPCI-039-F245;
- B-GEN-ITPCI-039-F171; and
- B-GEN-ITPCI-039-F172.

b. Findings

No findings were identified.

1A03 (Unit 3) ITAAC Number 2.2.03.10 (206) / Family 10A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.03.10 (206). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.C-02.02 - Construction Test Observation

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedures to determine if the tests satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC:

- B-GEN-ITPCI-039-F071; and
- B-GEN-ITPCI-039-F072.

b. Findings

No findings were identified.

1A04 (Unit 4) ITAAC Number C.2.6.09.08a (668) / Family 17A

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number C.2.6.09.08a (668). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.17-02.03 – The Protected Area Barrier

The inspectors performed an inspection to determine if the openings in Vogtle Unit 4 vital area (VA) barriers for heating, ventilation, and cooling (HVAC) system vents were secured to prevent exploitation of the openings to satisfy the ITAAC and 10 CFR 73.55(e)(4).

The inspectors reviewed the design specifications and associated drawings to identify designated HVAC system openings through VA barriers and the way they will be secured and monitored. The inspectors examined the physical installation of the barriers at the nuclear island nonradioactive ventilation system (VBS) piping penetrations into the main control room (room 12401) and eight HVAC system openings (SV4-VAS-AS-05, SV4-VBS-AS-02, SV4-VBS-AS04, SV4-VFS-AS-04, SV4-VXS-AS-03, SV4-VXS-AS-04, SV4-VXS-AS-05, and SV4-VXS-AS-06) to the VA during this inspection period. The inspectors performed direct observation inspections of the openings to determine if they were secured in a manner that would delay or prevent exploitation. Specifically, the inspectors directly inspected the barrier, locking mechanisms, welds, and bolts associated with the openings.

b. Findings

No findings were identified.

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

1P01 Pre-operational Testing

- 70702-02.03 - Procedure Review

a. Inspection Scope

The inspectors used appropriate portions of the IP to review the following procedures to determine whether the procedures complied with the applicable quality and technical requirements of the UFSAR and the ITAAC:

- 3-GEN-ITPP-507;
- 3-GEN-ITPP-509;
- 3-GEN-ITPP-510;
- 3-GEN-ITPP-511;
- 3-GEN-ITPP-512;
- 3-GEN-ITPP-515;
- 3-GEN-ITPP-517, and
- SV3-RCS-T0W-1188608

b. Findings

No findings were identified.

1P02 (Unit 3) Preoperational Testing

a. Inspection Scope

- 70702-02.04 - Test Witnessing

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedure to determine if the test satisfied the applicable quality and technical requirements of UFSAR Sections 14.2.9.2.4.c and 14.2.9.2.4.d:

- 3-RNS-ITPP-501

b. Findings

No findings were identified.

1P03 Pre-operational Testing

- 70702-02.05 - Test Results Review

a. Inspection Scope

The inspectors used appropriate portions of the IP to review the results of the following procedures to determine if the tests satisfied the applicable quality and technical requirements of the UFSAR:

- B-GEN-ITPCE-039-F004;
- B-GEN-ITPCE-039-F074; and
- B-GEN-ITPCE-039-F176.

b. Findings

No findings were identified.

1P04 Pre-operational Test Program

- 70367 - Part 52, Inspection of Preoperational Test Program

a. Inspection Scope

Inspections of the Unit 3 preoperational test program were previously completed and documented in inspection report 05200025/2019003 (ADAMS Accession No. ML19309D596). For Unit 4, the inspectors reviewed program differences developed and employed since completion of the testing program inspections for Vogtle Unit 3. The following testing program attributes were reviewed for Unit 4:

Test Organization

- The responsibilities, qualifications, and training of ITP testing staff were specified in writing including test procedure preparation and approval, test performance and documentation, and test results review and approval.

Test Program Administration

- Administrative measures were established for jurisdictional control of system, component, or instrumentation status before, during, and after testing including control of system status before testing and return of system components or instrumentation to construction;
- Administrative measures were established governing the conduct of testing including:
  - methods to change (both major and minor) a test procedure during the conduct of testing; and
  - method for providing the current test procedure and marked-up drawings showing current modification status to the operators before test commencement; and
- Evaluation of test results were established including:
  - test results are checked against design and compared with previously determined performance standards, limits or acceptance criteria;
  - deficiencies are clearly identified, documented, and appropriate corrective action has been proposed, reviewed, and completed;
  - retests are performed as necessary after corrective actions or modifications have been completed; and
  - test result evaluations are reviewed and formally approved by appropriate licensee personnel and/or contractor personnel.

Document Control

- Administrative measures were established which control the test procedure processes for review, approval, issuance, and revision; and
- Responsibilities were assigned in writing to ensure that the procedure controls will be implemented.

Design Changes and Modifications

- Administrative controls were established for controlling temporary modifications, jumpers, and bypasses;
- The review process, including assignment of responsibility, provided for ensuring that all proposed temporary modifications, jumpers, and bypasses are reviewed for potential UFSAR impact;
- Controls required that a formal log be maintained of the status of temporary modifications; and
- Responsibility was assigned for maintaining formal logs.

b. Findings

No findings were identified.

1P05 Construction Quality Assurance

a. Inspection Scope

- 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

The inspectors conducted daily reviews of issues entered into the licensee's CAP to assess issues that might warrant additional follow-up inspection, to assess repetitive or long-term issues, to assess adverse performance trends, and to ensure the CAP appropriately included regulatory required non-safety related SSCs. The inspectors periodically attended the licensee's CAP review meetings, held discussions with licensee and contractor personnel, and performed reviews of CAP activities during the conduct of other baseline inspection procedures.

The inspectors reviewed conditions entered into the licensee's CAP to determine whether the issues were classified in accordance with the licensee's QA program and CAP implementing procedures. The inspectors reviewed corrective actions associated with conditions entered into the CAP to determine whether appropriate actions to correct the issues were identified and implemented effectively, including immediate or short-term corrective actions, in accordance with the applicable QA program requirements and 10 CFR 50, Appendix B, Criterion XVI. Additionally, the inspectors reviewed the corrective actions taken to determine whether they were commensurate with the significance of the associated conditions in accordance with the licensee's CAP implementing procedures. The inspectors completed reviews of CAP entry logs to verify issues from all aspects of the project, including equipment, human performance, and program issues, were being identified by the licensee and associated contractors at an appropriate threshold and entered into the CAP as required by licensee's CAP implementing procedures.

- CRs 50058111 and 50057805

b. Findings

Introduction

The NRC inspectors identified a construction finding of very low safety significance (Green), and a NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to correct a deficiency in their Class 1E DC and UPS Preoperational Test procedure, 3-IDS-ITPP-501.

Description

On January 29, 2021, the inspectors reviewed the updated preoperational test procedure 3-IDS-ITPP-501, "Class 1E DC and UPS Preoperational Test," to verify if the procedure would demonstrate the test method and acceptance criteria prescribed in UFSAR Section 14.2.9.1.14 was satisfied. During their review the inspectors identified that procedure Section 4.3.4 inappropriately required a minimum test duration of 24 hours for the 72-hour battery performance test.

The inspectors reviewed CRs 50058111 and 50057805 and determined that this issue was previously identified and documented as NCV 05200025/2020009-02, Failure to Establish Adequate Procedure for Unit 3 72-hour Battery Performance Test (ADAMS Accession No. ML20315A137). CRs 50058111 and 50057805 were closed and the revised procedure did not include the corrective actions. Subsequent to the NRC identifying this issue, the licensee changed their preoperational test procedure to include the minimum test duration of 72 hours for the 72-hour battery performance test. The licensee entered this issue into their corrective action program as CR 50076165, CR 50078235, and CAR 80004604.

Analysis

The inspectors determined that the failure to correct the NRC identified deficiency that was documented and closed in CRs 50058111 and 50057805 was contrary to 10 CFR 50, Appendix B, Criterion XVI and was a performance deficiency. Per the guidance in IMC 0613, Appendix E, "Examples of Minor Construction Issues," the inspectors determined the performance deficiency was more than minor and a finding, because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Specifically, the minimum test duration of 24 hours in Step 4.3.4 was entered and closed in the corrective action program without being corrected. The performance deficiency did not impact an ITAAC, thus it was determined to be a construction finding.

The inspectors determined the finding was associated with the Inspection/Testing Cornerstone and assessed the finding in accordance with IMC 2519, “Construction Significance Determination Process,” Appendix A, “AP1000 Construction Significance Determination Process,” Section 4. The inspectors determined this finding was of very low safety significance because the finding did not impair a design function.

In accordance with IMC 0613 Appendix F, Construction Cross-Cutting Areas and Aspects,” the inspectors determined this finding had a cross-cutting aspect of avoiding complacency in the area of human performance. The proximate cause of the performance deficiency was primarily attributed to a failure to properly use human error reduction techniques, namely inadequate verification by personnel changing the procedure. [H12]

Enforcement

Title 10 of the *Code of Federal Regulations* Part 50, Appendix B, Criterion XVI, Corrective Action,” requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, since January 29, 2021, the licensee failed to correct an identified condition adverse to quality. Specifically, the minimum test duration of 24 hours in Step 4.3.4 was entered and closed in the corrective action program without being corrected in the revised procedure. The licensee entered this issue into their corrective action program as CR 50076165, CR 50078235, and CAR 80004604. Corrective actions are planned and does not present an immediate safety concern because the 72-hr battery performance test has not been performed.

Because this violation was not repetitive or willful, was of very low safety significance (Green), and was entered into the licensee's corrective action program (CAP), this violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-01, Failure to Correct NRC Identified Violation).

3. OPERATIONAL READINESS

Cornerstones: Operational Programs

3T01 (Unit 3) ITAAC Number 2.2.01.07.i (107) / Family 11D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.07.i (107). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.03-Test Results Review

The inspectors used appropriate portions of the IP to review the results of the following procedures to determine if the tests satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC:

- 3-CNS-ITPP-501; and
- 3-CNS-ITPP-502.

b. Findings

No findings were identified.

3T02 (Unit 3) ITAAC Number 2.2.01.11b (118) / Family 07D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.11b (118). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.03-Test Results Review

The inspectors used appropriate portions of the IP to review the results of the following procedure to determine if the test satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC:

- B-GEN-ITPCM-017

b. Findings

No findings were identified.

3T03 (Unit 3) ITAAC Number 2.6.03.04c (603) / Family 08D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.6.03.04c (603). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.01 – Procedure Review
- 65001.D-02.02 – Test Witnessing

The inspectors used appropriate portions of the IP to review the following procedures to determine whether the procedures complied with the applicable quality and technical requirements of the UFSAR and the ITAAC.

- 3-IDS-ITPP-501;
- B-GEN-ITPCE-008;
- B-GEN-ITPCE-006; and
- B-GEN-ITPCE-009.

b. Findings

NCV 05200025/2021002-02, Failure to Use Worst Case Load Profile for IDS Battery Service Test

Introduction

The NRC inspectors identified an ITAAC finding of very low safety significance (Green), and an NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the most limiting accident load profiles and load currents that envelopes the battery bank design duty cycle into the battery service testing specified by procedure 3-IDS-ITPP-501, "Class 1E DC and UPS Preoperational Test." This testing procedure for IDS batteries Division A, IDSB, IDSC, and IDSS did not meet the required inspection, test, and analysis for ITAAC 2.6.03.04c or the requirements in the licensing basis.

Description

In January and February 2021, the licensee performed service tests on the four divisional batteries (A, B, C, and D) for the IDS in accordance with ITAAC 2.6.03.04c, the UFSAR Section 8.3.2, "DC Power Systems," and the UFSAR Section 14.2.9.1.14, "Class 1E DC Power and Uninterruptible Power Supply Testing." The ITAAC required that the tests use an equivalent load that equals or exceeds the battery bank design duty cycle capacity. The licensing basis established the methods for battery sizing and testing.

The inspectors compared the preoperational test procedure used for testing, 3-IDS-ITPP-501, and the design specification, SV3-DB01-Z0-001, “Design Specification for Class 1E 250 VDC Batteries and Racks,” to the battery sizing calculation, APP-IDS-E0C-001, “Class 1E 250 VDC Battery Sizing, Charger Sizing and Available Short Circuit Current,” to verify if the ITAAC's acceptance criteria was translated into the test requirements.

The inspectors identified that the accident load profiles used to perform the service tests for battery divisions IDSC and IDSS were not the most limiting specified in the battery sizing calculation for those divisions. In addition, the load step currents that make up the accident load profiles used for the testing of battery divisions IDSA, IDSB, and IDSC were lower than the load currents specified in the battery sizing calculation for those divisons.

By not using the most limiting load profiles or load step currents that envelopes the battery bank design duty cycle, the licensee was not be able to verify that the battery could supply its dc switchboard bus load for a period of 24 hours without recharging. The licensee entered this issue into its corrective action program as CRs 50078637 and 50080247 and changed their preoperational test procedure to meet the acceptance criteria. Additional planned corrective actions include reperformance of the battery service tests on battery divisions IDSA, IDSB, and IDSC.

Analysis

The inspectors determined the failure to translate the most limiting accident load profiles and load currents that envelope the battery bank design duty cycle into the battery divisions IDSA, IDSB, IDSC, and IDSS preoperational test procedure, 3-IDS-ITPP-501, to verify the acceptance criteria of ITAAC 2.6.03.04c and the licensing basis was contrary to 10 CFR 50, Appendix B, Criterion III and was a performance deficiency. Per the guidance in IMC 0613, Appendix E, "Examples of Minor Construction Issues," the inspectors determined the performance deficiency was determined to be more than minor because it represented a substantive failure to establish or implement an adequate program, process, procedure or quality oversight function. Specifically, the licensee failed to use the most limiting accident load profiles and currents for the service tests of IDSA, IDSB, IDSC, and IDSS 24-hour batteries because they were not translated into the preoperational test procedure. This finding is an ITAAC finding because the performance deficiency is material to ITAAC 2.6.03.04c. Specifically, the inspection, tests, and analysis for ITAAC 2.6.03.04c specifies that the test of the 24-hour IDS batteries was required to be performed by applying a simulated or real load, or a combination of simulated or real loads which envelope the battery bank design duty cycle. By not using the worst-case load profile or currents, the licensee was not be able to verify whether the battery could supply its dc switchboard bus load and have a terminal voltage of at least 210VDC after a period of 24 hours.

The inspectors determined the finding was associated with the Inspection/Testing cornerstone and assessed the finding in accordance with IMC 2519, “Construction Significance Determination Process,” Appendix A, “AP 1000 Construction Significance Determination Process,” Section 4. The inspectors determined the finding was of very low safety significance because the finding did not impair a design function.

In accordance with IMC 0613 Appendix F, “Construction Cross-Cutting Areas and Aspects,” the inspectors determined the finding had a cross-cutting aspect of challenge the unknown in the area of human performance. Specifically, the licensee failed to adequately investigate which profiles were the most limiting for each division and the spare to ensure the test procedure encompassed the requirements. [H.11]

Enforcement

Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, “Design Control,” requires, in part, that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.

Contrary to the above, since July 22, 2020, the licensee failed to correctly translate the applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to correctly translate the most limiting accident load currents and profiles for IDSA, IDSB, IDSC, and IDSS batteries into the preoperational test procedure. The licensee entered this issue into their corrective action program as CRs 50078637 and 50080247. Corrective actions are planned and do not present an immediate safety concern because the 24-hr battery service tests will be reperformed.

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 a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-02, Failure to Use Worst Case Load Profile for IDS Battery Service Test).

NCV 05200025/2021002-03, Failure to Place IDSB Battery on Float for 72 hrs. After Being on Equalize Voltage

Introduction

The NRC inspectors identified a construction finding of very low safety significance (Green), and an NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to place the IDSB 24-hour battery on float voltage for 72 hours subsequent to it being on equalize voltage.

Description

On February 1, 2021, the inspectors observed the 24-hour service test of IDSB battery to verify if the test would satisfy the ITAAC and UFSAR requirements. Upon completion of the 24-hour float voltage, the licensee observed the as-found voltage prior to the start of the test of the battery was at 273.13 volts (V) DC. This voltage was above the maximum allowable float voltage of 271.2VDC specified for the battery. The licensee stopped the test, then placed the IDSB battery on float voltage at 270VDC for 24 hours prior to starting the battery service test again for that division instead of the required 72 hours per procedure.

The battery specifications in SV3-DV01-V0D-002, “AP1000 Class 1E 250 VDC Battery System Data Sheet: EnerSys S-1156 GN-29 Battery Range Summary,” documented the maximum float voltage of the battery at 2.26V per cell, which is 271.2VDC across all 120 battery cells. Any applied voltage above this voltage is specified as an equalizing voltage per Institute of Electrical and Electronic Engineers standard 450-1995 and considered outside of the normal float voltage. The prerequisite conditions in the battery capacity test procedure B-GEN-ITPCE-008, “Class 1E and Non-Class 1E Battery Testing,” Section 3, Step 5 specified, that “Ensure Battery to be tested has been on Normal (Float) for at least 72 hours after an Equalize Charge.” Based on this procedure, the inspectors determined that the IDSB battery should have been placed on float voltage for 72 hours prior to starting the battery service test for that division. The licensee entered this issue into its corrective action program as CR 50085270.

Analysis

The inspectors determined that the failure to place the IDSB on float charge for 72 hours following an equalizing charge as required by B-GEN-ITPCE-008 was contrary to 10 CFR 50, Appendix B, Criterion V, and was a performance deficiency. The performance deficiency was determined to be more than minor and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Specifically, the licensee failed to follow their procedure and place the IDSB battery on float charge for 72 hours after being on equalizing voltage. The performance deficiency did not impact an ITAAC, thus it was determined to be a construction finding.

The inspectors determined the finding was associated with the Inspection/Testing Cornerstone and assessed the finding in accordance with IMC 2519, “Construction Significance Determination Process,” Appendix A, “AP1000 Construction Significance Determination Process,” Section 4. The inspectors determined this finding was of very low safety significance because the finding did not impair a design function.

In accordance with IMC 0613 Appendix F, Construction Cross-Cutting Areas and Aspects,” the inspectors determined the finding had a cross-cutting aspect of conservative bias in the area of human performance. Specifically, the licensee proceeded with testing without questioning whether a 72-hour float was required. [H.14]

Enforcement

Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires, in part, that activities affecting quality shall be accomplished in accordance with instructions, procedures, or drawings.

The licensee’s battery test procedure B-GEN-ITPCE-008, Section 3.0, Step 5 required that the battery be placed on normal float voltage for 72 hours after being on equalize voltage.

Contrary to the above, on February 1, 2021, the licensee failed to follow Step 5 in Section 3.0 of B-GEN-ITPCE-008. Specifically, the licensee failed to place the IDSB battery on float voltage for 72 hours after being on an equalize voltage. The licensee

entered this issue into their corrective action program as CR 50085270. Corrective actions are planned and do not present an immediate safety concern because the IDSB service test will be reperformed.

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 a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-03, Failure to Place IDSB Battery on Float for 72 hrs. After Being on Equalize Voltage).

NCV 05200025/2021002-04, Failure to Translate Design Requirements into IDS Test Procedure

Introduction

The NRC inspectors identified three examples of a construction finding of very low safety significance (Green), and an NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the design requirements and acceptance limits in applicable design documents into preoperational test procedure 3-IDS-ITPP-501, "Class 1E DC and UPS Preoperational Test." Specifically, the licensee failed to translate design requirements from NEMA PE 5-1985, "Utility Type Battery Chargers," SV3-IDS-T1-503, "Class 1E DC and Uninterruptible Power Supply System Preoperational Test Specification," and the UFSAR Section 14.2.9.1.14.

Description

Example 1: Procedures allowed float tolerance is greater than the design of the system

The licensee's design specification, APP-IDS-E8-001, Class 1E DC and UPS Specification Document, Rev. 5, specified that the maximum adjustable output float voltage was 270VDC. The design standard for the battery charger, National Electrical Manufacturers Association (NEMA) PE-5, Section 3.7, "Voltage deviation (regulation)" specified the allowed voltage deviation shall not exceed 0.5% of the charger setpoint. The NEMA PE 5 standard specified that the voltage regulation was only to account for the system deviations described in Sections 2 and 3 of the NEMA standard. These deviations that required voltage regulation were from changes in environmental conditions, changes in incoming power conditions, and changes in charger load conditions. Design Specification APP-DC01-Z0-001, Rev.11, Sections 4.1.1.3.2 and 4.1.1.3.3 specified, in part, that the battery charger output voltage shall be regulated at no more than +0.5% of the nominal float voltage (270V). The normal float voltage plus 0.5% equals a maximum measured float voltage of no greater than 271.35VDC. This upper voltage is specified for the excursions identified in the NEMA standard, otherwise, the maximum float voltage should be 270VDC.

The licensee's preoperational test procedure, 3-IDS-ITPP-501, Step 4.1.1.3, specified a maximum float voltage of 272VDC without identifying the circumstances for which this was allowed. This prescribed upper limit in the test procedure is above the voltage deviation allowed for excursions per the NEMA standard and above the 271.2VDC maximum float voltage per the battery design.

After identification, the licensee changed their preoperational test procedure to reflect the NEMA PE 5 voltage regulation requirement. The licensee entered this issue into its corrective action program as CR 50080097 and planned corrective actions to revise the procedure.

Example 2: Static transfer switch was not tested under load

The inspectors reviewed preoperational test procedure 3-IDS-ITPP-501, Class 1E DC and UPS Preoperational Test, to verify if the procedure would demonstrate the test method and acceptance criteria prescribed in the UFSAR Section 14.2.9.1.14, Class 1E DC Power and Uninterruptible Power Supply Testing. The UFSAR required that the capability of each of the static transfer switches to automatically transfer the electrical loads supplied by each inverter to its associated regulating transformer to be verified. To verify this, the static transfer switch would be required to be under an electrical load. The test procedure specified static switch testing without an electrical load connected to it. As a result of the design requirements not being translated into the preoperational test procedure, static transfer switch 3-IDSA-DU-1 was tested without an electrical load and did not verify the switch capability as required. The licensee entered this issue into its corrective action program as CR 50079776 and planned corrective actions to revise the procedure to test the static transfer switches while connected to a load.

Example 3: Battery charger test did not meet UFSAR requirements

The UFSAR Section 14.2.9.1.14, Class 1E DC and UPS Testing, required, the capability of each of the seven battery chargers to charge its associated battery at the required rate be verified. This testing includes verification that the individual voltage of each cell is within the specified limits for a charged battery. Preoperational test procedure 3-IDS-ITPP-501 did not require the individual cell voltages to be verified while charging and after charging the batteries at the required rate. The required rate was established by ITAAC 2.6.03.04c and test specification 3-IDS-ITPP-501 as 150A for the 24hr batteries and 125A for the 72hr batteries. The licensee entered this issue into its corrective action program as CR 50079774 and was planning corrective actions.

Analysis

The inspectors determined that the failure to translate the requirements of the Class 1E DC and UPS system into testing procedures was contrary to 10 CFR 50, Appendix B, Criterion III, and was a performance deficiency. The performance deficiency was determined to be more than minor and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Specifically, the licensee failed to translate design requirements from NEMA PE 5, APP-IDS-T1-503, and UFSAR Section 14.2.9.1.14 into their preoperational test procedure, 3-IDS-ITPP-501. The performance deficiency did not impact an ITAAC, and therefore was determined to be a construction finding.

The inspectors determined the finding was associated with the Inspection/Testing Cornerstone and assessed the finding in accordance with IMC 2519, “Construction Significance Determination Process,” Appendix A, “AP1000 Construction Significance

Determination Process," Section 4. The inspectors determined this finding was of very low safety significance because the finding did not impair a design function.

In accordance with IMC 0613 Appendix F, Construction Cross-Cutting Areas and Aspects," the inspectors determined the finding had a cross-cutting aspect of consistent process in the area of human performance. Specifically, the licensee used an inconsistent approach to ensure that all requirements were translated into the procedure. [H.13]

Enforcement

Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.

Contrary to the above, on February 2, 2021, the licensee failed to translate the design information in NEMA PE 5, APP-IDS-T1-503, and UFSAR Section 14.2.9.1.14 into the Class 1E DC and UPS preoperational test procedure, 3-IDS-ITPP-501. The licensee entered these issues into their corrective action program as CR 50080097, 50079776, and 50079774, respectively. Corrective actions are planned and do not present an immediate safety concern because none of the tests that use this design information have been completed and accepted by the licensee.

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 a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-04, Failure to Translate Design Requirements into IDS Test Procedure).

NCV 05200025/2021002-05, Failure to Control Design Calculation for Three Battery Cells Bypassed

Introduction

The NRC inspectors identified a construction finding of very low safety significance (Green), and an NCV of 10 CFR 50, Appendix B, Criterion VII, "Control of Purchased Material, Equipment, and Services," for the licensee's failure to control the quality of design requirements and acceptance criteria in calculations used to determine voltage margins after discharge.

Description

The IDS batteries were sized such that 120 cells would provide no less than 210VDC after 24 hours of discharge following a design basis accident. The inspectors reviewed portions of APP-IDS-E0C-001, "Class 1E 250V DC Battery Sizing, Charger Sizing and Available Short Circuit Current," Rev 8, and determined that the calculation allowed for

the bypassing of three battery cells with no loss of battery performance. The inspectors noted that at 117 cells the calculation inappropriately used a minimum voltage of 1.75VDC per cell, which would not provide the required minimum battery voltage of 210VDC after a complete discharge in some design basis accident scenarios. Subsequent to the NRC identifying this concern, the licensee entered this into their corrective action program as CR 50080010 and CAP IR 2021-2177. Corrective actions included using a different battery profile that used a higher final cell voltage that ensured at least 210VDC after 24 hours of discharge following a design basis accident with three cells bypassed.

Analysis

The inspectors determined that the failure to control the quality of the battery sizing calculation was contrary to 10 CFR 50, Appendix B, Criterion VII and was a performance deficiency. The performance deficiency was determined to be more than minor and a finding because it represented a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Specifically, the licensee failed to have quality oversight of the battery sizing calculation that could affect the safety function of the battery. The performance deficiency did not impact an ITAAC, thus it was determined to be a construction finding.

The inspectors determined the finding was associated with the Inspection/Testing Cornerstone and assessed the finding in accordance with IMC 2519, “Construction Significance Determination Process,” Appendix A, “AP1000 Construction Significance Determination Process,” Section 4. The inspectors determined this finding was of very low safety significance because the finding did not impair a design function.

In accordance with IMC 0613 Appendix F, Construction Cross-Cutting Areas and Aspects,” the inspectors determined the finding had a cross-cutting aspect of documentation in the area of human performance. Specifically, the licensee failed to consider all potential scenarios for the battery calculation. [H.7]

Enforcement

Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion VII, “Control of Purchased Material, Equipment, and Services” requires, in part, the effectiveness of the control of quality by contractors and subcontractors shall be assessed by the applicant or designee at intervals consistent with the importance, complexity, and quantity of the product or services.

Contrary to the above, on February 24, 2021, the licensee failed to assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance, complexity, and quantity of the product or services.

Specifically, calculation APP-IDS-E0C-001 used a battery profile with three cells bypassed that would not provide the minimum required voltage after 24 hours of discharge following a design basis accident. The licensee and contractor entered this issue into their corrective action programs as CR 50080010 and CAP IR 2021-2177. Corrective actions are planned and do not present an immediate safety concern because the batteries were not be relied upon to perform their safety-related

function. Corrective actions are planned and do not present an immediate safety concern because the results of the calculation have not been used to justify the bypassing of any battery cells.

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 a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-05, Failure to Control Design Calculation for Three Battery Cells Bypassed).

3T04 (Unit 3) ITAAC Number 2.2.01.11a.iii (116) / Family 07D

a. Inspection Scope

The inspectors performed a direct inspection of construction activities associated with ITAAC Number 2.2.01.11a.iii (116). The inspectors used the following NRC IPs/sections to perform this inspection:

- 65001.D-02.02 - Test Observation

The inspectors used appropriate portions of the IP to observe the licensee's performance of the following procedure(s) to determine if the test(s) satisfied the applicable quality and technical requirements of the UFSAR and the ITAAC.

- B-GEN-ITPCI-039-F004;
- B-GEN-ITPCI-039-F005; and
- B-GEN-ITPCI-039-F006.

b. Findings

No findings were identified.

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

3P01 Inservice Testing

- 73758-App A.02.02 - Preservice and Inservice Testing (PST) (IST) Program
- 73758-App B.02.01 - Inspection Requirements

a. Inspection Scope

Inservice Testing (IST) Program

The inspectors reviewed the Vogtle Units 3 & 4 IST Program Plan, Licensing Document Change Request (LDCR) 2019-079, site procedures, and other documents to determine whether the licensee's IST Program was developed in compliance with the applicable regulatory requirements and license conditions, is consistent with the plant-specific UFSAR, and is ready to support the operation of the facility. Specifically, the inspectors reviewed the following:

- license conditions applicable to IST at Vogtle Units 3 & 4 to verify if they have been incorporated into the IST Program;
- the scope of the IST Program to verify if it was consistent with the plant-specific FSAR, and is in compliance with the ASME OM Code as incorporated by reference in 10 CFR 50.55a;
- the testing specified in the IST Program Plan and LDCR-2019-079 to verify if they were in accordance with the requirements of 10 CFR 50.55a and the 2012 Edition of the ASME OM Code as incorporated by reference in 10 CFR 50.55a;
- alternatives to the requirements of 10 CFR 50.55a or the ASME OM Code identified in the IST Program Plan to verify if they were authorized prior to their use;
- ASME OM Code Cases identified in the IST Program Plan to verify if they had been approved for use;
- justifications for deferring applicable IST activities to cold shutdown and refueling outages included in the IST Program Plan;
- controls in place to ensure that components do not receive unacceptable preconditioning prior to IST activities; and
- planned changes to the UFSAR identified in LDCR-2019-079 to verify if they were consistent with the IST provisions of the ASME OM Code as incorporated by reference in 10 CFR 50.55a.

The inspectors also reviewed Southern Nuclear Operating Company (SNC) Document No. ND-LI-013-47-09-15-2020 (dated 9/18/2020), "Technical Specification Requirements 'in accordance with the Inservice Testing Program'," which was developed by SNC to determine a method of compliance with the Technical Specification Surveillance Requirements (SRs) that require compliance "in accordance with the Inservice Testing Program" when they become applicable at the 10 CFR 52.103(g) finding given that the IST Program requirements start at the first generation of electricity by nuclear heat at Vogtle Units 3 & 4. As stated in ND-LI-013-47-09-15-2020, the licensee's position is that the Technical Specification SRs that require compliance "in accordance with the Inservice Testing Program" during the initial plant startup period, are met by testing to the ASME OM Code requirements as required by 10 CFR 50.55a(f), which encompasses both PST and IST activities. The licensee's position provides that this was accomplished by satisfactory performance to the requirements (test procedure and frequency) of preservice testing prior to initial generation of electricity by nuclear heat, and testing to requirements for inservice testing starting at the first generation of electricity by nuclear heat (i.e., the first periodic performance for each inservice test is due after the first generation of electricity by nuclear heat plus the stated frequency with allowed adjustment per ASME OM Code Case OMN-20). During the review, the inspectors obtained information from NRC headquarters staff from the technical branches responsible for IST and Technical Specification requirements. The NRC headquarters staff determined that the licensee's position is consistent with the current language of the ASME OM Code that does not include periodic PST activities for a nuclear power plant during its initial startup. In considering the licensee's position, the NRC headquarters staff noted that the ASME OM Code includes flexibility in the intervals for IST activities by allowing quarterly IST activities to be extended to refueling outages where testing during plant operation is not practicable. On this basis, the inspectors determined the licensee's position in ND-LI-01347-09-15-2020 was acceptable, and noted that the NRC can address the

performance of PST activities by a separate process if the startup process for Vogtle Units 3 & 4 becomes extended.

Operational Readiness of Pumps, Valves, and Dynamic Restraints within the Scope of Regulatory Treatment of Non-Safety Systems

To determine how the licensee will comply with the requirements of 10 CFR 50.55a(b)(3)(iii)(D), the inspectors reviewed procedures intended to establish the performance criteria and monitoring parameters needed to assess the operational readiness of pumps, valves, and dynamic restraints, that are within the scope of Regulatory Treatment of Non-Safety Systems (RTNSS). Specifically, the inspectors reviewed SNC Procedure NMP-ES-001 (Version 10.1, approved 12/15/2020), "Equipment Reliability Process Description," which provided the strategy and overall process for integrating various equipment reliability processes that are essential to ensure sustained long-term equipment performance. The procedure states that it will be implemented fully by the NRC ITAAC 52.103(g) finding. The inspectors also reviewed SNC Procedure NMP-ES-005 (Version 18.0, approved 02/25/2020), "Scoping and Importance Determination for Equipment Reliability," which provided guidance for determining or modifying the criticality classification, duty cycle, and service condition of a component. The procedure applies to systems and components important to support safe power generation, and also applies to components requiring preventive maintenance in order to minimize unanticipated failures that may result in economic impact or radiation exposure.

During the procedure review, the inspectors also asked whether the licensee had completed the scoping and importance determination process, per NMP-ES-005, for the pumps, valves, and dynamic restraints that were subject to the Equipment Reliability Process. The licensee responded that the scoping for these components is currently in process per NMP-ES-005 with completion planned by the second quarter of 2021. In addition, the inspectors asked whether the licensee had established performance criteria/monitoring parameters for the aforementioned pumps, valves, and dynamic restraints. The licensee responded that the maintenance strategies have been drafted for the majority of components and that the preventative maintenance and surveillances are being evaluated in preparation for system transition. The licensee also provided a list with examples of RTNSS equipment that had been scoped and assigned maintenance strategies using the Equipment Reliability Process. The examples of RTNSS equipment and their maintenance strategies included (1) Residual Heat Removal (RHR) System Pump 3-RNS-MP-01A with periodic exercise testing, flow verification, oil analysis, and motor vibration monitoring; and (2) Letdown containment isolation valve 3-CVS-V045 with periodic AOV diagnostic testing, solenoid replacement, airline maintenance, Topworx C7GO Switch replacement, and ASCO solenoid valve replacement. The inspectors determined that the maintenance strategies provided were sufficient to assess the operational readiness of the sampled components.

The inspectors also reviewed Licensing Document Change Request for Vogtle Electric Generating Plant (VEGP) Units 3&4 LDCR-2019-079 (Version 1.0, dated April 30, 2020), "Inservice Testing Program Plan, Vogtle Units 3&4." In LDCR-2019-079, the licensee plans to include new Section 3.9.6.4.6, "Regulatory Treatment of Non-Safety Systems (RTNSS) component testing," in the next revision to the UFSAR for Vogtle Units 3 & 4. This new UFSAR section will reference 10 CFR 50.55a(b)(3)(iii)(D) for the requirement to assess the operational readiness of pumps, valves, and dynamic

restraints within the scope of the RTNSS program. The new UFSAR section will state that the method for assessment of operational readiness for these components is documented in the equipment reliability assessment for the associated components and includes testing of the components performed per Section 16.3 of the UFSAR. The inspectors discussed the planned UFSAR updates with the licensee as well as the plans to use the Equipment Reliability Program to ensure that the testing of RTNSS pumps, valves, and dynamic restraints satisfies the operational readiness requirements of 10 CFR 50.55a(b)(3)(iii)(D).

Based on the review described above, the inspectors determined that the implementation of the Equipment Reliability Program can provide reasonable assurance of the operational readiness of pumps, valves, and snubbers provided the licensee satisfies the requirements of 10 CFR 50.55a(b)(3)(iii)(D). The inspectors also verified that no components classified as RTNSS are within the scope of the PST/IST program.

b. Findings

No findings were identified.

3P02 Preservice Testing

- 73758-App A.02.01 - Functional Design and Qualification
- 73758-App A.02.02 - Preservice and Inservice Testing Program
- 73758-App B.02.01 - Inspection Requirements
- 73758-App C.02.01 - Inspection Requirements

a. Inspection Scope

Functional Design and Qualification

The inspectors performed the following activities related to the development and implementation of the Functional Design and Qualification Program for pumps, valves, and dynamic restraints that will perform safety-related functions at Vogtle Units 3 & 4:

- the inspectors reviewed the licensee's disposition of the international operating experience with AP1000 plants on the potential for thermal binding of globe valves in high temperature applications to determine if the licensee's actions provided reasonable assurance that the issue identified in the operating experience will not adversely impact the plant during operation;

- The inspectors reviewed motor-operated valve (MOV) application reports, and other documents, related to the qualification of Size 3 Class 1890 Flexwedge gate valves with Limitorque SB-1-60 DC motor actuators used at Vogtle Units 3 & 4 to determine if the licensee satisfied the provisions of ASME Standard QME-1-2007 as specified in the Vogtle Units 3 & 4 plant-specific FSAR, and as accepted in Regulatory Guide 1.100 (Revision 3);

- The inspectors reviewed design reports, and other documents (including the verification and validation process for incorporating the Boiling Water Reactor

Owners Group DC Motor Methodology into the Teledyne MIDAS MOV Calculation Software) related to the qualification of PCS-PL-001C, PCS Actuation Valve C, MOV to verify if the appropriate justifications were provided for assumptions made in the valve set point data sheet (SPDS), including the assumptions of a 0.58 valve coefficient of friction, the Limitorque SB-00 actuator maximum thrust, and the 10% margin tracking method; and

- The inspectors reviewed a sample of work packages for post-installation valve testing to determine if the licensee satisfied the provisions of ASME Standard QME-1-2007, as specified in the UFSAR. The sample included the following valves:

    - SV3-SFS-PL-V034, Refueling Cavity/IRWST to SFS IC Containment Isolation Valve;
    - SV3-SFS-PL-V035, Refueling Cavity/IRWST to SFS OC Containment Isolation Valve;
    - SV3-SFS-PL-V038, SFS to Refueling Cavity/IRWST to SFS OC Containment Isolation Valve;
    - SV3-PXS-PL-V014A, CMT A Outlet Valve;
    - SV3-PXS-PL-V014B, CMT B Outlet Valve;
    - SV3-PXS-PL-V015A, CMT A Outlet Valve;
    - SV3-PXS-PL-V015B, CMT B Outlet Valve; and
    - SV3-RNS-PL-V061, CVS Return to RNS Suction/IC Containment Isolation Valve.

PST Program

The inspectors performed the following activities related to the development and implementation of the PST Programs for pumps, valves, and dynamic restraints that will perform safety-related functions at Vogtle Units 3 & 4:

- The inspectors reviewed PST Program implementing procedures to verify if administrative controls were in place to track the completion of required PST activities prior to the first electrical generation by nuclear heat, as required by the ASME OM Code;

- The inspectors reviewed the licensee's check valve monitoring program procedure to verify if it was in compliance with the requirements of 10 CFR 50.55a(b)(3)(iv) and the ASME OM Code as incorporated by reference in 10 CFR 50.55a;

- The inspectors reviewed PST activities specified for a sample of valves in the PST Program Plan for compliance with the ASME OM Code as incorporated by reference in 10 CFR 50.55a. The sample included the following valves:

    - SV3-RCS-PL-V001A, ADS Stage 1 Control Valve (4-inch globe MOV);
    - SV3-RCS-PL-V002B, ADS Stage 2 Control Valve (8-inch globe MOV);
    - SV3-RCS-PL-V003A, ADS Stage 3 Control Valve (8-inch globe MOV);
    - SV3-RCS-PL-V004B, ADS Stage 4 Valve (14-inch squib valve);
    - SV3-PXS-PL-V123A, Containment Recirc. Sump A to RCS Actuation Squib Valve (8-inch squib valve);

- SV3-SGS-PL-V031B, SG 2 Safety Valve;
- SV3-RNS-PL-V061, CVS return to RNS Suction/IC Containment Isolation Valve (3-inch globe AOV); and
- SV3-PXS-PL-V016A, CMT A outlet to RCS Check (8-inch check valve);

- The inspectors reviewed the preservice examination results for the following sample of dynamic restraints to verify if the requirements of ASME OM Code, Subsection ISTD, paragraph ISTD-4110, as incorporated by reference in 10 CFR 50.55a, had been met:

  - SV3-PXS-PH-11Y0020, SV3-PXS-PH-11Y2052;
  - SV3-RNS-PH-12Y2060; and
  - SV3-RCS-PH-11Y0039, SV3-RCS-PH-11Y0081, SV3-RCS-PH-11Y0388, SV3-RCS-PH-11Y0528, SV3-RCS-PH-11Y1134, SV3-RCS-PH-11Y2005, SV3-RCS-PH-11Y1130, SV3-RCS-PH-11Y2264; and

- The inspectors reviewed corrective actions taken to address the following issues to determine if the licensee's actions were appropriate:

  - the inability to use magnetic switches to verify the position of check valves PXS-PL-V122B and V124B, IRWST/Containment Recirc Sump injection to RCS check valves; and
  - unsatisfactory snubber examination results.

b. Findings

No findings were identified.

3P03 Quality Assurance (Operations)

- 35101 - QA Program Implementation Inspection for Operational Programs
- 42401 - Part 52, Plant Procedures
- 42453 - Part 52, Operating Procedures Inspection
- 42454 - Part 52, Emergency Procedures
- 71303 - Part 52, Technical Specifications Review

a. Inspection Scope

IP 35101

The inspectors reviewed licensee controls pertaining to status of inspections and tests of items installed in the plant. Specifically, the inspectors reviewed procedure NMP-GM-006-002, Surveillance Program, to determine if controls were in place for:

- responsibilities, administrative controls, and documentation requirements to assure compliance with surveillance requirements of licensing documents;
- periodic testing to verify that safety-related structures, systems, and components (SSCs) were in a state of readiness to perform their functions, and to provide assurance that failures or substandard performance do not remain undetected; and

- system level operability program administrative guidance, which provides requirements for performance tests of AP-1000 passive systems.

The inspectors reviewed licensee measures used to identify satisfactory completion of required inspections and tests. Specifically, the inspectors reviewed procedure NMP-GM-006, Work Management, to determine if controls existed for:

- a long-range maintenance cycle plan that bundles work to minimize out of service time, aligns with preventive maintenance (PM) strategies, and minimizes Maintenance Rule unavailability of equipment;
- planning and performance of post-maintenance testing; and
- multi-discipline reviews of the PM program, and generation of PM Change Requests as required.

The inspectors reviewed licensee measures that prevent the inadvertent bypass of required inspections and tests. Specifically, the inspectors reviewed procedure B-ADM-WCO-001-001, Operational Readiness Repetitive Task Management, to determine if controls were in place for:

- maintaining the Master List of Surveillance Requirements (MLSR), which is a comprehensive listing of all surveillance requirements in: Technical Specifications (TS), the Technical Requirements Manual (TRM), and the Offsite Dose Calculation Manual (ODCM);
- maintaining the surveillance/PM database to ensure work orders are generated and scheduled for all surveillance requirements;
- scheduling, performing (by qualified personnel), reviewing surveillance test procedures, and documenting corrective actions as required
- ensuring that preventive maintenance change requests were used to add, revise, or change the scope of the surveillance program

The inspectors reviewed licensee's measures to verify if they were used to indicate the operating status of SSCs, such as tagging valves and switches that prevent inadvertent operation. Specifically, the inspectors reviewed the following procedures:

- B-ADM-OPS-001, Operations Configuration Control
- B-ADM-OPS-012, Equipment Clearance and Tagging
- B-ADM-OPS-016, Plant Status and Configuration Control

The inspectors also reviewed the procedures to determine if controls existed for:

- maintaining configuration control zones, 2-foot buffer areas in front of switchgear, motor control centers, control panels, and other sensitive equipment;
- locking in of required valve positions for components that have particular operational importance, or for other control considerations such as radiological or fire protection;
- logging of Ovation computer points that are forced out of scan for longer than one shift;
- ensuring that system valve, switch, and breaker lineups for operation were performed after equipment lockout/tagout per OSHA personnel-protection requirements; and

- identifying, preventing, and correcting component mispositioning events.

IP 42401

The inspectors performed a sample of 16 plant procedures pertaining to written instructions and guides from the categories of abnormal operating, conduct of operations and emergency plan procedures to verify if the procedures conformed with the criteria established in IP 42401, Appendix B, Procedure Usability Evaluation Checklist. Specifically, the inspectors reviewed whether the procedures contained equipment identification names, acronyms, continuous action steps, and the current verification and validation resources to capture possible needed enhancements.

The inspectors reviewed the sampled procedures to verify if administrative controls and responsibilities have been established for the review, approval, and periodic updating of plant procedures that conform to license requirements. Specifically, the inspectors reviewed NMP-AP-002, SNC Fleet Procedures Writers Guide.

The inspectors reviewed the sampled procedures to verify if procedural controls had been established and usability of the procedures satisfied quality standards. The inspectors reviewed the usability to determine whether the procedures accomplished their intended purpose, the operating limitations and design criteria were incorporated, and human factors' principles were incorporated.

The inspectors reviewed a sample of the current conduct of operations guidance and instructions for standing orders, night orders, and shift logs to verify that these orders were not being used in place of procedures. The inspectors reviewed the administrative controls for the preparation and correction of operating logs, shift turnover activities and log reviews.

The inspectors performed four interviews with facility procedure writer staff to determine awareness and understanding of facility programs established for controlling temporary changes to procedures and procedure quality.

For pandemic related concerns, on-site inspector validation of facility procedure use was not pursued (evaluation of human factor principles to verify procedure usability to include a walk thru or table-top evaluation). Based on subject matter overlap between inspection sampled facility procedures and use of these procedures during NRC evaluation of licensed operator examination applicants, equivalency reviews of administered examination materials and results were conducted. Equivalency credit was appropriate for verifying inspection criteria since the facility staff observed during licensing examinations directly represent the facility population of expected procedure users in the actual plant and human performance principles were directly observed through actual facility implementation of sampled procedures. The performance observed during NRC evaluated licensing examinations ties directly to anticipated performance during actual plant operation.

The inspectors reviewed the results of license operator exams administered in 2016 and 2020 to validate that specific abnormal operating procedures were effective tools for operator mitigation of applicable abnormal events. The inspectors verified the

procedural content used and compared scenario performance use with the relevant procedures sampled for this inspection.

IP 42453

The inspectors reviewed a sample of 16 plant procedures from administrative, general plant operating, safety-related system startup, shutdown and operation, and surveillance test procedures to verify if the procedures were in conformance with NMP-AP-002, Procedure Writers Guide.

The inspectors reviewed the procedures to verify if administrative controls and responsibilities have been established for the review, approval, and periodic updating of plant procedures that conform to license requirements. Specifically, the inspector reviewed NMP-AP-001-003, Review and Approval of Site Procedures, to ensure compliance.

The inspectors reviewed the procedure to verify if the following controls existed:

- procedure preparation in the desired format and content;
- issuing new and revised procedures;
- control and disposition of outdated procedures;
- control of temporary changes to procedures;
- ensuring changes to procedures are approved by the same organization that approved the original unless another qualified organization has been designated; and
- ensuring that the training organization is informed of procedure changes.

The inspectors reviewed the procedures to determine whether the procedures accomplished their intended purpose, operating limitations and design criteria were incorporated, human factors principles were incorporated, and procedure quality standards were met.

The inspectors performed one group interview with facility staff to determine awareness and understanding of facility programs established for controlling temporary changes to procedures. Additionally, the inspector discussed the sampled procedures as related to compliance with site guidance, including NMP-AP-001-003.

IP 42454

The inspectors reviewed a sample of 16 emergency operating procedures (EOPs) to determine if the procedures were consistent with the format specified in the facility's administrative controls procedures. Specifically, the inspectors reviewed NMP-AP-002, Procedure Writers Guide and NMP-AP-002-002, "SNC Fleet Procedures Writers Guide." The inspectors reviewed documentation confirming review by a technical authority for use in accordance with D-GEN-ADM-001, "Verification and Validation."

The inspectors reviewed the procedures to verify if administrative controls and responsibilities have been established to review, approval, and periodic updating of emergency operating procedures. Specifically, the inspectors reviewed NMP-AP-004, "Maintenance of Emergency Operating and Accident Procedures."

The inspectors reviewed the procedures to verify whether the following procedure controls existed:

- procedure preparation in the desired format and content;
- issuing new and revised procedures;
- control and disposition of outdated procedures;
- control of temporary changes to procedures;
- ensuring changes to procedures are approved by the same organization that approved the original unless another qualified organization has been designated; and
- ensuring that the training organization is informed of procedure changes.

The inspectors conducted an in-office review of 16 EOPs to:

- verify if procedures accomplish their intended purpose, within applicable design characteristics and safety review considerations;
- verify if appropriate technical specification, vendor, or design operating limitations, such as heat up/cool down rates, pressure/temperature limits, reactivity limits, safety limits, limiting conditions of operations, and limiting safety system settings, were incorporated;
- verify if human factors principles (in accordance with IP 42454, Appendix B, Procedure Usability) were incorporated;
- verify if procedures were usable by the personnel intended
- evaluate procedures against the writing style and format standards established in NMP-AP-002, SNC Fleet Procedures Writers Guide, and NMP-AP-002-002, SNC Fleet Two Column Procedures Writer's Guide; and
- verify if quality requirements of NMP-AP-002 and NMP-AP-002-002 were implemented.

For pandemic related concerns, on-site inspector validation of facility procedure use was not pursued to meet inspection evaluation criteria 02.04.c (evaluation of human factor principles to verify procedure usability). Based on subject matter overlap between inspection sampled facility procedures and use of these procedures during NRC evaluation of licensed operator examination applicants, equivalency reviews of administered examination materials and results were conducted. Equivalency credit was appropriate for verifying inspection criteria of 02.04.c since the facility staff observed during licensing examinations directly represent the facility population of expected procedure users in the actual plant and human performance principles were directly observed through actual facility implementation of sampled procedures. The performance observed during NRC evaluated licensing examinations ties directly to anticipated performance during actual plant operation.

The inspectors reviewed the results of the most recent NRC administered operating test, Examination Report 2020301, conducted during the period of March 16-20, 2020. The scenarios used for this examination included use of seven procedures reviewed for this inspection. The inspectors verified the procedural content used, performance by plant operating staff and compared scenario performance use with the appropriate EOP's sampled for this inspection.

The inspectors conducted four telephone interviews with facility operations staff of varying organizational levels to determine awareness and understanding of facility programs established for controlling temporary changes to emergency operating procedures, changes specific to use of emergency operating procedures and facility component labelling in relation to performance of emergency operating procedures (specifically for control and manipulation of field components). All four interviewees received the same set of questions with responses received consistent across the facility's Operations department.

IP 71303

The inspectors performed a line-by-line check of seven TS-related license amendments enacted since COL issuance, to verify the amendments were incorporated into licensee-controlled copies of TS (and TS Bases), which were in use by plant operations and support staff.

The inspectors verified the acceptability of the licensee's operability determination procedures by:

- reviewing NMP-AD-012, Operability Determinations, to determine the process for operability determinations on degraded and non-conforming equipment, including criteria for when an operability determination was required, the allowable time frame for completion of the determination, including any extensions to the time frame;
- reviewing NMP-OS-027, Recording Limiting Conditions for Operation, to determine the process for implementation of required actions when the limiting condition for operation was not met, and to determine the acceptability of the safety function determination program, which ensures proper actions are taken such that multiple inoperable SSCs do not result in an undetected loss of safety function; and
- the inspectors performed three interviews with licensed SROs to assess their knowledge of NMP-AD-012 and the Safety Function Determination Program for two hypothetical operability issues. Specifically, the inspectors conducted the interviews via Teams so the interviewees could share their screen with the inspector to describe the operability determination process for a main control room envelope operability determination and a safety function determination following the loss of an electrical power supply panel.

The inspectors reviewed a sample of 10 surveillance procedures used to implement TS surveillance requirements; these surveillance procedures included reactivity control (TS 3.1), instrumentation (TS 3.3), electrical (TS 3.8), and refueling (TS 3.9). The review was performed to verify that the procedures fulfilled the intent of the associated TS surveillance requirement. The facility licensee was not required to perform the surveillance procedures since no fuel was loaded at the time of the inspection; therefore, completed surveillance procedure documents were not available for inspector review.

The inspectors reviewed the following programs' implementing procedures to verify if the licensee met programmatic requirements in TS Section 5.5:

- off-site dose calculation manual (TS 5.5.1);

- safety function determination program (TS 5.5.7);
- secondary water chemistry program (TS 5.5.5); and
- the main control room envelope habitability program (TS 5.5.12).

The inspectors reviewed the core operating limits report (TS 5.6.3) and the pressure temperature limits report (TS 5.6.4) to verify if the licensee met reporting requirements in TS Section 5.5.

The inspectors reviewed the following procedures that manage Technical Specifications with respect to engineering changes to verify if proper controls were in place:

- ND-LI-VNP-002, Applicability Determination and 50.59 Departure Screening, to determine the process for performing applicability determinations and 50.59/Departure Screenings for design, plant procedure, and licensing document change activities;
- ND-LI-VNP-003, 50.59 / Departure Evaluations, to determine the process for compliance with the requirements of 10CFR50.59 and 10CFR52 Appendix D Section VIII, and the controls and methods for these processes which enable plant staff to prepare 50.59 / Departure Evaluations needed to support various change activities;
- ND-LI-VNP-007, Licensing Document Change Requests, to determine the process for requesting, processing, and approving changes to licensing documents, including the controls and methods for the LDCR process which enable plant staff to prepare LDCRs to support various change activities; and
- a sample of six (6) implemented design modifications from the past 24 months.

The inspectors reviewed the following TS Bases documents and processes in use by the licensee's operations and support staff to verify if they were controlled in accordance with the TS Bases Control Program (TS 5.5.6):

- ND-LI-VNP-015, Technical Specification Bases Control for VEGP Units 3&4, to ensure TS 5.5.6 programmatic requirements were met;
- the TS Bases were consistent with the TS-related license amendment sample;
- the TS Bases did not require changes for the modifications sample; and
- TS Bases changes to ensure consistency with the updated UFSAR.

b. Findings

No findings were identified.

3P04 Initial Test Program (Startup)

- IP 72401-02.01 – Test Program

a. Inspection Scope

Inspections of the Unit 3 startup test program was previously completed and documented in inspection report 05200025/2020008 (ADAMS Accession No. ML20224A009). For the Unit 4 startup test program, the inspectors reviewed program

differences developed and employed since completion of the testing program inspections for Vogtle Unit 3. The following testing program attributes were reviewed for Unit 4:

Test Organization

- The responsibilities, qualifications, and training of ITP testing staff were specified in writing including test procedure preparation and approval, test performance and documentation, and test results review and approval.

Test Program Administration

- Administrative measures were established for jurisdictional control of system, component, or instrumentation status before, during, and after testing including control of system status before testing and return of system components or instrumentation to construction.
- Administrative measures were established governing the conduct of testing including:
    - methods to change (both major and minor) a test procedure during the conduct of testing; and
    - method for providing the current test procedure and marked-up drawings showing current modification status to the operators before test commencement.
- Evaluation of test results were established including:
    - test results were checked against design and compared with previously determined performance standards, limits or acceptance criteria;
    - deficiencies were clearly identified, documented, and appropriate corrective action has been proposed, reviewed, and completed;
    - retests were performed as necessary after corrective actions or modifications have been completed; and
    - test result evaluations were reviewed and formally approved by appropriate licensee personnel and/or contractor personnel.

Document Control

- Administrative measures were established which control the test procedure processes for review, approval, issuance, and revision.
- Responsibilities were assigned in writing to ensure that the procedure controls will be implemented.

Design Changes and Modifications

- Administrative controls were established for controlling temporary modifications, jumpers, and bypasses.
- The review process, including assignment of responsibility, provided for ensuring that all proposed temporary modifications, jumpers, and bypasses were reviewed for potential impacts to the UFSAR.
- Controls required that a formal log be maintained of the status of temporary modifications.
- Responsibility was assigned for maintaining formal logs.

b. Findings

No findings were identified.

4. OTHER INSPECTION RESULTS

4OA1 IMC 2514 – AP 1000 Reactor Inspection Program - Startup Testing Phase

- IP 72304-02.01 – Review of Startup Test Procedures

a. Inspection Scope

The inspectors used applicable portions of the IP to review the following startup test procedures to verify if they were consistent with the licensee's technical and administrative criteria, Combined License (COL) commitments, Design Control Document (DCD), UFSAR, regulatory requirements, and Technical Specifications (TS).

- 3-GEN-ITPS-601;
- 3-GEN-ITPS-610;
- 3-GEN-ITPS-611;
- 3-GEN-ITPS-633;
- 3-GEN-ITPS-636;
- 3-GEN-ITPS-638;
- 3-GEN-ITPS-640; and
- 3-PLS-ITPS-605.

b. Findings

NCV 05200025/2021002-06, Inadequate Startup Testing Procedures for Establishing Initial Criticality

Introduction

The inspectors identified a construction finding of very low safety significance (Green), and an NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activities of achieving initial criticality in a controlled manner, measuring the ITC, and calculating the MTC of reactivity.

Description

On January 20, 2021, the inspectors performed a review of 3-GEN-ITPS-610, "Initial Criticality and LPPT Sequence Startup Test Procedure," Version 1.0; 3-GEN-ITPS-611, "Initial Criticality and Low Power Physics Tests Startup Test Procedure," Version 2.0; the associated Westinghouse startup test specifications (SV3-GW-T1-693, "AP1000 Startup Test Specifications for Initial Criticality Tests," Revision 1 and SV3-GW-T1-694, "AP1000 Startup Test Specifications for Low Power Tests," Revision 1); and, the operations and nuclear engineering implementing procedures (3-GOP-302, "Reactor

Startup Mode 3 To Mode 2," Version K=0.10 and B-GEN-RES-004, "Low Power Physics Testing," Version 4.0). The inspectors identified many discrepancies between the Westinghouse test specifications and the licensee's test procedures and implementing procedures. The inspectors noted the licensee had not correctly translated all of the test conditions from the test specifications to the test procedures and implementing procedures. The inspectors also noted conflicting conditions for performing testing specified in the test specifications and procedures.

It should be noted 3-GEN-ITPS-610 and 3-GEN-ITPS-611 do not specify many of the test conditions, but instead refer to the implementing procedures. Specifically, 3-GEN-ITPS-611, Step 1.1.2 stated: "Initial criticality and low power physics testing is conducted using procedures 3-GOP-302, Reactor Startup Mode 3 to Mode 2, and B-GEN-RES-004, Low Power Physics Testing. The results and data from these procedures are obtained and utilized for the Acceptance Criteria contained in this procedure."
Deficiencies identified with the licensee's test procedures and implementing procedures included:

1. 3-GEN-ITPS-610, Step 4.1.3 specified a required RCS temperature band of 557°F ± 1.5°F; however, APP-GW-T1-693, Step 2.3 Precautions and Limitations Step 4 stated: "RCS T-avg shall be maintained within ±1°F of the initial value [557°F] for the duration of this test." B-GEN-RES-004, Step 3.2.5 and 3-GOP-302, Step 3.2 specified a required RCS temperature band of 555°F to 559°F, which would be 557°F±2°F. The criterion to maintain RCS T-avg within ±1°F of the initial value for the duration of the test was not correctly translated from the startup test specification into the test procedures and implementing procedures.

2. APP-GW-T1-693, Step 2.3 Precautions and Limitations Step 3 stated: "The boron concentration sampling of the RCS and PZR [pressurizer] established during the approach to criticality will be continued throughout this test. RCS and PZR boron concentrations should remain within ±20 ppm (parts per million) of each other." However, B-GEN-RES-004, Step 3.2.7.b specified a delta of 1000 pcm (Per Cent Mille) and 3-GOP-302, Steps 2.23 and 4.12 specified 50 ppm. There were no criteria for maintaining boron concentration between the RCS and PZR specified in 3-GEN-ITPS-610 and 3-GEN-ITPS-611. The criterion to maintain RCS and PZR boron concentrations within ±20 ppm of each other was not correctly translated from the startup test specification into the test procedures and implementing procedures.

3. SV3-GW-T1-693, Step 2.3, Lessons Learned Step 3 stated: "Revision for the criteria for reaching criticality is as follows: Change the startup rate from '0.15 dpm [decades-per-minute] on the Intermediate Range (IR) channels' to '0.25 dpm on either Source Range (SR) or IR channels', and the corresponding reactivity change from 35 pcm to 50 pcm." This revision to the criteria was not made in 3-GOP-302 and B-GEN-RES-004. The Note above 3 GOP-302, Att 2 Step 4.6.i stated: "A sustained positive startup rate of greater than 0.15 dpm is indication that the reactor is critical." B-GEN-RES-004, Step 4.1.15 stated: "When a consistent positive startup rate (0.05 to 0.1 dpm) is achieved, ensure that operations announces on the plant paging system that the reactor is critical." There were no criteria for reaching criticality specified in 3-GEN-ITPS-

610 and 3-GEN-ITPS-611. The revision for the criteria for reaching criticality was not correctly translated from the startup test specification into the test procedures and implementing procedures.

4. 3-GOP-302 and B-GEN-RES-004 had inconsistent and contradictory direction after the reactor becomes critical. 3-GOP-302 secures dilution of the RCS with no criteria provided, adjusts control rods, raises power to 1E-3% and stabilizes power, obtains critical data, and then performs LPPT. B-GEN-RES-004 secures the dilution after establishing a stable 0.25 dpm startup rate or reactor engineer discretion, adjusts control rods, raises power to 2E-4% and stabilizes power, and adjusts rods for 40 to 75 pcm in the core for LPPT. B-GEN-RES-004 did not take into account operators obtaining critical data at 1E-3% since it would have power stabilized before that at 2E-4% for LPPT. Similarly, 3-GOP-302 would not have had operators stabilize power at 2E-4%, but rather proceed to 1E-3% to obtain critical data and then proceed to LPPT. SV3-GW-T1-693, Step 2.3, Test Method Step 18 stated: “Use the controlling bank, as required, to attain and stabilize at approximately 1x10-3% RTP [reactor thermal power] on the intermediate range neutron detectors.” The inspectors noted there was a guidance statement in the test specification saying operating experience for LPPT is to stabilize the plant at 1E-4% RTP to 1E-3% RTP on the intermediate range; however, SV3-GW-T1-693 did not stabilize power at 2E-4% for LPPT.

The licensee entered these procedure discrepancies into its CAP as CRs 50078446, 50085995, 50085903, 50076122, and 50086434 for evaluation and identification of appropriate corrective actions.

Analysis

The inspectors determined the licensee’s failure to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activities of achieving initial criticality in a controlled manner, measuring the ITC, and calculating the MTC of reactivity was contrary to the requirements of 10 CFR 50, Appendix B, Criterion III, “Design Control,” and was a performance deficiency. Per the 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 a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Specifically, the licensee had not correctly translated all of the test conditions from the test specifications to the test procedures and implementing procedures. Additionally, the inspectors found conflicting conditions for performing testing specified in the test specifications and procedures, requiring changes to the procedures. The inspectors also reviewed the Appendix E examples of minor issues and found one similar example of a "not minor if" performance deficiency. Example 7 was similar, in that the inspectors identified the test procedures and implementing procedures were inadequate because they did not correctly implement applicable technical requirements or conditions for conducting the tests. The inspectors determined this was a construction finding because it was not associated with a specific 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, "AP 1000 Construction Significance Determination Process," dated December 6, 2017, the inspectors determined this finding was associated with an SSC (i.e. reactor system) and was a licensee performance deficiency of very low safety significance (Green) because the procedure had not been implemented.

In accordance with IMC 0613, Appendix F, "Construction Cross-Cutting Areas and Aspects," the inspectors determined this finding had a cross-cutting aspect of teamwork in the area of human performance. Consistency between the procedures and test specification required a coordinated effort between three organizations. This was not effectively done during initial drafting of the procedures but was later recognized when the three organizations convened to solve the problem. [H4]

Enforcement

10 CFR 50, Appendix B, Criterion III, “Design Control,” requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.

Contrary to the above, on or before January 20, 2021, the licensee failed to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activities of achieving initial criticality in a controlled manner, measuring the ITC, and calculating the MTC of reactivity. Specifically, the licensee did not correctly translate all applicable test conditions from Westinghouse startup test specifications SV3-GW-T1-693 and SV3-GW-T1-694 to startup test procedures 3-GEN-ITPS-610 and 3-GEN-ITPS-611 and operations and nuclear engineering implementing procedures 3-GOP-302 and B-GEN-RES-004. Additionally, there were conflicting conditions for performing testing specified in the test specifications and procedures, requiring changes to the procedures. The licensee entered this finding into its CAP for evaluation and identification of appropriate corrective actions (CR 50086434) to restore compliance. Inasmuch as the procedures had not yet been used for the startup testing activities, there was no immediate safety concern.

Because this violation was not repetitive or willful, was of very low safety significance, and was entered into the licensee’s corrective action program, it is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-06, Inadequate Startup Testing Procedures for Establishing Initial Criticality).

NCV 05200025/2021002-07, Inadequate Startup Testing Procedures for Initial Fuel Loading

Introduction

The inspectors identified a construction finding of very low safety significance (Green) with an associated NCV of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activity of initial fuel loading.

Description

On February 12, 2021, the inspectors performed a review of 3-GEN-ITPS-601, “Initial Fuel Loading Startup Test Procedure,” Version 1.0; the associated Westinghouse startup test specification (APP-GW-T1-691, “AP1000® Startup Test Specifications for Initial Fuel Loading,” Revision 1); and, the operations and nuclear engineering implementing procedures (NMP-RE-007, “Core Verification,” Version 5.0; and B-RFL-FHP-031, “Fuel Handling Control Procedure,” Version C=0.2). The inspectors identified many discrepancies between the Westinghouse test specification and the licensee’s test procedure. The inspectors noted the licensee had not correctly translated all of the test conditions from the test specification into the test procedure. The inspectors also noted conflicting conditions for performing testing specified in the test specification and test procedure either due to errors in the test specification or in the test procedure.

Deficiencies identified with the Westinghouse startup test specification included:

1. APP-GW-T1-691, Section 2.3, GEN-601A Reactor Systems Sampling for Fuel Loading, Initial Condition 8, stated: "The fuel transfer canal should be flooded to just above the transfer tracks and the remainder of the refueling cavity is dry." However, 3-GEN-ITPS-601, Step 3.2.11, stated: “The fuel transfer canal is flooded to normal refueling level per 3-SFS-SOP-001, Spent Fuel Pool Cooling System, and borated to greater than or equal to 2700 ppm.” The criterion for refueling cavity level was not correctly translated from the startup test specification into the test procedure. In response to the inspectors’ questions, the licensee responded the Unit 3 initial fuel loading was being planned to be conducted with the refueling cavity filled and that a note was being added to the next revision of 3-GEN-ITPS-601, prior to Step 3.2.11, noting that if the initial fuel loading is being performed with the reactor cavity dry, the fuel transfer canal should be flooded to just above the transfer tracks. From this response, the inspectors concluded the startup test specification was deficient since it did not provide an appropriate criterion (i.e., an initial condition in this case) for performing the test with the refueling cavity filled. The licensee entered this issue into its CAP as CR 50082530 and initiated ESR 50082534 requesting Westinghouse revise the startup test specification to provide criteria for performing the initial fuel loading with the refueling cavity filled.

2. APP-GW-T1-691, Section 2.4, GEN 601B Fuel Loading Instrumentation and Neutron Source Requirements, Note 5, Monitoring Instrumentation Recommendations, Step c stated: "Operability of all source range detectors is demonstrated through “flashing” each detector (passing a neutron source near the detector to verify detector and instrumentation circuit response) with a neutron source prior to beginning fuel loading. (A fuel assembly with a primary source can be used, *but is not recommended* [emphasis added]). Thus, operability of all permanent source range detectors is demonstrated for

compliance with TS 3.3.1 and 3.3.2 in other operating modes." This recommendation for demonstrating SR detector operability was not correctly translated from the startup test specification into the test procedure. 3-GEN-ITPS-601, Step 4.2 deviated from this recommendation by using the first two assemblies with primary sources installed to check detector responses. In response to the inspectors' questions, the licensee entered this issue into its CAP as CR 50080913 and initiated ESR 50080908 requesting Westinghouse revise the test specification to clarify the use of a portable neutron source or fuel assembly with a primary source to check the ability of a source range detector to respond to neutrons.

Deficiencies identified with the licensee's test procedure included:

1. APP-GW-T1-691, Section 2.6, GEN-601D Initial Fuel Loading, Precautions and Limitations Step 8d stated: "If there is indication of boron dilution by an unexplained increase in hot leg or refueling cavity water levels initiate emergency boration until the analyses RCS boron concentration is greater than COLR [Core Operating Limits Report] limit plus margin (e.g., 1662 to 1700 ppm was used for China)." This criterion to initiate emergency boration from the startup test specification was not correctly translated into the test procedure. There was no criterion to initiate emergency boration in the startup test procedure.

2. APP-GW-T1-691, Section 2.6, GEN-601D Initial Fuel Loading, Precautions and Limitations Step 7f specified two criteria for changes in count rate during fuel loading that are applicable only after the initial nucleus 8 fuel assemblies have been loaded in front of a responding detector, the fuel assembly containing a primary source is in its final location, and the new reference count rate for inverse count rate ratio (ICRR) has been established. These conditions from the startup test specification were not correctly translated into Steps 2.1.8.h and 2.1.8.i of 3-GEN-ITPS-601.

3. APP-GW-T1-691, Section 2.4, GEN 601B Review Criterion 1 stated: "Equipment used for neutron monitoring during fuel loading is operating correctly and is responsive to changes in neutron flux levels as indicated by a minimum count rate of 0.2 counts per second, attributable to core neutrons, and indicated on at least two of the available pulse-type nuclear channels at all times following installation of the initial nucleus of fuel assemblies and during fuel loading, which provides meaningful inverse count-rate monitoring. Guidance: A minimum count rate is selected for monitoring core reactivity based on the minimum range for the nuclear instrumentation of 0.1 counts per second." The criterion for a minimum count rate of 0.2 counts per second from the startup test specification was not correctly translated into the test procedure. 3-GEN-ITPS-601, Step 4.3.6 stated: "IF there is an insufficient count rate(i.e., < 0.1 counts/seconds), halt fuel movement until a resolution is reached."

The licensee entered these procedure discrepancies into its CAP as CRs 50086035, and 50082527 for evaluation and identification of appropriate corrective actions.

Analysis

The inspectors determined the licensee's failure to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activity of initial fuel loading was contrary to the requirements of 10 CFR 50, Appendix B, Criterion III, "Design Control," and was therefore a licensee performance deficiency warranting a significance evaluation. 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 a substantive failure to establish or implement an adequate program, process, procedure, or quality oversight function. Specifically, the licensee had not correctly translated all of the test conditions from the test specification to the test procedure. Additionally, the inspectors found conflicting conditions for performing testing specified in the test specification and procedure, requiring changes to both. The inspectors also reviewed the Appendix E examples of minor issues and found one similar example of a "not minor if" performance deficiency. Example 7 was similar, in that the inspectors identified the test specifications and test procedures were inadequate because they did not correctly implement applicable technical requirements or conditions for conducting the tests. The inspectors determined this was a construction finding because it was not associated with a specific 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, "AP 1000 Construction Significance Determination Process," dated December 6, 2017, the inspectors determined this finding was associated with an SSC (i.e. reactor system) and was a licensee performance deficiency of very low safety significance (Green) because the procedure had not been implemented.

In accordance with IMC 0613, Appendix F, "Construction Cross-Cutting Areas and Aspects," the inspectors concluded this finding affected the cross-cutting area of human performance and the cross-cutting aspect of documentation. The proximate cause of the performance deficiency was primarily attributed to the failure to create accurate documentation. Revision 1 of the test procedure was archived without sufficient development and it was not adequately reviewed prior to approval. [H7]

Enforcement

10 CFR 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.

Contrary to the above, on or before February 12, 2021, the licensee failed to correctly translate applicable regulatory requirements and the design basis into specifications and procedures for performing the Unit 3 initial plant startup testing activity of initial fuel loading. Specifically, the licensee did not correctly translate all applicable test conditions from Westinghouse startup test specification SV3-GW-T1-691 into startup test procedure 3-GEN-ITPS-601. Additionally, there were conflicting conditions for performing testing specified in the test specification and test procedure, requiring changes to both. Because this violation was not repetitive or willful, was of very low safety significance, and was entered into the licensee's corrective action program, it is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 05200025/2021002-07, Inadequate Startup Testing Procedures for Initial Fuel Loading). The licensee entered this finding into its CAP for evaluation and identification of appropriate corrective actions (CR 50086035). Inasmuch as the test specification and test procedure had not yet been used for the startup testing activity, there was no actual safety consequence.

4OA6 Meetings, Including Exit

.1 Exit Meeting.

On April 22, 2021, the inspectors presented the inspection results to Mr. G. Chick, Vogtle 3&4 Executive Vice President, and other licensee and contractor staff members. Proprietary information was reviewed during the inspection period but was not included in the inspection report.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensees and Contractor Personnel

E. Riffle, ITP Director
A. Nix, NI Manager
T. Petrak, ITAAC Manager
M. Hickox, Test Support Manager
C. Alexander, Milestone Manager
S. Boyle, Milestone Manager
D. Pagan-Diaz, ITP Turnover. Manager
J. Olsen, NI Supervisor
S. Leighty, SNC Licensing Supervisor
C. Castell, SNC Licensing Engineer
N. Patel, SNC Licensing Engineer
J. Cole, SNC Licensing Engineer
J. Weathersby, SNC Licensing Engineer
C. Main, ITAAC Project Manager
D. Wade, ITAAC Project Manager
B. Macioce, Principle Engineer Digital Testing
R. McKay, ITP Test Engineer
S. Turner, ITP Test Engineer
G. Weaver, ITP Test Engineer
R. Nicoletto, ITP Test Engineer
W. Pipkins, ITP Test Engineer
D. Melton, ITP Test Engineer
R. Espara, ITP Test Engineer
J. Clark, ITP Test Engineer
K. Morgan, ITP Test Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Type	Status	Description
05200025/2021002-01	NCV	Open/Closed	Failure to Correct NRC Identified Violation
05200025/2021002-02	NCV	Open	Failure to Use Worst Case Load Profile for IDS Battery Service Test
05200025/2021002-03	NCV	Open/Closed	Failure to Place IDSB Battery on Float for 72 hrs. After Being on Equalize Voltage
05200025/2021002-04	NCV	Open/Closed	Failure to Translate Design Requirements into IDS Test Procedure

05200025/2021002-05	NCV	Open/Closed	Failure to Control Design Calculation for Three Battery Cells Bypassed
05200025/2021002-06	NCV	Open/Closed	Inadequate Startup Testing Procedures for Establishing Initial Criticality
05200025/2021002-07	NCV	Open/Closed	Inadequate Startup Testing Procedures for Initial Fuel Loading

LIST OF DOCUMENTS REVIEWED

Section 1A01

Work Order 1109868, (ITAAC) Perform ITAAC PMS CIM Component Testing Using 3-RCS-OTS-10-001 (RCS), dated 6/1/2020
B-GEN-ITPCI-039-F118, RCS-PL-V001B COMPONENT TEST, Rev. 3
B-GEN-ITPCI-039-F119, RCS-PL-V002A COMPONENT TEST, Rev. 3
B-GEN-ITPCI-039-F120, RCS-PL-V002B COMPONENT TEST, Rev. 3
B-GEN-ITPCI-039-F122, RCS-PL-V003B COMPONENT TEST, Rev. 3
B-GEN-ITPCI-039-F158, RCS-PL-V012B COMPONENT TEST, Rev. 3
B-GEN-ITPCI-039-F159, RCS-PL-V013A COMPONENT TEST, Rev. 3
B-GEN-ITPCI-039-F160, RCS-PL-V013B COMPONENT TEST, Rev. 3

Section 1A02

Work Order SV3-CCS-TOW-1241512, Perform ITAAC PMS CIM Component Retest CCS-PL-V200, dated 3/5/2021
Work Order 1109854, Perform ITAAC PMS CIM Component Testing CCS-PL-V200, CCS-PL-V207, and CCS-PL-V208, dated 1/27/2021
Work Order SV3-WLS-TOW-1109877, PMS CIM Component Test - WLS-V055-S1 & WLS-V067, dated 4/4/2021
Work Order SV3-RNS-TOW-1241549, PMS CIM Component Retest RNS-PL-V002A, dated 4/1/2021
Work Order SV3-RNS-TOW-1241550, PMS CIM Component Retest RNS-PL-V002B, dated 4/1/2021
B-GEN-ITPCI-039-F004, CCS-PL-V200 Component Test, Rev. 1.1
B-GEN-ITPCI-039-F005, CCS-PL-V207 Component Test, Rev. 2
B-GEN-ITPCI-039-F006, CCS-PL-V208 Component Test, Rev. 2
B-GEN-ITPCI-039-F245, WLS-PL-V067 Component Test, Rev. 1.0
B-GEN-ITPCI-039-F171, RNS-PL-V002A Component Test, Rev. 1.2
B-GEN-ITPCI-039-F172, RNS-PL-V002B Component Test, Rev. 1.2

Section 1A03

Work Order SV3-RNS-T0W-1241527, PMS CIM Component Retest PXS-PL-V002B, dated 3/28/2021
B-GEN-ITPCI-039-F071, PXS-PL-V002B-1 Component Test, Rev. 1.1
B-GEN-ITPCI-039-F072, PXS-PL-V002B-2 Component Test, Rev. 1.1

Section 1A04

APP-1261-M0-106, "Auxiliary Building HVAC Duct Penetrations Area 1 Roof Elevation," Rev. 1

APP-1261-M0X-106, "Auxiliary Building HVAC Duct Penetrations List Area 1 Roof Elevation," Rev. 1
APP-AB01-AB-010, "Blockouts and Barriers (Penetrations, Seals and Fire Stops) Details Sheet 10," Rev. 4
APP-AB01-AB-012, "Blockouts and Barriers (Penetrations, Seals and Fire Stops) Details Sheet 12," Rev. 0
APP-VXS-MD-511, "HVAC Layout VXS Supply Duct Annex Building Area 1 EL 135'-3"," Rev. 3
APP-VXS-MD-512, "HVAC Layout VXS Supply Duct Isometric Annex Building Area 1 EL 135'3"," Rev. 3
APP-VXS-MD-514, "HVAC Layout VXS Exh & Ret Duct Annex Building Area 1 EL 135'-3"," Rev. 3
APP-VAS-MD-500, "HVAC Layout VAS Supply Duct Isometric Annex Building Area 3 EL 135'-3"," Rev. 1
APP-VAS-MD-532, "HVAC Layout VAS Supply Duct Isometric Annex Building Area 3 EL 135'-3"," Rev. 1
APP-VBS-MD-620, "VBS Duct Layout Auxiliary Building EL 153'-0" Area 2," Rev. 4
SV0-MD03-GNR-000001, "The Direction of the Cross Bars for the AS21 Specialty Devices Installed in Fire Dampers," Rev. 0
SV4-1333-VFS-MD-840, "Auxiliary Building Area 4 EL. 145'-9" to 282'-8 3/4" VFS Duct Layout," Rev. 3E
SV40MD-03-V6-850006, "Fire Damper Grating Assembly," Rev. 1
Engineering & Design Coordination Report No. APP-FSAR-GEF-061, "Addition of AS04 Specialty Device Detail to HVAC," Rev. 0
Engineering & Design Coordination Report No. APP-SES-GEF-031, "Updates to Barrier Matrix," Rev. 0
Engineering & Design Coordination Report No. APP-MD03-GEF-850014, "Addition of Security Bars due to APP-SES-GEF-031," Rev. 0
Engineering & Design Coordination Report No. APP-VBS-GEF-124, "UL-752 Level 4 Protection for VBS Main Control Room Penetrations," Rev. 0
APP-AS21-Z0D-101, "AS21 HVAC Data Sheet," Rev. 0
APP-AS21-A1-001, "AP1000 Security Barrier Design Requirements," Rev. 1
APP-GW-MD-103, "HVAC Details Sheet 1," Rev. 1
CR 50079248, "HVAC Penetration 12505-ML-H07 Supplied by the Vendor"

Section 1P01

Procedures

3-GEN-ITPP-512, “Chemical and Volume Control System Dynamic Effects and Vibration Testing,” Ver. 1.0
3-GEN-ITPP-515, “Steam Generator System Dynamic Effects and Vibration Testing, Ver. 1.0
3-GEN-ITPP-512, “Chemical and Volume Control System Dynamic Effects and Vibration Testing,” Ver. 1.0
3-GEN-ITPP-515, “Steam Generator System Dynamic Effects and Vibration Testing, Ver. 1.0
B-GEN-ITPA-004, Conduct of Testing, Ver. 3.1
NMP-AP-001-003, Review and Approval of Site Procedures, Ver. 17.1
B-GEN-ITPA-011, Initial Test Program Administrative and Test Procedure Development, Ver. 3.0
B-GEN-ITPP-507, “Thermal Expansion,” Ver. 2
B-GEN-ITPP-509, “Reactor Coolant System Dynamic Effects and Vibration Testing,” Ver. 2
B-GEN-ITPP-510, “Normal Residual Heat Removal System Dynamic Effects and Vibration Testing,” Ver. 1

B-GEN-ITPP-511, “Passive Core Cooling System Dynamic Effects and Vibration Testing,” Ver. 1
B-GEN-ITPP-517, “Precore Hot Functional Test Procedure,” Ver. 3.0
NMP-AP-001-003, Review and Approval of Site Procedures, Ver. 15.1
NRC NUREG-1793, Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design
NRC NUREG-2124, Final Safety Evaluation Report Related to the Combined Licenses for Vogtle Electric Generating Plant, Units 3 and 4
Vogtle Electric Generating Plant Unit 3 Combined Operating License, Appendix C, Inspections, Test, Analyses, and Acceptance Criteria
Regulatory Guide 1.68, Initial Test Programs for Water-Cooled Nuclear Power Plants, Rev. 3

Drawings
APP-RNS-M6-001, Piping and Instrumentation Diagram Normal Residual Heat Rem. System, Rev. 13
APP-PXS-M6-001, Piping and Instrumentation Diagram Passive Core Cooling System, Rev. 13
APP-PXS-M6-002, Piping and Instrumentation Diagram Passive Core Cooling System, Rev.1

Miscellaneous
ANSI/ASME OM Code-1995 and 1996 Addenda, “Code for Operation and Maintenance of Nuclear Power Plants.” Part 3
ASME OM Part 7
APP-PXS-M3-001, Passive Core Cooling System, System Specification Document, Rev. 10
APP-RNS-M3-001, Normal Residual Heat Removal System – System Specification Document, Rev. 7
APP-CVS-P2C-001, Chemical and Volume Control System (CVS) Vibration Monitoring Requirements, Rev. 0
WO SV3-RCS-T0W-1188608, Vacuum Breaker Component Test, 10/19/2020
SV3-PV18-VQQ-001, PV18 - Quality Release and Certificate of Conformance, Rev. 0
APP-PV18-Z0-001, Vacuum Breaker Valves, ASME Boiler and Pressure Vessel Code, Section III, Class 3, Rev. 5
APP-PV18-Z0R-001, Vacuum Breaker, Valve Specification Data Sheet Report, Rev. 2

Section 1P02
3-RNS-ITPP-501, Normal Residual Heat Removal System Preoperational Test Procedure rev 2.1
APP-RNS-M6-001, Piping and Instrumentation Diagram Normal Residual Heat Removal System Rev 13
APP-SFS-M6-001, Piping and Instrumentation Diagram Spent Fuel Pool Cooling System Rev 14
APP-SFS-M6-001-CRTT, Piping and Instrumentation Diagram Spent Fuel Pool Cooling System (Combined Release for Test) Rev 13
Work Order SV3-RNS-T0W-1071784, (ITAAC) Perform Preop Test 3-RNS-ITPP-501

Section 1P03
WO SV3-CCS-TOW-1109854, Perform ITAAC PMS CIM Component Test CCS-PL-V200 & CCS-PL-V207 & CCS-PL-V208, Rev. 0
B-GEN-ITPCI-039-F004, CCS-PL-V200 Component Test, Ver. 1.0

26139-SV3-TOP-CCS·2, SV3-CCS·2 Component Cooling Water System I Containment, dated 7/3/2020
WO SV3-PXS-T0W-1109899, Perform ITAAC PMS CIM Component Testing Using 3-GEN-OTS-10-003 (PXS), Rev. 0
3-GEN-OTS-10-003, Division C Quarterly Valve Stroke Test, Ver. A=0.0
B-GEN-ITPCI-039-F074, PXS-PL-V014B-S1 Component Test, Ver. 1.0
WO SV3-RNS-TOW-1109884, PMS CIM Component Testing Using 3-GEN-OTS-I0-002 (RNS) (ITAAC), Rev. 0
3-GEN-OTS-10-002, Division B Quarterly Valve Stroke Test, Ver. B=0.1

Section 1P04

SNC Procedures

B-GEN-ITPA-001, ITP Administration and Organization, Ver. 7.2
B-GEN-ITPA-002, Joint Test Working Group (JTWG), Ver. 8.0
B-GEN-ITPA-003, Initial Test Program Personnel Qualification & Training, Ver. 5.2
B-GEN-ITPA-004, Conduct of Test, Ver. 20.0
B-GEN-ITPA-004-F05, Forced Computer Point Log, Ver. 3.0
B-GEN-ITPA-004-F06, Test Package Closure Page, Ver. 5.0
B-GEN-ITPA-004-F07, Lifted/Landed Lead and Jumper Data Sheet, Ver. 2.3
B-GEN-ITPA-004-F10, Measurement Uncertainty Worksheet, Ver. 4.0
B-GEN-ITPA-004-F11, Pre-Test Checklist, Ver. 6.0
B-GEN-ITPA-004-F12, Post Test Checklist, Ver. 3.0
B-GEN-ITPA-004-F16, Construction Work Authorization, Ver. 5.0
B-GEN-ITPA-004-F17, Construction Work Authorization Extension, Ver. 2.0
B-GEN-ITPA-004-F18, CIM Position Control Log, Ver. 1.0
B-GEN-ITPA-004-F19, Test Support Operating Steps (TSOS), Ver. 1.0
B-GEN-ITPA-007, Jurisdictional Control, Ver. 5.1
B-GEN-ITPA-009, ITP Configuration Control of Digital Information, Ver. 5.3
B-GEN-ITPA-010, Initial Test Program Temporary Modifications, Ver. 11.1
B-GEN-ITPA-010-F01, Temporary Modification Control Form, Ver. 6.2
B-GEN-ITPA-010-F05, TCC Tag List, Ver. 1.1
B-GEN-ITPA-010-F06, TMOD/COM Control Form, Ver. 1.1
B-GEN-ITPA-010-F07, TMOD/COM Log Index, Ver. 1.0
B-GEN-ITPA-011, Initial Test Program Administrative and Test Procedure Development, Ver. 9.0
B-GEN-ITPA-011-F01, ITP Procedure Approval Form, Ver. 5.0
B-GEN-ITPA-011-F02, Component and Preoperational Temporary Procedure Change Prior To 103G, Ver. 1.0
B-GEN-ITPA-014, Flushing and Initial Cleanness Verification, Ver. 4.2
B-GEN-ITPA-019-GL02, PMS CIM Operation Guidance, Ver. 1.0
700015, Procedure Writer/Reviewer Qualification Procedure, Ver. 5.0
26139-000-4MP-T81C-N1307, System and Equipment Safety Lockout/Tagout, Rev. 4
NMP-AD-006, Infrequently Performed Tests and Evolutions, Ver. 13.1
NMP-GM-006-002, Surveillance Program, Ver. 4.1
B-GEN-EIC-002, Software Quality Assurance, Ver. 1.0

Other

3-CVS-ITPP-501, Chemical and Volume Control System Preoperational Test Procedure, Ver .5.0
NMP-AP-001-F08, Site Approval Form for 3-CVS-ITPP-501 v5.0, Ver. 6.0

B-GEN-ITPA-011-F01, ITP Procedure Approval Form for 3-CVS-ITPP-501 v5.0, Ver. 5.0
ND-LI-VNP-002-F01, Applicability Determination for VEGP Units 3&4 - 3-CVS-ITPP-501, Ver. 1.0
3-GEN-ITPS-629, Thermal Power Measurement and Statepoint Data Collection Startup Test Procedure, Ver. 2.0
NMP-AP-001-F08, Site Approval Form for 3-GEN-ITPS-629 v2.0, Ver. 6.0
B-GEN-ITPA-011-F01, ITP Procedure Approval Form for 3-GEN-ITPS-629 v2.0, Ver. 5.0
ND-LI-VNP-002-F01, Applicability Determination for VEGP Units 3&4 - 3-GEN-ITPS-629, Ver. 1.0
Southern Nuclear Qualification/Curriculum Review, dated 2/12/2021: Khiem Le (ND-ITP-Level II Test Engineer), Lance Keiser (ND-ITP-Level III Test Engineer), Ben Frey (ND-ITP-Level III Test Engineer), Steve Sheahan (ND-ITP-Level III Test Engineer), David Martano (ND-ITP-Level III Test Engineer), Henry Nix (ND-ITP-Level III Test Engineer)
B-GEN-ITPCE-024-V3.0-01, TPC for SEL Relay Commissioning, Ver. 3.0-1
B-GEN-ITA-004-F19, TSOS WO 1124408 3-IDSA Inverter, dated February 3, 2021
B-GEN-ITPA-010-F06, TMOD/COM Control Number SWS-2-1, dated 3/22/2020
CWA-3-21-0305, dated 2/7/2021
CWA-3-21-0102, dated 1/13/2021

3. OPERATIONAL READINESS

Section 3T01

VOG3ILRT.20-R200711A, Preoperational Integrated Leakage Test Report, Rev. 0
SV3-CNS-ITR-800107, Unit 3 Recorded Results of Containment Integrated Leak Rate Test: ITAAC 2.2.01.07.i, Rev. 2
Work Order 1221302, Conduct LLRTs in accordance with 3-CNS-ITPP-502 Attachment 6, dated 12/7/20
3-CNS-ITPP-501, Containment Integrated Leak Rate Test (Type A), dated 12/31/20
3-CNS-ITPP-502, Containment Penetration Leak Rate (Type B) Preoperational Test, dated 12/31/20

Corrective Action Documents
CR 50061137, NRC identified Green Non-cited Violation associated with ILRT performance, dated 8/31/20
TE 60017782, Tracking TE for CAR 80003535, dated 12/8/20
CAR 80003535, NRC identified Green Non-cited Violation associated with ILRT performance, dated 8/31/20

Work Packages
SV3-CNS-MLW-1124631, ASME III - REMOVE / REINSTALL 1/2" THREADED PLUG'S AT EPA E01, E02, E03, E06, E07, E09 AND E10 THRU E18 TO SUPPORT TESTING SV3-CNS-TH-8001A THRU SV3-CNS-TH-P8015A, Rev. 0
SV3-CNS-M LW -1124634, ASME III - REMOVE / REINSTALL 1/2" THREADED PLUG'S AT EPA E19 THRU E32 TO SUPPORT TESTING SV3-CNS-TH-P8016A THRU SV3-CNS-TH-8029A, Rev. 0
SV3-CNS-THW-1124462, ASME III - PERFORM PNEUMATIC TESTING FOR EPA RING MODIFICATIONS: SV3-CNS-TH-P8016A / P8017A / P8018A / P8019A / P8020A / P8021A / P8022A / P8023A / P8024A / P8025A / P8026A / P8027A / P8028A / P8029A, Rev. 0
SV3-CNS-THW-1098472, ASME III - PERFORM PNEUMATIC TESTING FOR EPA RING MODIFICATIONS: SV3-CNS-TH-P8001A / P8002A / P8003A / P8004A / P8005A / P8006A

/ 8007A / P8008A / P8009A / P8010A / P8011A / P8012A / P8013A / P8014A / P8015A, Rev. 0

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B-GEN-ITPCM-017, Air-Operated Valve Test, version 5.1
ND-18-0666, "Southern Nuclear Operating Company, Vogtle Electric Generating Plant Unit 3 and Unit 4, Notice of Uncompleted ITAAC 225-davs Prior to Initial Fuel Load, Item 2.2.01.11b [Index Number 118]"
SV3-CNS-ITR-802118, Unit 3 Test Results for SFS Containment Isolation Valves - Loss of Motive Power Testing: ITAAC 2.2.01.11 b, Rev. 0
SV3-CNS-ITR-800118, Unit 3 Test Results for CAS Containment Isolation Valve - Loss of Motive Power Testing: ITAAC 2.2.01 .11 b, Rev. 0
SV3-CCS-TOW-1043966, Air-Operated Valve Test for SV3-CAS-V014
SV3-CCS-TOW-1068448, MOV Static Diagnostic Testing for SV3-SFS-PL-V034
SV3-CCS-TOW-1061803, MOV Static Diagnostic Testing for SV3-SFS-PL-V035
SV3-CCS-TOW-1061806, MOV Static Diagnostic Testing for SV3-SFS-PL-V038

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CR 50076165
CR 50078235
CAR 80004604
SV3-DB01-Z0-001, Design Specification for Class 1E 250VDC Batteries and Racks, Rev. 9
SV3-DC01-Z0-001, Design Specification for Class 1E 250 VDC Battery Chargers for System IDS, Rev. 11
SV3-DU01-Z0-001, Design Specification for Class 1E Inverters, Static Transfer Switch, and Manual Bypass Switches for IDS system, Rev. 7
SV3-IDS-E0C-004 IDS Power Cable Sizing and Voltage Drop Analysis Rev. 6
SV3-DC01-VQQ-001, QA Data Package IDS DC01 Rev. 1
SV3-DU01-GCW-001, Field Change Notice for Class 1E IDS Inverter Bypass Frequency Tolerance Setting Rev. 0
SV3-DU01-GCW-003, Field Deviation Notice for Class 1E IDS Inverter Control Board (A070) Modification Rev. 0
SV3-DU01-V0M-001, Vogtle Units 3&4 Class 1E Inverter Multipurpose Manuals Operating and Maintenance Instructions (DU01) Rev. 0
SV3-DU01-VQQ-001, QA Data Package for IDS DU01 Rev. 1
SV3-IDS-T1-503, Class 1E DC and Uninterruptible Power Supply System Preoperational Test Specification Rev. 0
WO 1124429, Perform Pre-Op Test 3-IDS-ITPP-501 Section 4.5.3, SPARE BATTERY CHARGER CAPACITY TEST FOR 3-IDSS-DC-1, dated 3/5/21

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B-GEN-ITPCI-039-F004 CCS-PL-V200 COMPONENT TEST, Rev. 2
B-GEN-ITPCI-039-F005 CCS-PL-V207 COMPONENT TEST, Rev. 2
B-GEN-ITPCI-039-F006 CCS-PL-V208 COMPONENT TEST, Rev. 2
Work Order 1109854, Perform ITAAC PMS CIM Component Testing CCS-PL-V200, CCS-PL-V207, and CCS-PL-V208, dated 1/27/2021

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CR 50062788, dated 9/15/2020, Testing of PXS-V122A/B and V124A/B

CR 50070256, dated 11/30/2020, No established process to verify QME-1-2007, section 7470 testing requirements, as required by UFSAR 3.10.1
CR 50075488, dated 01/22/2021, Snubber SV3-RCS-PH-11Y1140 Unsatisfactory Inspection
CR 50075508, dated 01/22/2021, Snubber SV3-RCS-PH-11Y0813 Unsatisfactory Inspection
CR 50075511, dated 01/22/2021, Snubber SV3-RCS-PH-11Y0082 Unsatisfactory Inspection
CR 50075518, dated 01/22/2021, Snubber SV3-RCS-PH-11Y0067 Unsatisfactory Inspection
CR 50075563, dated 01/22/2021, Snubber SV3-RCS-PH-11Y0060 Unsatisfactory Inspection
CR 50075571, dated 01/22/2021, Snubber SV3-SGS-PH-11Y0001 Unsatisfactory Inspection
CR 50075576, dated 01/22/2021, Snubber SV3-RCS-PH-11Y2017 Unsatisfactory Inspection
CR 50075593, dated 01/22/2021, Snubber SV3-PXS-PH-11Y2052 Unsatisfactory Inspection
CR 50078890, dated 02/17/2021, Incorrect Reference in SV0-PV01-Z0C-110, Revision 0
CR 50081208, dated 03/03/2021, NRC Inspection Recommendation regarding Equipment Reliability Program explicitly specifying RTNSS components
CAR 80004207, dated 11/30/2020, No established process to verify QME-1-2007, section 7470 testing requirements, as required by UFSAR 3.10.1

NDE Reports
Visual Examination Record for Snubber SV3-PXS-PH-11Y0020, 01/06/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y0039, 01/14/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y0081, 02/09/21
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Visual Examination Record for Snubber SV3-RCS-PH-11Y1134, 01/14/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y2005, 01/12/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y2264, 02/10/21
Visual Examination Record for Snubber SV3-RNS-PH-12Y2060, 01/06/21

Program Documents
Licensing Document Change Request Package for LDCR-109-079, Version 1.0, dated 4/30/2020, Initial Inservice Testing Program Plan & associated FSAR changes
Inservice Testing Program Plan – 1st Interval: Vogtle Electric Generating Plants Units 3&4, Ver. 1.0
ND-19-0747, Preservice Test Plan, Ver. 2.0
ND-20-0645, Preservice Test Plan, Ver. 3.0
ND-LI-013-47-09-15-2020, dated 9/18/2020, Technical Specification Requirements “in accordance with the Inservice Testing Program”

Procedures
3-GEN-ENG-001, Preservice Testing Completion, Ver. 1.0
3-GEN-ITPP-509, Reactor Coolant System Dynamic Effects and Vibration Testing, Ver. 1.0
B-GEN-ENG-036, Snubber Preservice Examination and Testing, Ver. 1.0
NMP-ES-001, Equipment Reliability Process Description, Ver. 10.1
NMP-ES-005, Scoping and Importance Determination for Equipment Reliability, Ver. 18.0
NMP-ES-006, Preventive Maintenance Implementation and Continuing Equipment Reliability Improvement, Ver. 12.0
NMP-ES-013, Inservice Testing Program, Ver. 8.1
NMP-ES-013-003, IST Check Valve Monitoring Program Development and Maintenance, Ver. 6.0
NMP-ES-013-005, IST Implementation, Ver. 8.0
NMP-ES-013-006, IST Ten Year Interval Update, Ver. 2.1

NMP-ES-013-010, IST Relief Valve Program Development and Maintenance, Ver. 1.0
NMP-ES-013-GL01, IST Positions, Ver. 6.0
NMP-ES-027, Maintenance Rule Program, Ver. 10.3

QME Application Reports
SV0-PV01-VPR-099002, Revision 0, dated 8/3/2020, Vogtle Units 3 and 4 PV01 QME-1 Application Report for Datasheet APP-PV01-Z0D-099
SV0-PV01-VPR-131002, dated 7/31/2020, Vogtle Units 3 and 4 PV01 QME-1 Application Report for Datasheet APP-PV01-Z0D-131
SV0-PV01-VPR-132002, dated 7/31/2020, Vogtle Units 3 and 4 PV01 QME-1 Application Report for Datasheet APP-PV01-Z0D-132

Technical Evaluations
TE 60017001, dated 9/15/2020, Test Procedure for PXS-V122A/B and V124A/B and IST Program Revision
TE 60018407, dated 11/30/2020, Documentation required to tie ASME QME-1 required valves to the associated ITP work orders that verify QV-7470 compliance
TE 60018408, dated 11/30/2020, ITP to identify QME-1, QV-7470 testing requirements for power-operated valves that are not AOVs or MOVs
TE 60018410, dated 11/30/2020, Revise procedures NMP-ES-014-003 and NMP-ES-017 needed to address QME-1 requirements for AOVs and MOVs once plant is operational)
TE 60018411, dated 11/30/2020, Verify when developing the program for hydraulic and solenoid valves that QME-1 requirements are included
TE 60018822, dated 11/30/2020, Revise NMP-MA-014 to address QME-1 requirements in post-maintenance testing

Westinghouse Documents
APP-GW-T1R-501, Revision 0, dated 4/8/2019, TEDEV Acceptance Criteria and Instrument Installations Locations Database for WEMMEX
APP-PV01-VBR-011, Revision 2, Equipment Qualification Summary Report for Flowserve Flex Wedge Gate Valves with Limitorque Motor Operators for Use in the AP1000 Plant
APP-PV01-VDR-000001, Revision 2, dated 6/7/2017, PV01 Motor Actuated Valves Actuator Sizing Calculations (including RAL-1097)
APP-PV01-VDR-000003, dated 3/2/2017, ADS 1, 2 3 Globe Valve Thermal Expansion Report
APP-PV01-VDR-000004, dated 3/3/2017, ADS 1, 2, 3 Globe Valve Side Loading Report
APP-PV01-VDR-000006, dated 11/7/2019, PV01 Globe Valve Clearance Analysis Report
APP-PV01-VPR-010, dated 3/29/2017, Supplemental Functional Test Report for Piston Ring Configuration on a Flowserve Size 8 Figure BD2026(CF3M)JMTY with SMB-0-5
APP-PV01-Z0D-099, Revision 3, dated 5/8/2012, PV01 Datasheet 099
WCAP-18549, dated 7/2020, Minimum Required Thrust for Motor Operated Valves at Vogtle Units 3 and 4

Work Packages
SV3-SFS-T0W-1061801, dated 4/25/2020, Dynamic Diagnostic Testing of MOV SV3-SFS-PL-V034
SV3-SFS-T0W-1061805, dated 4/25/2020, Dynamic Diagnostic Testing of MOV SV3-SFS-PL-V035
SV3-SFS-T0W-1061807, dated 4/25/2020, Dynamic Diagnostic Testing of MOV SV3-SFS-PL-V038

SV3-PXS-T0W-1100122, dated 5/27/2020, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V014A
SV3-PXS-T0W-1100124, dated 4/14/2020, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V014B
SV3-PXS-T0W-1100125, dated 4/17/2020, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V015A
SV3-PXS-T0W-1100126, dated 4/17/2020, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V015B
SV3-RNS-T0W-1100161, Dynamic Diagnostic Testing of AOV SV3-RNS-PL-V061, dated 4/22/2020
SV3-RCS-PHW-1018286, ASME III- Install Snubber SV3-RCS-PH-11Y0067 from ISO RCS-PLW-01L, Rev. 0
SV3-SGS-PHW-1030747, ASME III-Fabricate/Install Snubbers from Isometric SV3-SGS-PLW-020, Rev. 0
SV3-RCS-PHW-1096324, ASME III-Install Snubbers SV3-RCS-PH-11Y1140, SV3-RCS-PH-11Y1127 & SV3-RCS-PH-11Y1130, Rev. 0

Valve Calculations and Set Point Data Sheets
SV0-PV01-M3C-110, dated 2/28/2020, Minimum Required Thrust for Valves Built to Datasheet APP-PV01-Z0D-110 Using EPRI PPMc, Rev. 0
SV0-PV01-T9-110, dated 9/10/2020, Set Point Data Sheet (SPDS) for Valves Built to PV01-Z0D-110, Rev. 1
SV0-PV01-T9-099, dated 12/6/2018, Set Point Data Sheet (SPDS) for Valves Built to PV01-Z0D-099, Rev. 0
SV0-PV01-Z0C-099, dated 9/22/2020, Valve Setup Calculation for Datasheet APP-PV01-Z0D-099 to Support Startup of Vogtle 3 and 4, Rev. 0
SV0-PV01-Z0C-110, dated 9/24/2020, Vale Setup Calculations for Datasheet APP-PV01-Z0D-110 to Support Startup of Vogtle 3 and 4, Rev. 0

Teledyne Documents
TTS-CC-128, dated 6/26/2015, MOV Software BWROG DC Methodology Module Verification & Validation Report [for incorporation into MIDAS Calculation Software] , Rev. 4

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Condition Reports
CR 50062788, Testing of PXS-V122A/B and V124A/B, dated 9/15/2020
CR 50070256, No established process to verify QME-1-2007, section 7470 testing requirements, as required by UFSAR 3.10.1, dated 11/30/2020
CR 50075488, Snubber SV3-RCS-PH-11Y1140 Unsatisfactory Inspection, dated 01/22/2021
CR 50075508, Snubber SV3-RCS-PH-11Y0813 Unsatisfactory Inspection, dated 01/22/2021
CR 50075511, Snubber SV3-RCS-PH-11Y0082 Unsatisfactory Inspection, dated 01/22/2021
CR 50075518, Snubber SV3-RCS-PH-11Y0067 Unsatisfactory Inspection, dated 01/22/2021
CR 50075563, Snubber SV3-RCS-PH-11Y0060 Unsatisfactory Inspection, dated 01/22/2021
CR 50075571, Snubber SV3-SGS-PH-11Y0001 Unsatisfactory Inspection, dated 01/22/2021
CR 50075576, Snubber SV3-RCS-PH-11Y2017 Unsatisfactory Inspection, dated 01/22/2021
CR 50075593, Snubber SV3-PXS-PH-11Y2052 Unsatisfactory Inspection, dated 01/22/2021
CR 50078890, Incorrect Reference in SV0-PV01-Z0C-110, Rev. 0
CR 50081208, NRC Inspection Recommendation regarding Equipment Reliability Program explicitly specifying RTNSS components, dated 03/03/2021

CAR 80004207, No established process to verify QME-1-2007, section 7470 testing requirements, as required by UFSAR 3.10.1, dated 11/30/2020

NDE Reports
Visual Examination Record for Snubber SV3-PXS-PH-11Y0020, 01/06/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y0039, 01/14/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y0081, 02/09/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y0388, 02/05/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y0528, 01/12/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y1130, 02/10/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y1134, 01/14/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y2005, 01/12/21
Visual Examination Record for Snubber SV3-RCS-PH-11Y2264, 02/10/21
Visual Examination Record for Snubber SV3-RNS-PH-12Y2060, 01/06/21

Program Documents
Licensing Document Change Request Package for LDCR-109-079, Ver. 1.0, dated 4/30/2020, Initial Inservice Testing Program Plan & associated FSAR changes
Inservice Testing Program Plan – 1st Interval: Vogtle Electric Generating Plants Units 3&4, Ver. 1.0
ND-19-0747, Preservice Test Plan, Ver. 2.0
ND-20-0645, Preservice Test Plan, Ver. 3.0
ND-LI-013-47-09-15-2020, Technical Specification Requirements “in accordance with the Inservice Testing Program,” dated 9/18/2020

Procedures
3-GEN-ENG-001, Preservice Testing Completion, Ver. 1.0
3-GEN-ITPP-509, Reactor Coolant System Dynamic Effects and Vibration Testing, Ver. 1.0
B-GEN-ENG-036, Snubber Preservice Examination and Testing, Ver. 1.0
NMP-ES-001, Equipment Reliability Process Description, Ver. 10.1
NMP-ES-005, Scoping and Importance Determination for Equipment Reliability, Ver. 18.0
NMP-ES-006, Preventive Maintenance Implementation and Continuing Equipment Reliability Improvement, Ver. 12.0
NMP-ES-013, Inservice Testing Program, Ver. 8.1
NMP-ES-013-003, IST Check Valve Monitoring Program Development and Maintenance, Ver. 6.0
NMP-ES-013-005, IST Implementation, Ver. 8.0
NMP-ES-013-006, IST Ten Year Interval Update, Ver. 2.1
NMP-ES-013-010, IST Relief Valve Program Development and Maintenance, Ver. 1.0
NMP-ES-013-GL01, IST Positions, Ver. 6.0
NMP-ES-027, Maintenance Rule Program, Ver. 10.3

QME Application Reports
SV0-PV01-VPR-099002, dated 8/3/2020, Vogtle Units 3 and 4 PV01 QME-1 Application Report for Datasheet APP-PV01-Z0D-099, Rev. 0
SV0-PV01-VPR-131002, Vogtle Units 3 and 4 PV01 QME-1 Application Report for Datasheet APP-PV01-Z0D-131, dated 7/31/2020
SV0-PV01-VPR-132002, Vogtle Units 3 and 4 PV01 QME-1 Application Report for Datasheet APP-PV01-Z0D-132, dated 7/31/2020

Technical Evaluations

TE 60017001, Test Procedure for PXS-V122A/B and V124A/B and IST Program, dated 9/15/2020
TE 60018407, Documentation required to tie ASME QME-1 required valves to the associated ITP work orders that verify QV-7470 compliance, dated 11/30/2020
TE 60018408, ITP to identify QME-1, QV-7470 testing requirements for power-operated valves that are not AOVs or MOVs, dated 11/30/2020
TE 60018410, Revise procedures NMP-ES-014-003 and NMP-ES-017 needed to address QME-1 requirements for AOVs and MOVs once plant is operational), dated 11/30/2020
TE 60018411, Verify when developing the program for hydraulic and solenoid valves that QME-1 requirements are included, dated 11/30/2020
TE 60018822, Revise NMP-MA-014 to address QME-1 requirements in post-maintenance testing, dated 11/30/2020

Westinghouse Documents

APP-GW-T1R-501, dated 4/8/2019, TEDEV Acceptance Criteria and Instrument Installations Locations Database for WEMMEX, Rev. 0
APP-PV01-VBR-011, Equipment Qualification Summary Report for Flowserve Flex Wedge Gate Valves with Limitorque Motor Operators for Use in the AP1000 Plant, Rev. 2
APP-PV01-VDR-000001, dated 6/7/2017, PV01 Motor Actuated Valves Actuator Sizing Calculations (including RAL-1097), Rev. 2
APP-PV01-VDR-000003, ADS 1, 2 3 Globe Valve Thermal Expansion Report, dated 3/2/2017
APP-PV01-VDR-000004, ADS 1, 2, 3 Globe Valve Side Loading Report, dated 3/3/2017
APP-PV01-VDR-000006, PV01 Globe Valve Clearance Analysis Report, dated 11/7/2019
APP-PV01-VPR-010, Supplemental Functional Test Report for Piston Ring Configuration on a Flowserve Size 8 Figure BD2026(CF3M)JMTY with SMB-0-5, dated 3/29/2017
APP-PV01-Z0D-099, dated 5/8/2012, PV01 Datasheet 099, Rev. 3
WCAP-18549, Minimum Required Thrust for Motor Operated Valves at Vogtle Units 3 and 4, dated 7/2020

Work Packages

SV3-SFS-T0W-1061801, Dynamic Diagnostic Testing of MOV SV3-SFS-PL-V034, dated 4/25/2020
SV3-SFS-T0W-1061805, Dynamic Diagnostic Testing of MOV SV3-SFS-PL-V035, dated 4/25/2020
SV3-SFS-T0W-1061807, Dynamic Diagnostic Testing of MOV SV3-SFS-PL-V038, dated 4/25/2020
SV3-PXS-T0W-1100122, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V014A, dated 5/27/2020
SV3-PXS-T0W-1100124, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V014B, dated 4/14/2020
SV3-PXS-T0W-1100125, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V015A, dated 4/17/2020
SV3-PXS-T0W-1100126, Dynamic Diagnostic Testing of AOV SV3-PXS-PL-V015B, dated 4/17/2020
SV3-RNS-T0W-1100161, Dynamic Diagnostic Testing of AOV SV3-RNS-PL-V061, , dated 4/22/2020
SV3-RCS-PHW-1018286, ASME III- Install Snubber SV3-RCS-PH-11Y0067 from ISO RCS-PLW-01L, Rev. 0

SV3-SGS-PHW-1030747, ASME III-Fabricate/Install Snubbers from Isometric SV3-SGS-PLW-020, Rev. 0
SV3-RCS-PHW-1096324, ASME III-Install Snubbers SV3-RCS-PH-11Y1140, SV3-RCS-PH-11Y1127 & SV3-RCS-PH-11Y1130, Rev. 0

Valve Calculations and Set Point Data Sheets
SV0-PV01-M3C-110, dated 2/28/2020, Minimum Required Thrust for Valves Built to Datasheet APP-PV01-Z0D-110 Using EPRI PPMc, Rev. 0
SV0-PV01-T9-110, dated 9/10/2020, Set Point Data Sheet (SPDS) for Valves Built to PV01-Z0D-110, Rev. 1
SV0-PV01-T9-099, dated 12/6/2018, Set Point Data Sheet (SPDS) for Valves Built to PV01-Z0D-099, Rev. 0
SV0-PV01-Z0C-099, dated 9/22/2020, Valve Setup Calculation for Datasheet APP-PV01-Z0D-099 to Support Startup of Vogtle 3 and 4, Rev. 0
SV0-PV01-Z0C-110, dated 9/24/2020, Vale Setup Calculations for Datasheet APP-PV01-Z0D-110 to Support Startup of Vogtle 3 and 4, Rev. 0

Teledyne Documents
TTS-CC-128, dated 6/26/2015, MOV Software BWROG DC Methodology Module Verification & Validation Report [for incorporation into MIDAS Calculation Software], Rev. 4

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IP 35101
B-ADM-OPS-001, Operations Configuration Control, Version 8.0
B-ADM-OPS-012, Equipment Clearance and Tagging, Version 8.1
B-ADM-OPS-016, Plant Status and Configuration Control, Version 2.1
B-ADM-WCO-001-001, Operational Readiness Repetitive Task Management, Version 5.0
ND-EN-VNP-008, Preventive Maintenance Change Requests, Version 7.0
NMP-GM-006, Work Management, Version 18.1
NMP-GM-006-002, Surveillance Program, Version 4.1

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AOP-115, Loss of RHR, Version H 0.7
AOP-116, Loss of SFP Cooling, Version K 0.10
AOP-402, Malfunction of PMS, Version H 0.7
AOP-404, Instrument Failure PMS Division B, Version F 0.5
AOP-501, Loss of Main Control Room Air Conditioning, Version F 0.5
AOP-601, Evacuation of Main Control Room, Version J 0.9
AOP-602, DAS operations at Local Cabinets, Version G 0.6
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NMP-007-003, Plant Operating Orders, Version 3
NMP-AD-012, Operability Determinations, Version 14
NMP-AP-001, Development and Control of Southern Nuclear Procedures, Version 21
NMP-AP-001-001, Review and Approval of Nuclear Management Procedures, Version 16
NMP-AP-001-003, Review and Approval of Site Procedures, Version 15.1
NMP-AP-001-F08, Review and Control of Southern Nuclear Procedures checklist, Version 21
NMP-AP-002, SNC Fleet Procedures Writers Guide, Version 9
NMP-EP-143, Facility Activation (EP), Version 5

NMP-GM-005-002, Human Performance Tools Instruction, Version 9.1
NMP-OS-007, Conduct of Operations, Version 16.1
NMP-OS-007-001, Conduct of Operations Standards and Expectations, Version 17

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3-GEN-OTS-17-002, 12 Hour Technical Specification Surveillance, Version C 0.2
3-GEN-OTS-17-003, 24 Hour Technical Specification Surveillance, Version D 0.3
3-GOP-101, Power Operations Above 25% Power, Version N 0.13
3-GOP-102, Draining the Reactor Coolant System (RCS), Version G 0.6
3-GOP-202, Plant Shutdown 25% Power To Mode 3, Version N 0.13
3-GOP-303, Plant Heatup Mode 5 to Normal Operating Temperature, Version P 0.15
3-IDSA-SOP-002, Class 1E AC System - Division A, Version B 0.1
3-PCS-SOP-001, Passive Containment Cooling System, Version F 0.5
3-PMS-OTS-16-002, Incore Detector Comparison to Nuclear Instrument Channel Axial Flux Difference, Version D 0.3
3-PMS-OTS-16-007, Calorimetric Heat Balance Comparison To Nuclear And Delta T Power, Version E 0.4
3-PMS-SOP-001, Protection And Safety Monitoring System, Version G 0.6
3-PXS-SOP-001, Passive Core Cooling System, Version I 0.8
D-GEN-ADM-001, Verification and Validation, Version 7
NMP-AP-001, Development and Control of Southern Nuclear Procedures, Version 21
NMP-AP-001-001, Review and Approval of Nuclear Management Procedures, Version 16
NMP-AP-001-003, Review and Approval of Site Procedures, Version 15.1
NMP-AP-002, SNC Fleet Procedures Writers Guide, Version 9
NMP-AP-002-GL01, SNC Fleet Procedures Writers' Guide Examples, Version 5.1
NMP-GM-005-002, Human Performance Tools Instruction, Version 9.1
NMP-GM-006-002, Surveillance Program, Version 4.1
NMP-OS-007, Conduct of Operations, Version 16.1
NMP-OS-007-001, Conduct of Operations Standards and Expectations, Version 17
NMP-OS-007-007, Rounds, Version 5
NMP-OS-007-008, Logkeeping, Version 1.1

Condition Reports Initiated
50075581

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3-EOP-E-0, Reactor Trip or Safeguards Actuation, Version K 0.10
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3-EOP-E-2, Faulted Steam Generator Isolation, Version K 0.5
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3-EOP-FR-Z.1, Response to High Containment Pressure, Version E 0.4
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APP-GW-GJR-203, Background Information for E-2, Faulted Steam Generator Isolation, Revision 8
APP-GW-GJR-205, Background Information for ECA-1.1, LOCA Outside Containment, Revision 9
APP-GW-GJR-223, Background Information for FR-S.1, Response to Nuclear Power Generation ATWS, Revision 6
APP-GW-GJR-224, Background Information for FR-S.2, Response to Loss of Core Shutdown, Revision 4
APP-GW-GJR-225, Background Information for FR-Z.1, Response to High Containment Pressure, Revision 5
APP-GW-GJR-234, Background Information for SDP-4, Response to Rising Nuclear Flux During Shutdown, Revision 6
D-GEN-ADM-001, Verification and Validation, Version 7
NMP-AP-001, Development and Control of Southern Nuclear Procedures, Version 21
NMP-AP-001-003, Review and Approval of Site Procedures, Version 15.1
NMP-AP-002, SNC Fleet Procedures Writers Guide, Version 9
NMP-AP-002-002, SNC Fleet Two Column Procedures Writer's Guide, Version 2
NMP-AP-004, Maintenance of Emergency Operating and Accident Procedures, Version 3
NMP-AP-005, Transient Response Guidelines, Version 2
VEGP 3&4 – UFSAR, Chapter 15 - Accident Analyses, Revision 6

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3-PMS-OTS-16-007, Heat Balance Comparison to Nuclear and Delta T Power, Version E 0.4
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3-RCS-OTS-16-005, Division B-RCS Hot Leg Level Calibration, Version B 0.1
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3-RCS-OTS-17-004, RCS Boron Concentration During Refueling, Version A 0.0
Amendment 13, Tech Spec Upgrade, Table A, Administrative Changes (ML13239A288), and Table M, More Restrictive Changes (ML13239A319)
Amendment 138, Tech Spec Updates for Reactivity Controls & Misc Changes (ML18100A110)
Amendment 53, Core Makup Tank Volume (ML16216A304)
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Amendment 135, Battery Charger Output Amp Value (ML18173A302)
B-ADM-PLMC-012, Periodic Analysis Scheduling Program, Version 0.5
B-GEN-PLMC-045, Chemistry Control of the Condensate Storage Tanks, Version 0.0
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B-GEN-PLMC-067, Operation of the Secondary Sampling System, Version 0.2
B-GEN-PLMC-077, Chemistry Control of the Steam Generators, Version 0.0
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ND-LI-VNP-002, Applicability Determination and 50.59/Departure Screening, Version 18.0
ND-LI-VNP-003, 50.59/Departure Evaluations, Version 8.0
ND-LI-VNP-007, Licensing Document Change Requests, Version 10.0
NMP-CH-008, PWR Secondary Water Chemistry Program, Version 3.1
NMP-CH-008-GL03, Vogtle Units 3-4 Secondary Water Chemistry Strategic Plan, Version 3.1
NMP-EN-001, Management of the Radioactive Effluent Release Reports and the ODCM, Version 8.1
NMP-OS-027, Recording Limiting Conditions for Operation, Version 2.0
LDCR-2018-094, Reactor Coolant System (RCS) Flow Coastdown (LAR-18-025), Version 1.0
LDCR-2019-061, Pressurizer Water Level Control and Pressurizer Pressure Control Systems Design Change, Version 1.0
LDCR-2019-095, ADS and CMT Design Parameters, Results Update of SBLOCA Analysis, Post-LOCA Long-Term Cooling Analysis, and Analyses of LOCA Events in Shutdown Modes, Version 1.0
LDCR-2019-138, Technical Requirements Manual Related Changes, Version 1.0
LDCR-2019-150, NL-1335 non-IST Program Updates
LDCR-2020-040, CMT Boron Concentration Requirements (LAR-20-004), Version 1.0
LDCR-2020-046, TS Bases 3.5.4, Required Actions F.2 and F.2 Notes
LDCR-2020-057, Main Control Room Emergency Habitability System Pressure Regulating Valve and Source Range Neutron Flux Doubling Surveillance Changes, and Other Miscellaneous Technical Specification Changes (LAR-20-002), Version 1
LDCR-2020-086, UFSAR Corrections Pertaining to Reg Guide 1.52
LDCR-2020-105, Containment Recirc DAS Manual Controls
LDCR-2020-106, Trisodium Phosphate Density Change
LDCR-2020-107, Conformance with RG 1.52, Regulatory Position C.3.7
Offsite Dose Calculation Manual, Revision 2.0, August 2020
Vogtle Unit 3 Cycle 1 Core Operating Limits Report (COLR), Version 3, December 2020

Condition Reports Initiated
50060599, 50066087/80004052 - TE 60017660, 50069143 - TE 60017510

Section 3P04
SNC Procedures
B-GEN-ITPA-001, ITP Administration and Organization, Ver. 7.2
B-GEN-ITPA-002, Joint Test Working Group (JTWG), Ver. 8.0
B-GEN-ITPA-003, Initial Test Program Personnel Qualification & Training, Ver. 5.2
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B-GEN-ITPA-011-F01, ITP Procedure Approval Form, Ver. 5.0
B-GEN-ITPA-011-F02, Component and Preoperational Temporary Procedure Change Prior To 103G, Ver. 1.0
B-GEN-ITPA-014, Flushing and Initial Cleanness Verification, Ver. 4.2
B-GEN-ITPA-019-GL02, PMS CIM Operation Guidance, Ver. 1.0
700015, Procedure Writer/Reviewer Qualification Procedure, Ver. 5.0
26139-000-4MP-T81C-N1307, System and Equipment Safety Lockout/Tagout, Rev. 4
NMP-AD-006, Infrequently Performed Tests and Evolutions, Ver. 13.1
NMP-GM-006-002, Surveillance Program, Ver. 4.1
B-GEN-EIC-002, Software Quality Assurance, Ver. 1.0

Other
3-CVS-ITPP-501, Chemical and Volume Control System Preoperational Test Procedure, Ver. 5.0
NMP-AP-001-F08, Site Approval Form for 3-CVS-ITPP-501 v5.0, Ver. 6.0
B-GEN-ITPA-011-F01, ITP Procedure Approval Form for 3-CVS-ITPP-501 v5.0, Ver. 5.0
ND-LI-VNP-002-F01, Applicability Determination for VEGP Units 3&4 - 3-CVS-ITPP-501, Ver. 1.0
3-GEN-ITPS-629, Thermal Power Measurement and Statepoint Data Collection Startup Test Procedure, Ver. 2.0
NMP-AP-001-F08, Site Approval Form for 3-GEN-ITPS-629 v2.0, Ver. 6.0
B-GEN-ITPA-011-F01, ITP Procedure Approval Form for 3-GEN-ITPS-629 v2.0, Ver. 5.0
ND-LI-VNP-002-F01, Applicability Determination for VEGP Units 3&4 - 3-GEN-ITPS-629, Ver. 1.0
Southern Nuclear Qualification/Curriculum Review, dated 2/12/2021: Khiem Le (ND-ITP-Level II Test Engineer), Lance Keiser (ND-ITP-Level III Test Engineer), Ben Frey (ND-ITP-Level III Test Engineer), Steve Sheahan (ND-ITP-Level III Test Engineer), David Martano (ND-ITP-Level III Test Engineer), Henry Nix (ND-ITP-Level III Test Engineer)
B-GEN-ITPCE-024-V3.0-01, TPC for SEL Relay Commissioning, Ver. 3.0-1
B-GEN-ITA-004-F19, TSOS WO 1124408 3-IDSA Inverter, dated February 3, 2021
B-GEN-ITPA-010-F06, TMOD/COM Control Number SWS-2-1, dated 3/22/2020
CWA-3-21-0305, dated 2/7/2021
CWA-3-21-0102, dated 1/13/2021

Section 4OA1
3-GEN-ITPS-610, Initial Criticality and LPPT Sequence Startup Test Procedure, Ver. 1
3-GEN-ITPS-611, Initial Criticality and Low Power Physics Test Startup Test Procedure, Ver. 2

3-GEN-ITPS-633, 100% Load Rejection Startup Test Procedure, Ver. 2
3-GEN-ITPS-638, Loss of Offsite Power Startup Test Procedure, Ver. 1.1
3-GEN-ITPS-636, Plant Trip from 100% Power Startup Procedure, Ver. 1
3-GEN-ITPS-640, Remote Shutdown Workstation Startup Test Procedure, Ver. 1
3-GEN-ITPS-601, “Initial Fuel Loading Startup Test Procedure,” Ver. 1.0
3-GOP-302, Reactor Startup Mode 3 To Mode 2, Ver. K=0.10
Vogtle 3 Technical Specifications, Amendment No. 186
Vogtle Electric Generating Plant (VEGP) Updated Final Safety Analysis Report (UFSAR), Rev. 9.1
SV3-GW-T1-693, AP1000 Startup Test Specifications for Initial Criticality Tests, Rev. 1
SV3-GW-T1-694, AP1000 Startup Test Specifications for Low Power Tests, Rev. 1
B-GEN-RES-004, Low Power Physics Testing, Ver. 4.0
B-GEN-REP-001, Physics Testing Equipment Checkout, Ver. 1.0
B-GEN-REP-006, MTC Boron Concentration Limits, Ver. 1.0
SV3-GW-F1-001, Core Operating Limits Report (COLR) for the Vogtle Electric Generating Plant, Unit 3 Cycle 1, Rev. 2, December 2020
CR 50085903, 3-GOP-302 Enhancement for Consistency on RCS Tavg Band
CR 50085995, Requesting Evaluation of Stabilizing Power Plateau in 3-PMS-ITPS-603
CR 50076122, 3-GOP-302 and B-GEN-RES-004 Conflict on Startup Criteria
CR 50078446, Temperature Band Difference Between3-GEN-ITPS-610 and APP-GW-T1-693
CR 50081927, 3-GOP-302 (Reactor Startup Mode 3 to Mode 2) Enhancement
CR 50086434, NCV Green Violation - Failure to Translate Test Criteria Inconsistencies
APP-GW-T1-691, “AP1000® Startup Test Specifications for Initial Fuel Loading,” Rev. 1
SV3-GW-F1-001, “Core Operating Limits Report (COLR) for the Vogtle Electric Generating Plant, Unit 3 Cycle 1,” Rev. 2, December 2020
Vogtle 3 Technical Specifications, Rev. 9.1
Vogtle Electric Generating Plant (VEGP) Updated Final Safety Analysis Report (UFSAR), Rev. 9.1
NMP-RE-007, “Core Verification,” Ver. 5.0
B-RFL-FHP-031, “Fuel Handling Control Procedure,” Ver. C=0.2
CR 50086035, NRC Violation - Start-up Test Procedure 3-GEN-ITPS-601
CR 50082527, NRC Review Comments on 3-GEN-ITPS-601
3-PLS-ITPS-605, Rapid Power Reduction Startup Test Procedure Rev. 1.0
3-PLS-ITPS-606, Post Fuel Load Precritical Test Sequence Startup Test Procedure
APP-PLS-J1-034, Rapid Power Reduction Logic - Rod Control System Functional Requirements, Rev. 5
APP-GW-GM-100, AP1000 NSSS Control System Setpoint Study Summary Report – Standard Plant Units, Rev. 3
APP-GW-T1-692, AP1000® Startup Test Specifications For Precritical Tests, Rev. 1

LIST OF ACRONYMS

10 CFR 50	Title 10 of the Code of Federal Regulations, Part 50
CAP	corrective action program
CAR	corrective action report
COL	Combined License
CR	condition report
DC	direct current
DCD	Design Control Document
EOP	emergency operating procedure
IDS	Class 1E DC and UPS system
IP	inspection procedure
IST	inservice testing
LDCR	licensing document change request
MOV	motor operated valve
NCV	noncited violation
NEMA	National Electrical Manufacturers Association
NRC	Nuclear Regulatory Commission
PM	preventive maintenance
PST	preservice testing
RTNSS	Regulatory Treatment of Non-Safety Systems
SNC	Southern Nuclear Operating Company
SSC	structures, systems, and components
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
UPS	uninterruptable power supply
V	volt
VBS	ventilation system
VEGP	Vogtle Electric Generating Plant

ITAAC INSPECTED

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
47	2.1.02.11a.ii	10. Safety-related displays identified in Table 2.1.2-1 can be retrieved in the MCR. 11.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.1.2-1 to perform active functions. 11.b) The valves identified in Table 2.1.2-1 as having PMS control perform an active safety function after receiving a signal from the PMS. 12.b) After loss of motive power, the remotely operated valves identified in Table 2.1.2-1 assume the indicated loss of motive power position.	Inspection will be performed for retrievability of the safety-related displays in the MCR. ii) Stroke testing will be performed on the other remotely operated valves listed in Table 2.1.2-1 using controls in the MCR. ii) Testing will be performed on the other remotely operated valves identified in Table 2.1.2-1 using real or simulated signals into the PMS. iii) Testing will be performed to demonstrate that remotely operated RCS valves RCS-V001A/B, V002A/B, V003A/B, V011A/B, V012A/B, V013A/B open within the required response times. Testing of the remotely operated valves will be performed under the conditions of loss of motive power.	Safety-related displays identified in Table 2.1.2-1 can be retrieved in the MCR. ii) Controls in the MCR operate to cause the remotely operated valves (other than squib valves) to perform active functions. ii) The other remotely operated valves identified in Table 2.1.2-1 as having PMS control perform the active function identified in the table after receiving a signal from PMS. iii) These valves open within the following times after receipt of an actuation signal: V001A/B < 40 sec V002A/B, V003A/B < 100 sec V011A/B < 30 sec V012A/B, V013A/B < 60 sec Upon loss of motive power, each remotely operated valve identified in Table 2.1.2-1 assumes the indicated loss of motive power position.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
107	2.2.01.07.i	7. The CNS provides the safety-related function of containment isolation for containment boundary integrity and provides a barrier against the release of fission products to the atmosphere.	i) A containment integrated leak rate test will be performed.	i) The leakage rate from containment for the integrated leak rate test is less than La.
110	2.2.01.09	9. Safety-related displays identified in Table 2.2.1-1 can be retrieved in the MCR. 10.a) Controls exist in the MCR to cause those remotely operated valves identified in Table 2.2.1-1 to perform active functions. 10.b) The valves identified in Table 2.2.1-1 as having PMS control perform an active safety function after receiving a signal from the PMS.	Inspection will be performed for retrievability of the safety-related displays in the MCR. Stroke testing will be performed on remotely operated valves identified in Table 2.2.1-1 using the controls in the MCR. Testing will be performed on remotely operated valves listed in Table 2.2.1-1 using real or simulated signals into the PMS.	Safety-related displays identified in Table 2.2.1-1 can be retrieved in the MCR. Controls in the MCR operate to cause remotely operated valves identified in Table 2.2.1-1 to perform active safety functions. The remotely operated valves identified in Table 2.2.1-1 as having PMS control perform the active function identified in the table after receiving a signal from PMS.
116	2.2.01.11a.iii	11.a) The motor-operated and check valves identified in Table 2.2.1-1 perform an active safety-related function to change position as indicated in the table.	iii) Tests of the motor-operated valves will be performed under preoperational flow, differential pressure, and temperature conditions.	iii) Each motor-operated valve changes position as indicated in Table 2.2.1-1 under pre-operational test conditions.
118	2.2.01.11b	11.b) After loss of motive power, the remotely operated valves identified in Table 2.2.1-1 assume the indicated loss of motive power position.	Testing of the remotely operated valves will be performed under the conditions of loss of motive power.	After loss of motive power, each remotely operated valve identified in Table 2.2.1-1 assumes the indicated loss of motive power position.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
206	2.2.03.10	10. Safety-related displays of the parameters identified in Table 2.2.3-1 can be retrieved in the MCR. 11.a) Controls exist in the MCR to cause the remotely operated valves identified in Table 2.2.3-1 to perform their active function(s). 11.b) The valves identified in Table 2.2.3-1 as having PMS control perform their active function after receiving a signal from the PMS. 12.b) After loss of motive power, the remotely operated valves identified in Table 2.2.3-1 assume the indicated loss of motive power position. 13. Displays of the parameters identified in Table 2.2.3-3 can be retrieved in the MCR.	Inspection will be performed for the retrievability of the safety-related displays in the MCR. ii) Stroke testing will be performed on remotely operated valves other than squib valves identified in Table 2.2.3-1 using the controls in the MCR. ii) Testing will be performed on the remotely operated valves other than squib valves identified in Table 2.2.3-1 using real or simulated signals into the PMS. iii) Testing will be performed to demonstrate that remotely operated PXS isolation valves PXS-V014A/B, V015A/B, V108A/B open within the required response times. Testing of the remotely operated valves will be performed under the conditions of loss of motive power. Inspection will be performed for retrievability of the displays identified in Table 2.2.3-3 in the MCR.	Safety-related displays identified in Table 2.2.3-1 can be retrieved in the MCR. ii) Controls in the MCR operate to cause remotely operated valves other than squib valves to perform their active functions. ii) Remotely operated valves other than squib valves perform the active function identified in the table after a signal is input to the PMS. iii) These valves open within 20 seconds after receipt of an actuation signal. After loss of motive power, each remotely operated valve identified in Table 2.2.3-1 assumes the indicated loss of motive power position. Displays identified in Table 2.2.3-3 can be retrieved in the MCR.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
379	2.3.06.09c	Not used per Amendment No. 113 9.c) The RNS provides low pressure makeup flow from the cask loading pit to the RCS for scenarios following actuation of the ADS.	Not used per Amendment No. 113 Testing will be performed to confirm that the RNS can provide low pressure makeup flow from the cask loading pit to the RCS when the pump suction is aligned to the cask loading pit and the discharge is aligned to both PXS DVI lines with RCS at atmospheric pressure.	Not used per Amendment No. 113 Each RNS pump provides at least 1100 gpm net flow to the RCS when the water level above the bottom of the cask loading pit is 1 foot ± 6 inches.

603	2.6.03.04c	4.c) Each IDS 24-hour battery bank supplies a dc switchboard bus load for a period of 24 hours without recharging. 4.d) Each IDS 72-hour battery bank supplies a dc switchboard bus load for a period of 72 hours without recharging. 4.e) The IDS spare battery bank supplies a dc load equal to or greater than the most severe switchboard bus load for the required period without recharging. 4.f) Each IDS 24-hour inverter supplies its ac load. 4.g) Each IDS 72-hour inverter supplies its ac load. 4.h) Each IDS 24-hour battery charger provides the PMS with two loss-of-ac input voltage signals. 5.a) Each IDS 24-hour battery charger supplies a dc switchboard bus load while maintaining the corresponding battery charged. 5.b) Each IDS 72-hour battery charger supplies a dc switchboard bus load while maintaining the corresponding battery charged. 5.c) Each IDS regulating transformer supplies an ac load when powered from the 480 V MCC. 6. Safety-related displays identified in Table	Testing of each 24-hour as-built battery bank will be performed by applying a simulated or real load, or a combination of simulated or real loads which envelope the battery bank design duty cycle. The test will be conducted on a battery bank that has been fully charged and has been connected to a battery charger maintained at 270±2 V for a period of no less than 24 hours prior to the test. Testing of each 72-hour as-built battery bank will be performed by applying a simulated or real load, or a combination of simulated or real loads which envelope the battery bank design duty cycle. The test will be conducted on a battery bank that has been fully charged and has been connected to a battery charger maintained at 270±2 V for a period of no less than 24 hours prior to the test. Testing of the as-built spare battery bank will be performed by applying a simulated or real load, or a combination of simulated or real loads which envelope the most severe of the division batteries design duty cycle. The test will be conducted on a battery bank that has been fully charged	The battery terminal voltage is greater than or equal to 210 V after a period of no less than 24 hours with an equivalent load that equals or exceeds the battery bank design duty cycle capacity. The battery terminal voltage is greater than or equal to 210 V after a period of no less than 72 hours with an equivalent load that equals or exceeds the battery bank design duty cycle capacity. The battery terminal voltage is greater than or equal to 210 V after a period with a load and duration that equals or exceeds the most severe battery bank design duty cycle capacity. Each 24-hour inverter supplies a line-to-line output voltage of 208 ± 2% V at a frequency of 60 ± 0.5% Hz. Each 72-hour inverter supplies a line-to-line output voltage of 208 ± 2% V at a frequency of 60 ± 0.5% Hz. Two PMS input signals exist from each 24-hour battery charger indicating loss of ac input voltage when the loss-of-input voltage condition is simulated. Each 24-

		2.6.3-1 can be retrieved in the MCR. 11. Displays of the parameters identified in Table 2.6.3-2 can be retrieved in the MCR.	and has been connected to a battery charger maintained at 270±2 V for a period of no less than 24 hours prior to the test. Testing of each 24-hour as-built inverter will be performed by applying a simulated or real load, or a combination of simulated or real loads, equivalent to a resistive load greater than 12 kW. The inverter input voltage will be no more than 210 Vdc during the test. Testing of each 72-hour as-built inverter will be performed by applying a simulated or real load, or a combination of simulated or real loads, equivalent to a resistive load greater than 7 kW. The inverter input voltage will be no more than 210 Vdc during the test. Testing will be performed by simulating a loss of input voltage to each 24-hour battery charger. Testing of each as-built 24-hour battery charger will be performed by applying a simulated or real load, or a combination of simulated or real loads. Testing of each 72-hour as-built battery charger will be performed by applying a simulated or real load, or a combination of simulated or real loads. Testing of each	hour battery charger provides an output current of at least 150 A with an output voltage in the range 210 to 280 V. Each 72-hour battery charger provides an output current of at least 125 A with an output voltage in the range 210 to 280 V. Each regulating transformer supplies a line-to-line output voltage of 208 ± 2% V. Safety-related displays identified in Table 2.6.3-1 can be retrieved in the MCR. Displays identified in Table 2.6.3-2 can be retrieved in the MCR.

No.	ITAAC No.	Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
			as-built regulating transformer will be performed by applying a simulated or real load, or a combination of simulated or real loads, equivalent to a resistive load greater than 30 kW when powered from the 480 V MCC. Inspection will be performed for retrievability of the safety-related displays in the MCR. Inspection will be performed for retrievability of the displays identified in Table 2.6.3-2 in the MCR.	
668	C.2.6.09.08a	8.a) Penetrations through the protected area barrier are secured and monitored. 8.b) Unattended openings (such as underground pathways) that intersect the protected area boundary or vital area boundary will be protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.	Inspections will be performed of penetrations through the protected area barrier. Inspections will be performed of unattended openings that intersect the protected area boundary or vital area boundary.	Penetrations and openings through the protected area barrier are secured and monitored. Unattended openings (such as underground pathways) that intersect the protected area boundary or vital area boundary are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.